PRESCRIPTION REVIEW PROGRAM

education | collaboration

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

2022 Annual Report
(For the period of April 1, 2022 – March 31, 2023)

Respectfully submitted by:

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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. It monitors for potentially inappropriate prescribing of a provincially designated panel of prescription medications with the potential for patient/community risk, 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, 2022 and March 31, 2023, PRP staff logged 492 calls related to the program which is a 22.6% increase over the previous year. Calls included physicians seeking pharmaceutical advice regarding patient care, pharmacists asking for clarification/support for prescriptions they were filling and the public reporting possible misuse of medications.

The clinical staff supported various CPSS departments by completing PRP-related prescribing profiles. These checks identified any potential prescribing concerns related to the provincially designated panel of prescription medications.

- 195 reviews were completed for the Registration department related to supervisors, assessors, licensures and SIPPA candidates
- Five reviews were completed for the Quality of Care department related to complaint cases
- One review was completed for the Legal department related to a discipline case

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.

The Program was successful in securing two College of Pharmacy practicum students again this fiscal year. They focused on assisting the clinical staff with audits, answering questions from physicians and drafting educational letters.

Feedback from two surveys sent in 2021 indicated that many physicians were interested in education around the 2017 Canadian Guideline for Opioids for Chronic Non-Cancer Pain, safe and effective prescribing for chronic non-cancer pain and opioid deprescribing. After not being able to find existing courses to meet the needs of the physicians, the Pharmacist Manager, PRP/OATP proposed an educational series to CPSS senior staff and Council, which was approved and will be held in April/May 2023.

- ***Let's Talk Pain: Canadian Experts Virtually Visit Saskatchewan*** will be a four part series of virtual one-hour sessions led by pain experts from across the country and facilitated by the Pharmacist Manager, PRP/OATP.
    - Pain Management and Opioid Use – Dr. Andrea Furlan, MD, PhD
    - Canadian Guideline for Opioids for Chronic Non-Cancer Pain – Dr. Jason Busse, DC, PhD
    - Opioid-Induced Pain States – Dr. Launette Rieb, MD, MSc, CCFP(AM), FCFP, DABAM, FASAM
    - Opioid Deprescribing – Dr. Rob Tanguay, BSc(Hons), MD, FRCPC, CISAM, CCSAM

A newly developed newsletter, *UnScripted*, provided physicians with updated information related to the PRP and OATP programs, practice guidance and case discussions. Two issues were sent to all physicians in 2022.

A letter was sent to eHealth and the Drug Plan Extended Health Benefits teams requesting the inclusion of compounded drug formulations in the Program's two databases: MicroStrategy and the Drug Utilization Report (DUR). This will be an important addition to enable the Program to monitor medications that may be compounded with PRP monitored medications. Discussions were ongoing as of the end of the fiscal year.

The Program works hard to gain the confidence and trust of physicians by being accessible and providing relevant, educational and timely recommendations and support. Many physicians provided unsolicited and positive feedback on their interactions with the PRP in 2022:

> *'Thank you for your care and concern regarding this patient.'*
>
> *'Thank you for always ensuring the safety of patients.'*
>
> *'It is my greatest pleasure to respond to your request. This quest gives me assurance that Canadians are protected and their well-being is under scrutiny by a quality control team.'*
>
> *'Once again, thank you for your letter as I feel these correspondences are useful education opportunities for prescribers.'*

Support of and collaboration with other organizations, projects and programs continued to be an important part of the PRP in 2022-2023, including the following:

- A letter of support to fund the USask Chronic Plain Clinic was signed by the CPSS Registrar and sent to the Honourable Paul Merriman, Minister of Health. It was requested to include this important program in the provincial budget.
- A relationship with the Saskatchewan Coroner's Service was restarted, which was put on hold during Covid. The goal is for the PRP to receive relevant data from the Coroner's Service to support PRP alerts to physicians about cases where a patient potentially overdosed on medication(s) monitored by the Program.
- To support the PRP's engagement with physicians to encourage the use of generic methylphenidate when there is no clinical indication for the brand-name formulation (Ritalin®), information was provided to the Saskatchewan College of Pharmacy Professionals (SCPP) to include in their SCOPe publication.

  'Over the past year, the Prescription Review Program (PRP) has engaged with physicians to encourage the use of generic methylphenidate when there is no clinical indication for the use of the brand-name formulation. Given the risks associated with the brand-name formulation, many physicians have communicated with pharmacy professionals to request generic dispensing. If your patient requests brand-

name and you do not have clear direction from the physician, we recommend seeking clarification from the prescriber. Alternatively, if a patient transfers to your pharmacy and requests the brand-name after receiving generic dispenses from the previous pharmacy, we recommend seeking clarification from the original pharmacy and/or from the prescriber. Clear documentation of your clinical decisions and/or conversations with other health care professionals is strongly encouraged.'

- Forty-nine requests for prescribing data were received from law enforcement agencies to assist with active investigations. Program staff supported law enforcement by providing data as appropriate and in accordance with the Health Information Protection Act (HIPA).
- 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) and medSask.
- Presentations to the Saskatchewan International Physician Practice Assessment (SIPPA) candidates continued to be provided virtually by the program pharmacists and Analyst.
- The Pharmacist Manager, PRP/OATP was again invited as a guest lecturer by the University of Saskatchewan, and also assisted with pharmacy labs.
- Scheduled monthly meetings with SCPP to discuss activities and address any concerns that may arise.

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 sent back to the physician. Following are the most common types of letters sent to physicians, although the list is not exhaustive.

Explain letters are sent to physicians to request their rationale for prescribing certain medications. Common reasons for a letter 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 or use of brand name vs generic formulations.

As per CPSS regulatory bylaw 18.1, physicians are required to provide a response to the Program. Once responses are reviewed by a program pharmacist, a reply is sent back to the physician, which most often contains recommendations and helpful resources.

- Between April 1, 2022 and March 31, 2023, 473 letters were sent to 229 physicians regarding 429 patients.
- During this same period 499 Program response letters were sent back to physicians which most often included patient specific recommendations and guidance for physicians. The timeline for Program responses flows over fiscal years depending on when a physician sends in their reply.

Alert letters are sent to physicians to alert them of potential diversion, early fills, or other patient concerns and include specific advice and recommendations. Previously, a physician response was not required, but specific questions regarding safeguards were added in January 2022, which now require a response.

- Fifty-three Alert letters were sent to 48 physicians regarding 39 patients during the fiscal year.

Multi Doctoring letter are sent if data shows a patient had three or more similar prescriptions from three or more prescribers at three or more locations. The letters include suggestions to assist physicians identify potential concerns and mitigate future risk. A physician response is not required for these letters.

- One hundred thirty-four multi-doctoring letters were sent to physicians regarding 41 patients between April 1, 2022 and March 31, 2023.

Educational letters can be an effective tool to engage physicians regarding concerns with specific medications.

Starting in 2021, two separate educational letters were sent to physicians whose patients were receiving either brand name Ritalin® or brand name Dilaudid®. The letters highlighted the potential higher risk to patients and communities of prescribing brand name versus the generic formulation.

- Analysis done in 2022 showed that approximately 20% of patients prescribed Ritalin® and 12% of patients prescribed Dilaudid® were switched to the generic formulations after physicians received the educational letter. Follow-up correspondence, which required physicians to provide a response, was sent to physicians who had not yet switched their patients to the generic formulations. Ongoing analysis and correspondence related to Dilaudid® prescribing will continue. Ritalin® (brand name) is no longer available.

Codeine pediatric prescribing continued to be on the Program's radar due to Health Canada's previous advisory warning that individuals under 18 years of age should not use non-prescription pain relief medications containing codeine. The previous recommendation was related to children under the age of 12. Seventy-four letters were sent to 63 physicians regarding 66 patients during the fiscal year. These letters were informational and no response was required.

After assessing patterns of oxybutynin prescribing, an educational letter was sent to some of the top prescribers in the province highlighting the risk of misuse and/or diversion when used for hyperhidrosis, an off-label indication prescribed commonly for patients receiving opioid agonist therapy ***(Appendix A)***. This correspondence highlighted the risks of overuse and included management tips for prescribers (e.g. max recommended doses, alternatives, safe storage etc.). Follow up analysis will be done 6-12 months after letters were sent to see if prescribing patterns have changed.

Referrals

Referrals may be made to regulatory bodies related to the prescribing of any medications monitored by the PRP. There are a variety of reasons a referral may be made, such as potential inappropriate prescribing, not responding to requests for information (physicians only), potential inappropriate dispensing (pharmacists only) and law enforcement alerts.

The following referrals were made during the fiscal year:

- College of Physicians and Surgeons of Saskatchewan (CPSS) – 12
- Saskatchewan College of Pharmacy Professionals (SCPP) – 15
- College of Registered Nurses of Saskatchewan (CRNS) – 6

The individual regulators followed up with their own members, as they deemed necessary, using their own internal processes to resolve any issues.

PRP Medication Use in Saskatchewan - 2022 Trends and Insights

An overview of the PRP medications dispensed in Saskatchewan are available in ***Appendices B-M***. Dispensing quantities from 2018 to 2022 are provided to allow for a comparison and to identify possible trends.

Stimulants

Stimulant prescribing increased across almost all formulations for the second year in row. Brand name immediate-release and sustained-release methylphenidate were discontinued by the manufacturer April 2022, which led to an increase in dispensing generic immediate-release methylphenidate.

Long-acting psychostimulants (e.g. Biphentin®, Concerta™, Foquest®, Vyvanse®, Adderall XR®) continued to show a significant trend upward. This was not a surprising trend given the discontinuation of brand name methylphenidate and 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].

Data from the Government of Canada[2] highlighted how polysubstance overdose continued to represent a high number of overdoses throughout Canada. More than half (53%) of accidental apparent opioid toxicity deaths from January – September 2022 also involved a stimulant, reflecting the polysubstance nature of the current drug crisis, although the data suggested this to be mostly from illicit (e.g. methamphetamine, cocaine) use.

Opioids

Fentanyl (transdermal and injectable) dispenses continued to decrease compared to the previous year. Most notably, dispenses for injectable fentanyl decreased 80% from the previous year which may have been impacted by manufacturer shortages in the fall of 2022. As noted previously, prescribed and primarily illicit fentanyl (and fentanyl analogues) continued to gain a lot of media attention as a source of overdoses, which may be contributing to the continued decrease in use. The Saskatchewan Coroner's Service report showed that fentanyl (and fentanyl analogues) was a contributing medication in over 84% (up from 80% last year) of suspected fatal accidental overdoses. The coroner's report did not specify between prescription and illicit-associated deaths.

Hydromorphone remained one of the most prescribed opioids in Saskatchewan, as in the past several years. Brand name immediate-release hydromorphone prescribing continued its downward trend, with generic formulations increasing slightly. Worth noting, most generic formulations of controlled-release hydromorphone remained unavailable or discontinued, which was reflected in the data given almost no dispenses in this category for 2022. Dispensing of hydromorphone syrup almost doubled in the previous year, which would be expected given the manufacturer shortages which impacted its use in 2021.

[1] CADDRA - Canadian ADHD Resource Alliance: Canadian ADHD Practice Guidelines, 4.1 Edition, Toronto ON; CADDRA, 2020
[2] https://health-infobase.canada.ca/substance-related-harms/opioids-stimulants

Hydromorphone is preferred over codeine in treating moderate to severe pediatric pain, which is highlighted in current pediatric pain guidance[3] so an increased trend in its use would also be expected.

The PRP continued educational efforts to inform prescribers of the concerns of diversion and/or misuse with brand name hydromorphone, recommending a change to the generic formulation whenever possible. These efforts have resulted in a 12% change (on initial contact with follow up analyses still in progress) which, given the increased street value[4] of brand name hydromorphone, was an encouraging trend. We continued to receive a substantial number of forgeries from SCPP and alerts of suspicion of diversion and/or trafficking from RCMP and Police Services regarding hydromorphone (both immediate and controlled release formulations).

Morphine dispenses decreased across all formulations from the previous year. Although overall **Kadian®** dispensing decreased, Kadian® 50mg and 100mg capsule dispensing increased by almost 20% which would align with the continued potent, illicit drug supply containing fentanyl, with Kadian® prescribing being used to combat withdrawal in the first few weeks of OAT inductions. It is also being used after failure with conventional OAT (e.g. methadone, buprenorphine/naloxone) in exceptional circumstances.

There was a continued downward trend of overall **oxycodone** dispensing, resulting in a 21% decrease in the past five years for immediate-release oxycodone. There was a slight increase for oxycodone combination product with acetaminophen although the increase was minimal at 4.5%.

Codeine immediate-release dispensing remained relatively stable to the previous year with an increase of only 0.5%, while **Codeine Contin** dispensing saw an increase of almost 8%. Codeine syrup products continued a dramatic decrease in dispensing resulting in a 92% decrease from the previous year. Although there has been a continued downward trend over the past five years, widespread and continued drug manufacturer shortages for codeine syrup likely greatly impacted its use in the previous year.

Compounded **Methadone** dispensing continued its downward trend over the past fiscal year. Both compounded solutions (NIHB and SPDP) used for opioid agonist therapy (OAT) have now been replaced by commercially available products, Methadose (Sugar-Free and Cherry-Flavoured) and Metadol-D, with all patients being transitioned by December 2022. The increase in Metadol prescribing may be explained twofold by the discontinuation of compounded methadone for pain as well as a consequence of cancer diagnosis delays and/or surgeries due to the COVID-19 pandemic, given Metadol's indication for cancer pain[5].

Partial Opioid Agonists

Buprenorphine/naloxone sublingual tablets continued a slight upward trend in 2022, with its use increasing by 240% in the past five years. Given its increased safety profile, this trend was to be expected for both its use in OAT and chronic pain management. Buprenorphine/naloxone film's use has also increased although because

[3] Trottier E, Samina A, Dore-Bergeron MJ, Chauvin-Kimoff; Canadian Paediatric Society Acute Care Committee, Hospital Paediatrics Section, Paediatric Emergency Medicine Section. Best practices in pain assessment and management in children, 2022; 27 (7); 429-437. Available from: https://cps.ca/en/documents/position/pain-assessment-and-management#ref21

[4] Regier L, Crawley A. Prescribing opioids safely: an approach. RxFiles 13th Edition. Saskatoon, SK; 2021

[5] Parmar A, Eskander A, Sander B, Naimark D, Irish J C, Chan K. Impact of cancer surgery slowdowns on patient survival during the COVID-19 pandemic: a microsimulation modelling study. CMAJ Mar 2022, 194 (11) E408-E414; DOI: 10.1503/cmaj.202380

it is still not a benefit in the Saskatchewan Formulary, its use is still limited. **Probuphine™**, an injectable formulation of buprenorphine, saw a decrease in use whereas **Sublocade™** dispensing continued to rise significantly, a trend which continued for the second year in a row. This was not an unexpected trend given its monthly dosing schedule provides increased convenience and stability for those on OAT.

Anticonvulsants

Gabapentin saw dispense rates remain relatively stable with a minimal increase of 0.9% whereas **pregabalin** continued an upward trend, increasing by 9%. Both medications continued to be misused in Saskatchewan with gabapentin and pregabalin accounting for 14% of profile requests from law enforcement for suspicion of diversion and/or trafficking in the past year.

Benzodiazepines

Overall, benzodiazepine prescribing continued to see a slight downward trend in the past year. There was a substantial increase of injection **midazolam** use which accounted for an 82% increase in the past five years. This may correspond with legislation permitting Medical Assistance in Dying (MAID) which came into effect in 2021, as midazolam is a common anxiolytic used within the program[6].

Antimuscarinics

While rates remained fairly steady for **oxybutynin IR** tablets in 2022, there was a rebound of use for **oxybutynin XL** constituting an overall increase of 21%.

Anxiolytics Sedatives and Hypnotics

Although **zopiclone** dispensing remained relatively stable in 2022, there continued to be an increase in **Zolpidem ODT** dispensing in the province accounting for a 9% increase. Studies have shown that zolpidem may have less tolerance/withdrawal effects in comparison to benzodiazepines[7], which may be a contributing factor to its' increased use.

General Anesthetics

Although we saw a significant increase in **Ketamine** dispensing in 2021, there was a decrease of 72% in 2022. PRP continued to monitor ketamine dispensing data closely, given CPSS's updated guidance to physicians at the end of 2022 highlighting safety concerns and considerations.

Opioid-Associated Deaths

Unfortunately, we are still in the midst of staggering numbers of fatal and non-fatal drug toxicity overdoses in Saskatchewan. Fentanyl and fentanyl analogues continued to be a contributing medication in close to 85% of drug toxicity deaths. Although the number of confirmed and suspected opioid overdoses decreased from 408 in 2021 to 387 in 2022, the numbers have increased dramatically since 2019 where there were 180 confirmed drug toxicity deaths. An increase in access to injectable naloxone kits and more accessible fentanyl testing strips may have had a positive impact in the past fiscal year, leading to a slight decrease.

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[6] Stukalin I, Oluwatobi RO, Naik V,Wiebe E, Kekewich M,Kelly M, Wilding L, Halko R, Oczkowski S. Medications and dosages used in medical assistance in dying: a cross-sectional study. CMAJ Jan 2022, 10 (1) E19-E26;

[7] Regier L, Jensen B, Soubolsky A. Sleep Disorders: Overview. RxFiles [Internet]. 2023 June. Available from: https://www-rxfiles-ca.ezproxy.shirp.ca/RxFiles/uploads/documents/members/Cht-psyc-sedatives.pdf

Drug toxicity deaths continued to be higher for males, accounting for 64% of confirmed drug toxicity deaths in 2022, which was trend seen across Canada[8]. As in the previous year, there continued to be a shift in opioid overdose deaths among older male adults with those between the ages of 40-49 accounting for 35% of confirmed drug toxicity deaths amongst the male population.

Regina continued to lead the province in drug toxicity deaths[9], with the city accounting for 40% of all confirmed deaths, although this was a decrease from 48% of all confirmed deaths from the previous year. Although it is not clear why there was a sharp increase within the Regina area, the Saskatchewan Health Authority recently launched the Overdose Outreach Teams pilot project to help individuals reduce their risk of overdose and other drug related harms in December 2022, which will hopefully have a positive impact on the next year.

[8] https://health-infobase.canada.ca/substance-related-harms/opioids-stimulants/#:~:text=A%20total%20of%205%2C360%20apparent,peak%20of%2021%20in%202021.

[9] https://www.saskatchewan.ca/residents/health/accessing-health-care-services/mental-health-and-addictions-support-services/overdose-information-and-prevention/overdose-outreach-teams

PRESCRIPTION REVIEW PROGRAM
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******INFORMATIONAL: NO RESPONSE REQUIRED******

Physician Date

PERSONAL AND CONFIDENTIAL

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 Oxybutynin and offer some strategies to reduce the risks.

Oxybutynin is one of the most commonly prescribed medications in the treatment of overactive bladder, but in recent years, has gained popularity as a treatment for hyperhidrosis (excessive sweating) as an off label use[1]. Hyperhidrosis is a common adverse effect experienced by patients receiving opioid agonist therapy with research suggesting a rate as high as 45% in patients prescribed methadone.[2] This has resulted in increased usage of oxybutynin for the treatment of hyperhidrosis, with growing concern in the medical community that the medication is being requested with no clinical indication but rather for its potential for misuse.

Part of our program's contractual agreement involves generating reports relevant to the province's panel of monitored prescription medications. In a recent analysis, we assessed patterns of oxybutynin prescribing which identified some of the top prescribers (e.g. urologists, OAT prescribers) of oxybutynin within the province. In the subsequent pages, we have listed your patients who you have concurrently prescribed OAT and oxybutynin in the previous three months. We hope this information will provide you an opportunity to reassess whether continued oxybutynin therapy is appropriate or whether alternative treatment options could be considered.

Oxybutynin is an antimuscarinic with a lipophilic structure, allowing it to cross the blood brain barrier and cause desired hallucinogenic and anticholinergic-muscarinic effects. The blockage of cholinergic receptors enhances striatal dopamine release which is believed to be responsible for the euphoria and elevated mood that may be experienced[4]. Patients with a history of substance use disorder may use oxybutynin as an alternative to manage cravings for other substances[5]. Tolerance to these desired effects appears to develop rapidly, leading to promotion of misuse and dependence mechanisms[4]. Oxybutynin may also be diverted for other reasons, such as to overcome depression and social anxiety or to reduce the withdrawal symptoms of other substances. Multiple case reports have been published describing instances of oxybutynin misuse, including evidence of diversion in correctional facilities and in the community.[2] Adolescents are particularly susceptible to the psychotic adverse effects that can be experienced with oxybutynin, including auditory hallucinations which may be due to the period of continued neuronal development in this population[3].

Key Points

- Oxybutynin misuse has become more prevalent in Saskatchewan.
- With a single tablet selling for $5, oxybutynin has become an attractive source of revenue.
- Patients have reported taking 80-100 tablets per day (400-500mg) which has led to some overdoses from oxybutynin toxicity.[2]
- Patients who have consumed high doses may experience impaired cognitive function, confusion, insomnia, decreased appetite, hallucinations, delirium, and disorientation due to the anticholinergic properties of oxybutynin.
- Adolescents may be at increased risk of the psychotic effects of oxybutynin including auditory hallucinations.

Tips for Prescribers

- ✓ Check PIP to assess for polypharmacy and/or early renewals
- ✓ Watch for patients requesting for oxybutynin by name, rather than requesting help with symptom management[2]
- ✓ Counsel patients regarding safe storage[2]
- ✓ Consider aligning dispensing interval with OAT, if applicable
- ✓ Keep oral daily doses ≤ 20 mg for overactive bladder, **≤ 10mg for hyperhidrosis**[2]
- ✓ Start with lower doses in elderly patients (if no suitable alternative available)[2]
- ✓ Consider alternative treatments for hyperhidrosis (e.g. clonidine, desloratadine[2]). **Note: misuse has also been reported with clonidine[7]**
- ✓ Consider tapering down the dose of OAT for patients experiencing opioid-induced side effects[6], if appropriate
- ✓ Reassess therapy periodically when used for hyperhidrosis:
  - As patient becomes stabilized on OAT
  - As OAT dosages decrease

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,

Prescription Review Program
College of Physicians and Surgeons of Saskatchewan
Phone: 306-244-7355
Fax: 306-912-8944

1. Kardas O, Kardas B. The Oxybutynin abuse in adolescent case. Sanamed. 2019;14(1):91-94. doi:10.24125/sanamed.v14i1.300
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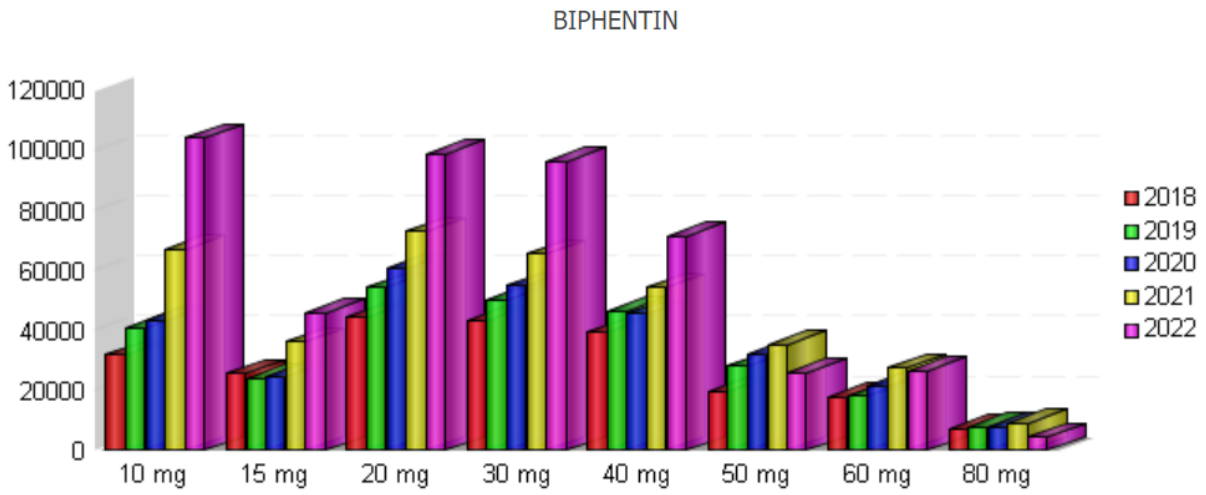
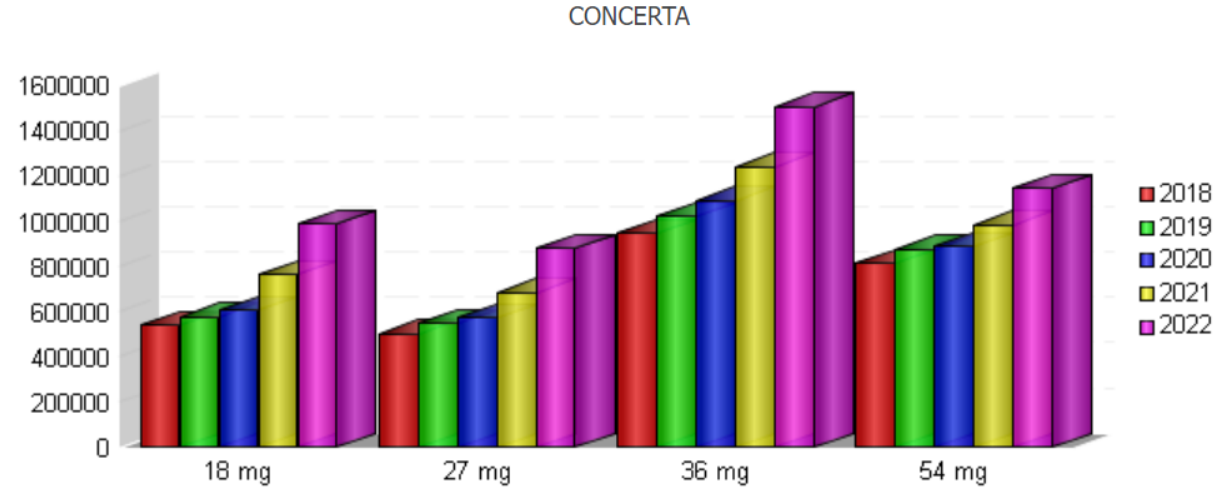
Appendix B: Stimulants

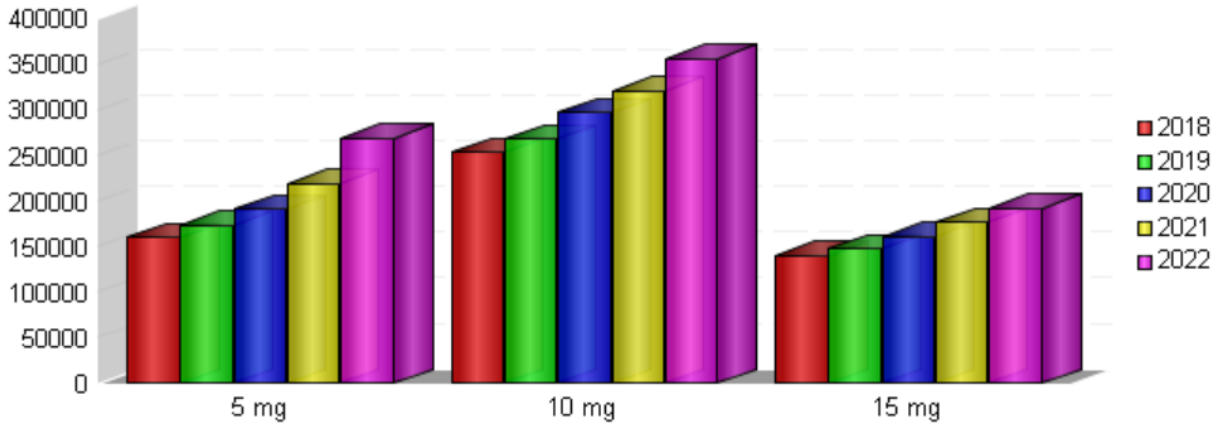


	10 mg	15 mg	20 mg	30 mg	40 mg	50 mg	60 mg	80 mg
2018	31,810	25,446	44,208	43,288	39,160	19,606	17,708	7,335
2019	40,762	23,950	54,150	50,112	46,338	28,238	18,059	7,703
2020	43,398	24,762	60,855	54,885	45,481	32,183	21,536	7,773
2021	67,020	36,094	72,774	65,571	54,341	35,142	27,305	9,161
2022	103,973	45,879	98,833	96,313	71,249	25,988	26,516	4,514



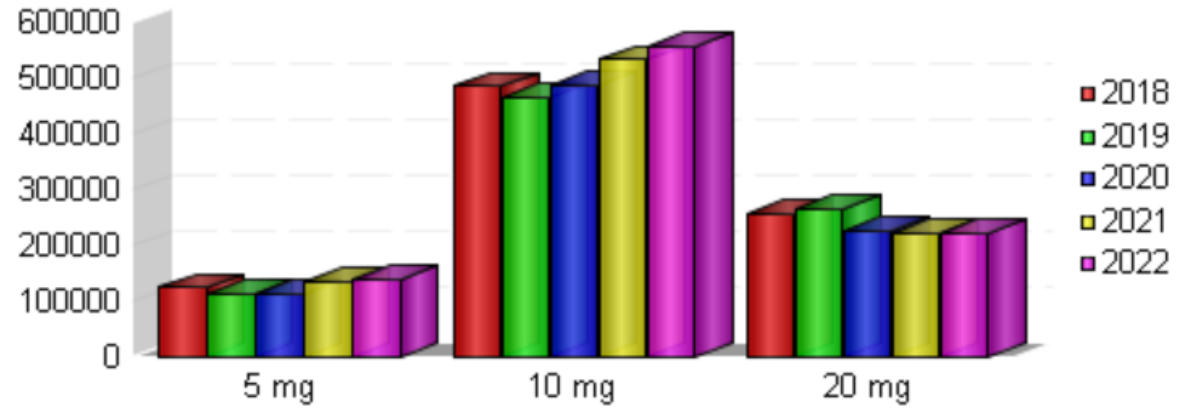
	18 mg	27 mg	36 mg	54 mg
2018	538,966	502,568	947,347	816,655
2019	578,853	548,141	1,022,104	874,968
2020	608,923	574,868	1,091,603	890,280
2021	763,369	684,286	1,243,400	984,585
2022	989,103	879,621	1,507,607	1,145,361

DEXTROAMPHETAMINE



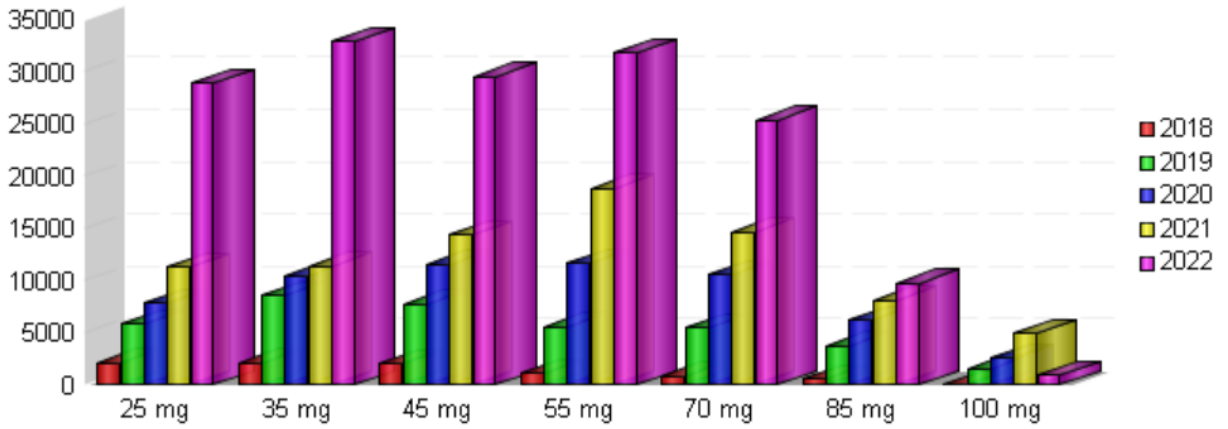
	5 mg	10 mg	15 mg
2018	159,910	253,173	140,444
2019	173,817	267,848	147,810
2020	190,735	297,151	161,429
2021	219,270	321,270	176,431
2022	268,604	356,281	192,604

METHYLPHENIDATE IR



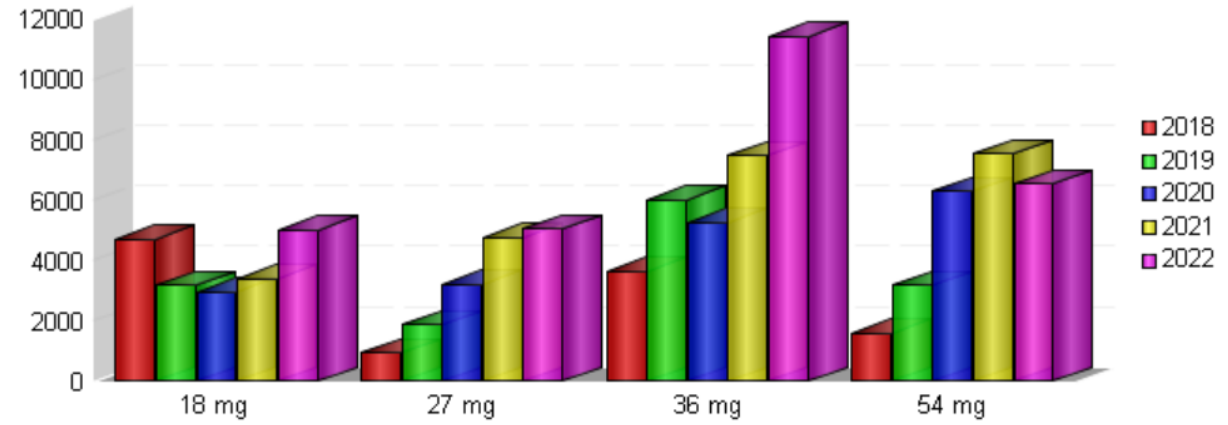
	5 mg	10 mg	20 mg
2018	124,843	485,504	258,317
2019	114,003	467,130	266,935
2020	113,761	489,069	226,438
2021	136,581	533,984	221,798
2022	139,865	557,682	222,460

METHYLPHENIDATE CR



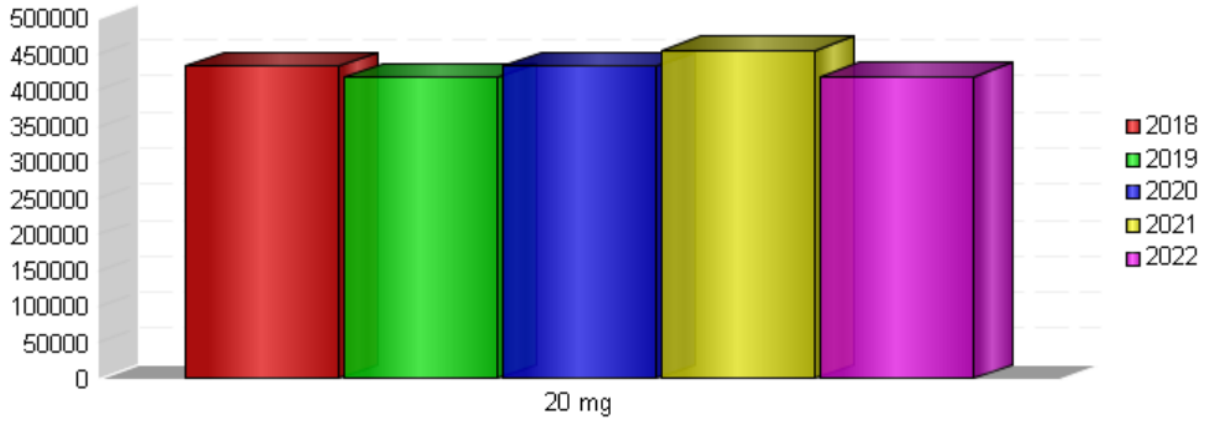
	25 mg	35 mg	45 mg	55 mg	70 mg	85 mg	100 mg
2018	2,094	2,126	1,976	1,067	815	538	27
2019	5,785	8,571	7,743	5,558	5,447	3,754	1,586
2020	7,856	10,439	11,568	11,659	10,563	6,146	2,540
2021	11,311	11,349	14,364	18,783	14,664	8,096	4,957
2022	28,869	32,872	29,499	31,837	25,396	9,742	966

METHYLPHENIDATE ER



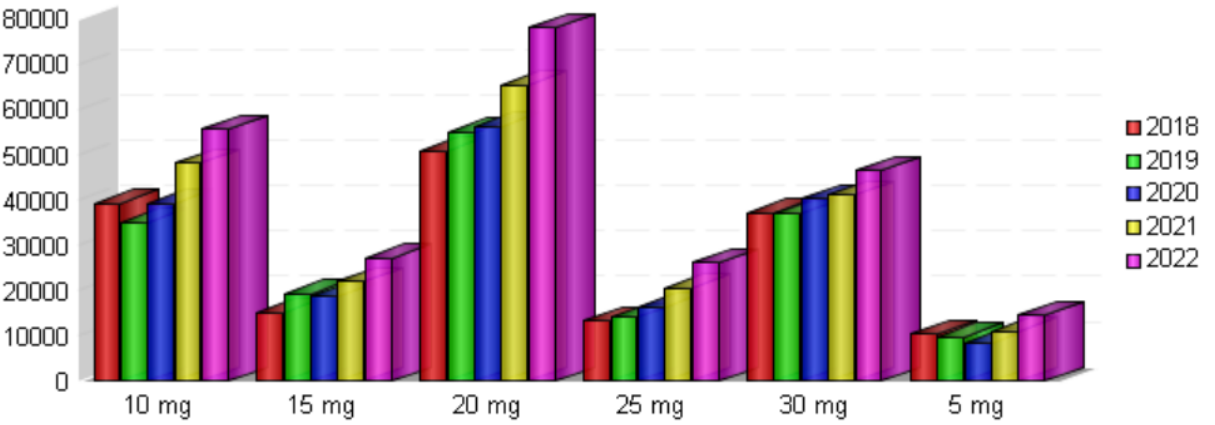
	18 mg	27 mg	36 mg	54 mg
2018	4,697	948	3,645	1,597
2019	3,174	1,882	6,005	3,183
2020	2,978	3,205	5,253	6,289
2021	3,413	4,759	7,483	7,557
2022	5,020	5,051	11,443	6,540

METHYLPHENIDATE SR



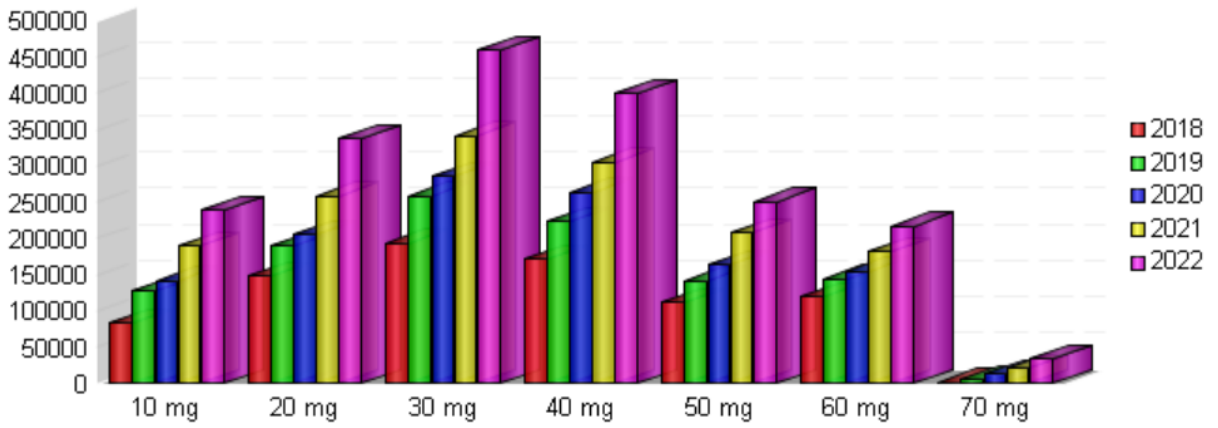
	20 mg
2018	433,615
2019	418,169
2020	433,391
2021	456,001
2022	419,036

MIXED SALTS AMPHETAMINE



	10 mg	15 mg	20 mg	25 mg	30 mg	5 mg
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	39,313	18,765	56,264	16,520	40,399	8,577
2021	48,161	22,094	65,520	20,589	41,230	11,006
2022	55,620	27,148	78,108	26,160	46,529	14,564

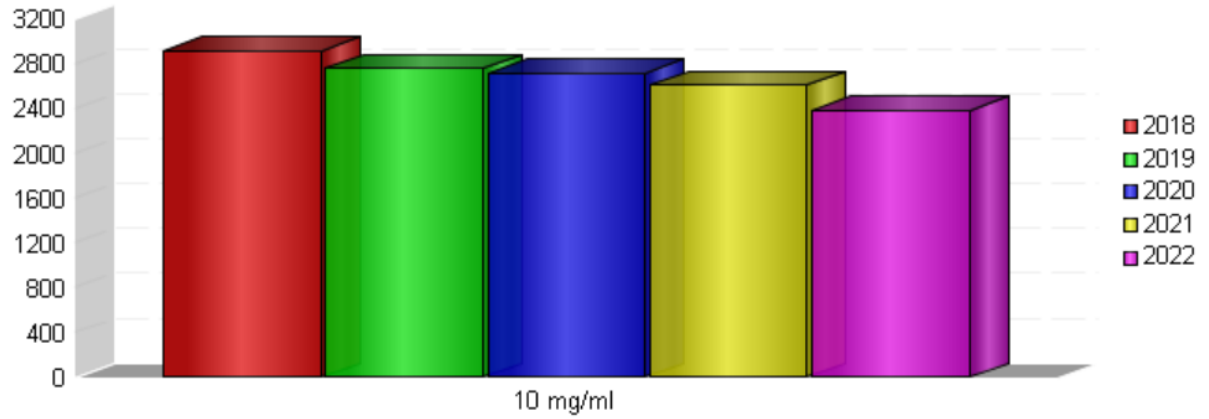
VYVANSE



	10 mg	20 mg	30 mg	40 mg	50 mg	60 mg	70 mg
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	141,849	204,642	285,462	264,040	163,243	154,173	13,673
2021	189,315	258,945	341,290	305,035	208,097	182,305	21,267
2022	239,224	337,025	459,200	400,066	251,014	217,448	34,202

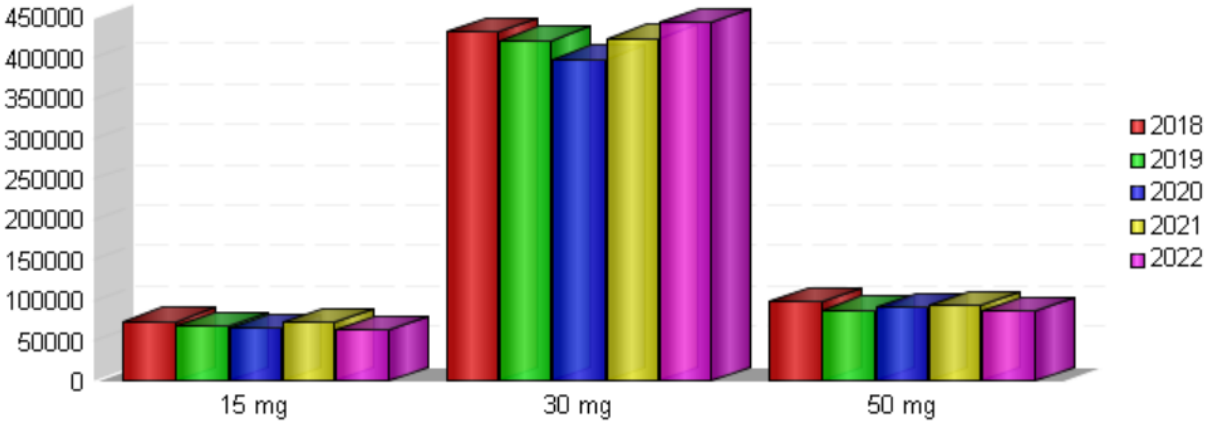
Appendix C: Opiate Agonists

BUTORPHANOL



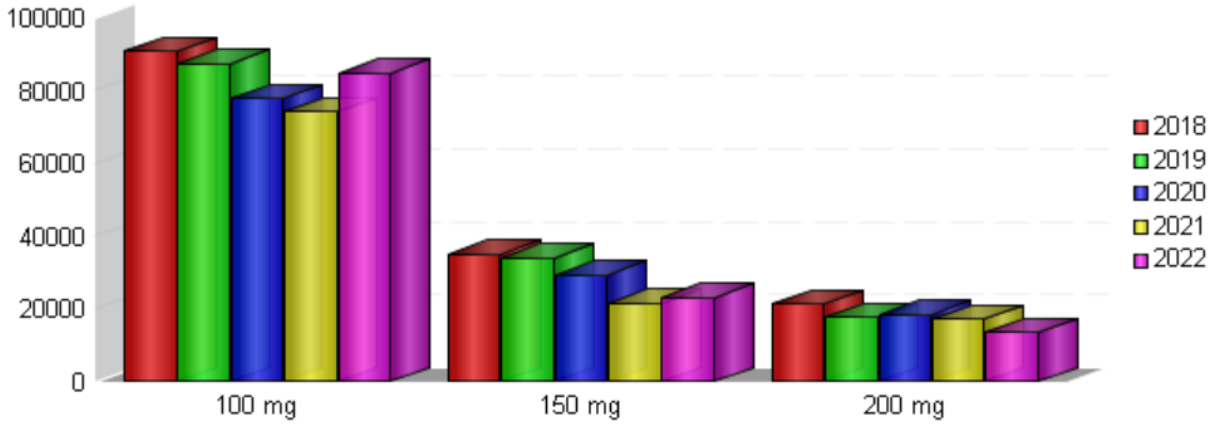
	10 mg/ml
2018	2,920
2019	2,760
2020	2,714
2021	2,611
2022	2,388

CODEINE



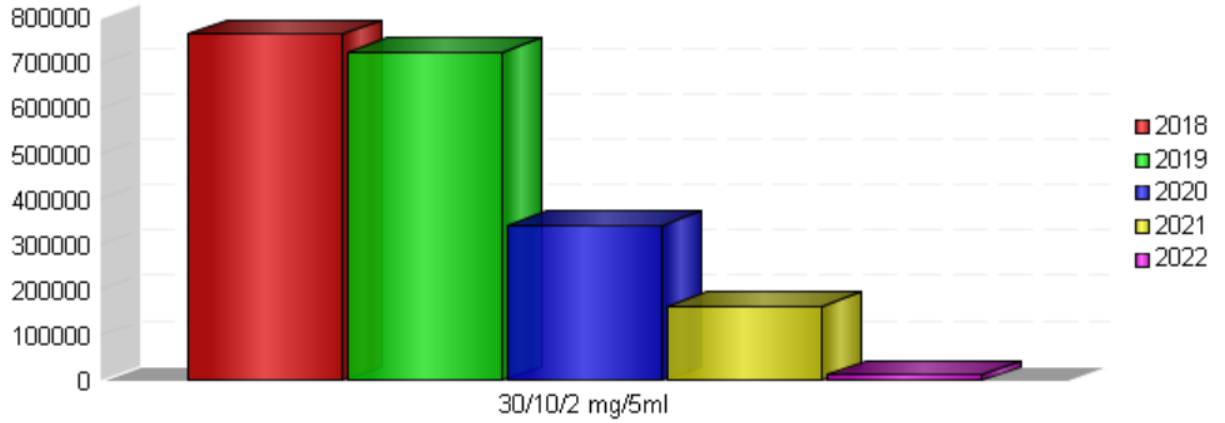
	15 mg	30 mg	50 mg
2018	74,254	431,865	97,848
2019	67,940	422,219	87,601
2020	65,212	398,199	91,698
2021	72,260	423,692	93,226
2022	62,734	443,694	86,278

CODEINE CONTIN



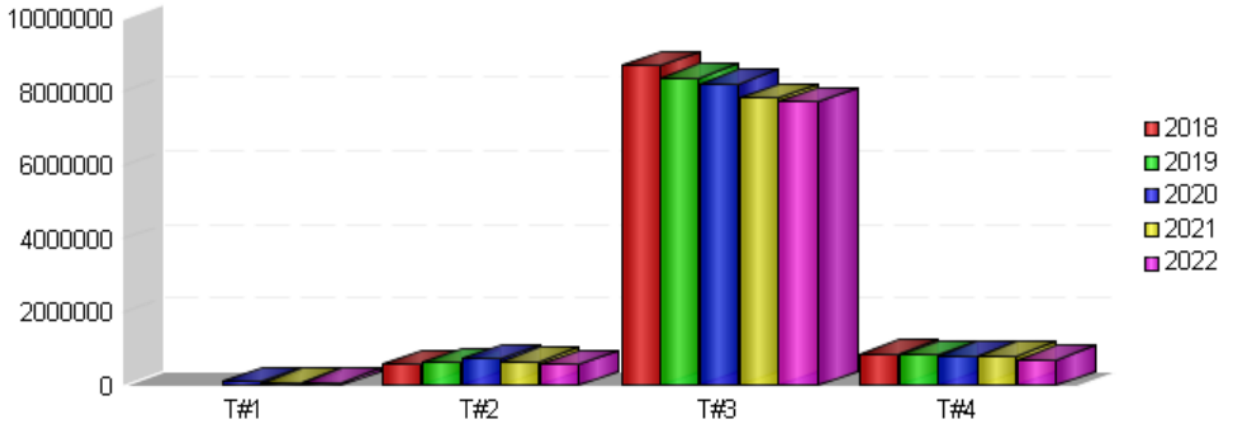
	100 mg	150 mg	200 mg
2018	90,901	35,077	21,360
2019	87,404	34,102	17,824
2020	77,945	29,486	18,532
2021	74,167	21,565	17,194
2022	84,977	23,135	13,642

CODEINE SYRUP



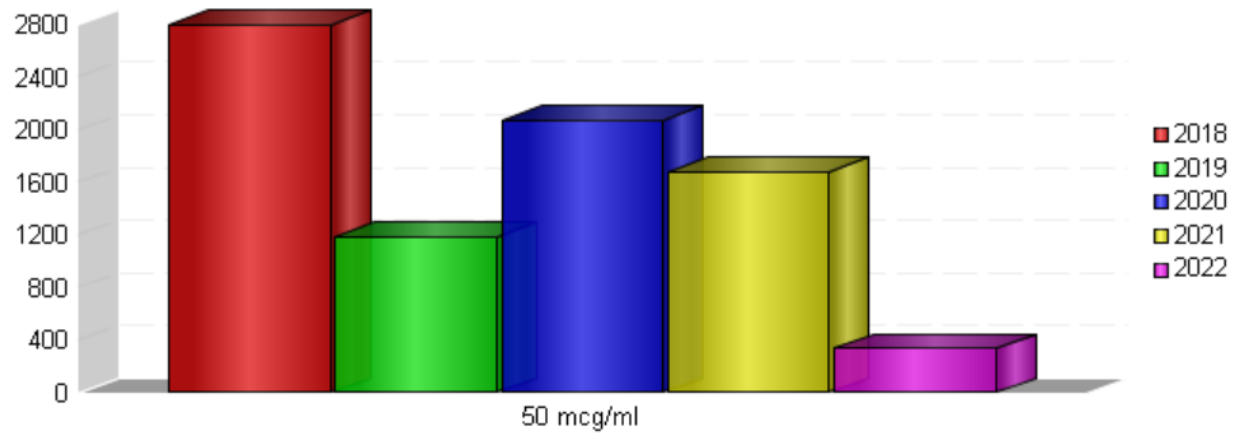
	30/10/2 mg/5ml
2018	765,185
2019	724,310
2020	343,778
2021	163,392
2022	13,422

TYLENOL WITH CODEINE



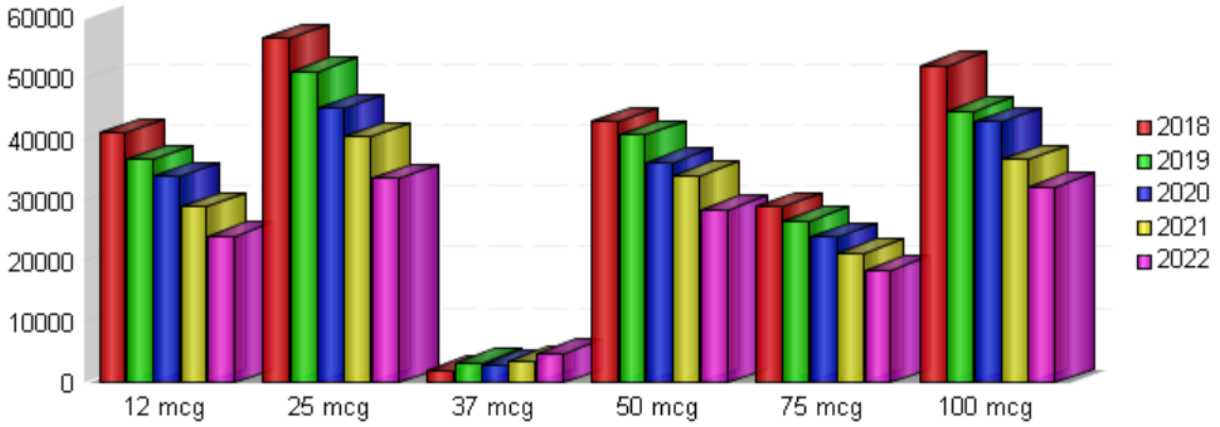
	T#1	T#2	T#3	T#4
2018		570,495	8,720,676	870,008
2019		622,502	8,388,654	838,582
2020	120,288	724,896	8,222,981	804,361
2021	72,994	654,046	7,844,749	805,522
2022	70,612	582,250	7,749,113	705,049

FENTANYL INJECTION



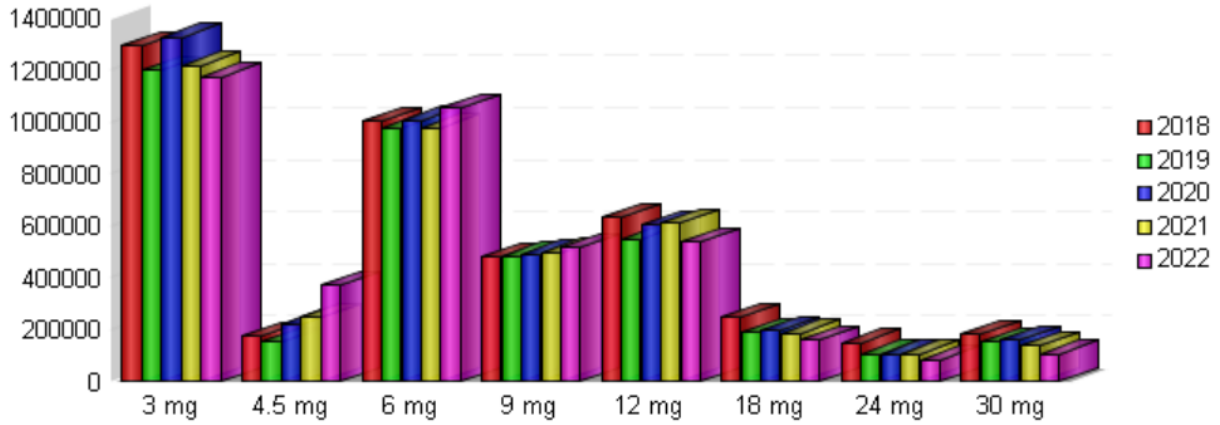
	50 mcg/ml
2018	2,800
2019	1,184
2020	2,071
2021	1,679
2022	336

FENTANYL PATCH



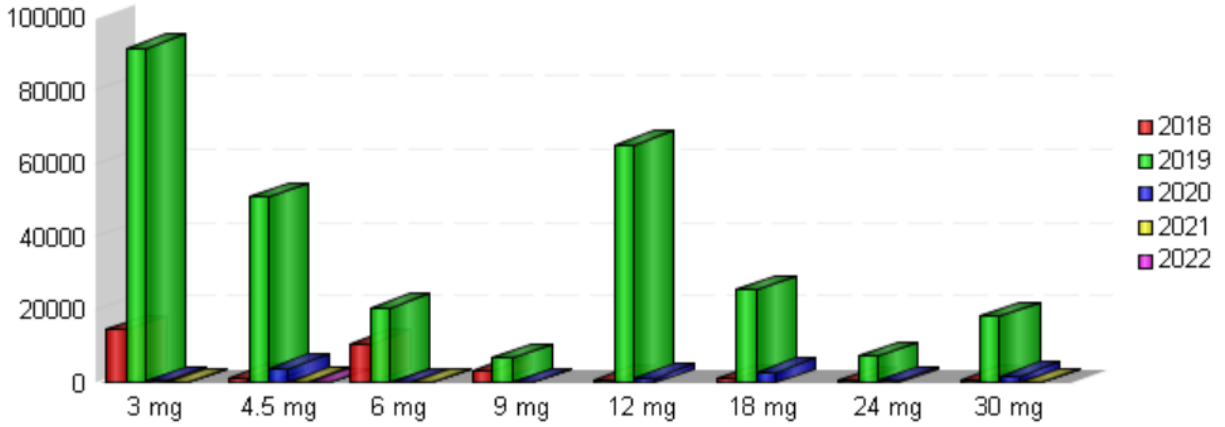
	12 mcg	25 mcg	37 mcg	50 mcg	75 mcg	100 mcg
2018	41,079	56,692	2,110	43,062	28,934	52,136
2019	36,770	51,296	3,367	40,867	26,592	44,636
2020	34,034	45,132	3,018	36,378	24,003	43,016
2021	29,054	40,556	3,556	34,078	21,411	36,720
2022	24,200	33,723	4,826	28,516	18,552	32,279

HYDROMORPH CONTIN



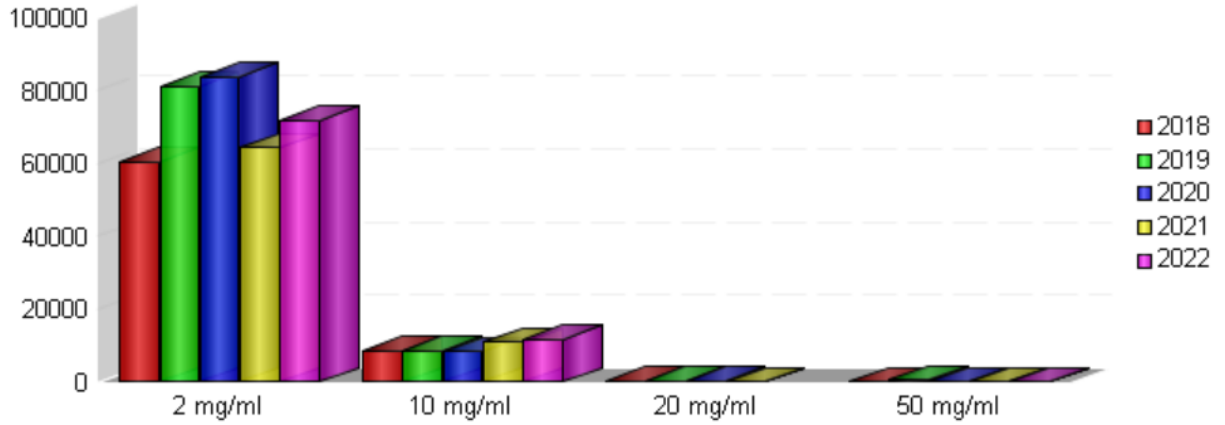
	3 mg	4.5 mg	6 mg	9 mg	12 mg	18 mg	24 mg	30 mg
2018	1,293,010	176,253	1,001,901	479,110	631,510	247,569	149,971	183,328
2019	1,199,533	151,982	979,617	482,908	548,112	191,100	105,099	153,016
2020	1,327,548	220,717	1,007,955	491,991	604,162	196,125	105,842	159,188
2021	1,218,391	248,179	977,287	497,978	610,859	186,752	104,442	138,090
2022	1,174,407	370,285	1,055,608	517,550	536,592	160,014	85,817	105,643

HYDROMORPHONE CR

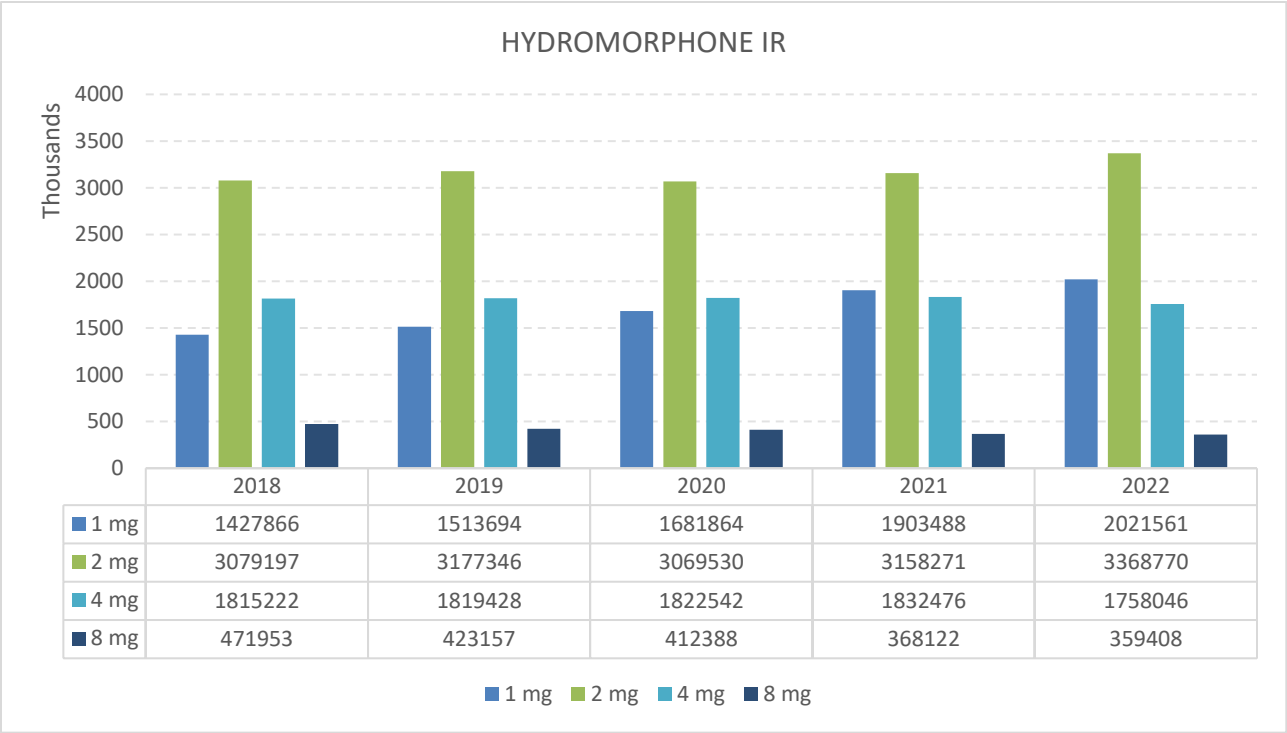


	3 mg	4.5 mg	6 mg	9 mg	12 mg	18 mg	24 mg	30 mg
2018	14,623	1,270	10,729	3,316	846	1,094	694	854
2019	91,604	50,987	20,441	6,911	65,241	25,383	7,358	18,172
2020	508	4,019	38	119	1,433	2,909	465	1,896
2021	87	218	56					54
2022		14						

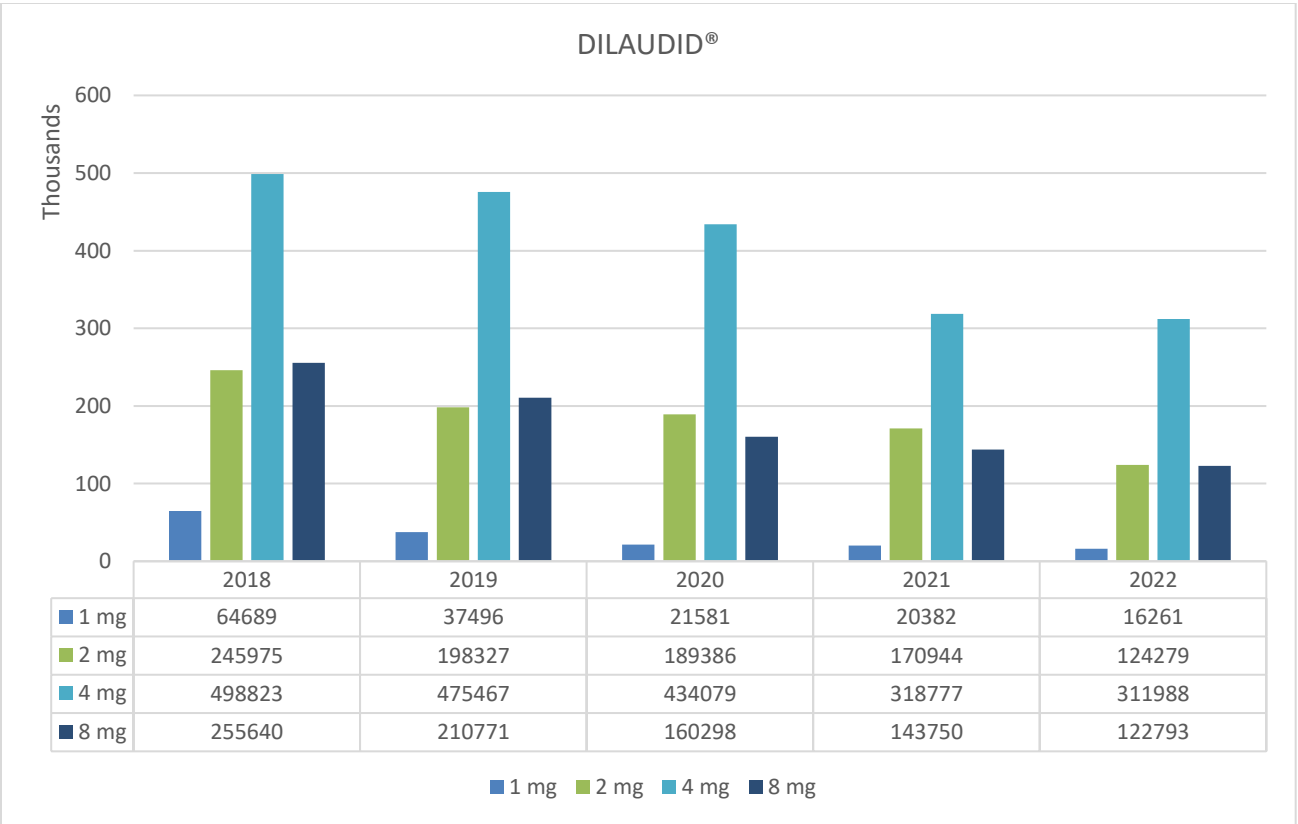
HYDROMORPHONE INJECTION



	2 mg/ml	10 mg/ml	20 mg/ml	50 mg/ml
2018	60,415	8,504	250	30
2019	81,275	8,522	250	505
2020	83,745	8,340	200	50
2021	64,301	10,924	50	25
2022	71,921	11,660		160

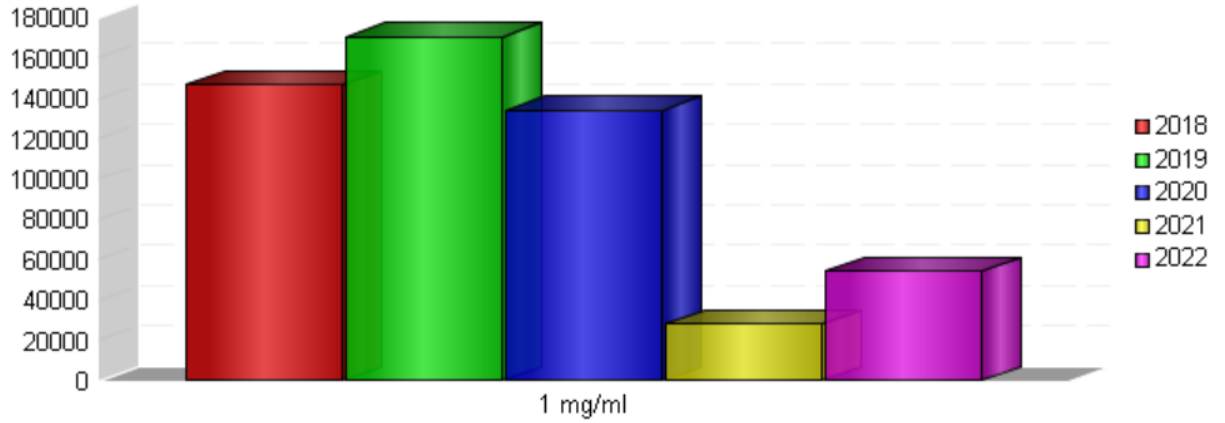


	2018	2019	2020	2021	2022
1 mg	1427866	1513694	1681864	1903488	2021561
2 mg	3079197	3177346	3069530	3158271	3368770
4 mg	1815222	1819428	1822542	1832476	1758046
8 mg	471953	423157	412388	368122	359408



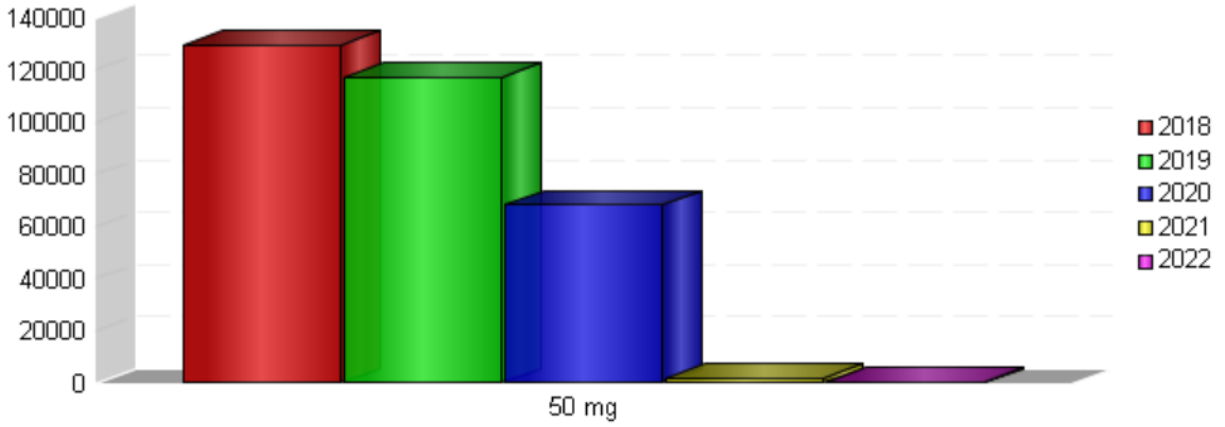
	2018	2019	2020	2021	2022
1 mg	64689	37496	21581	20382	16261
2 mg	245975	198327	189386	170944	124279
4 mg	498823	475467	434079	318777	311988
8 mg	255640	210771	160298	143750	122793

HYDROMORPHONE SYRUP



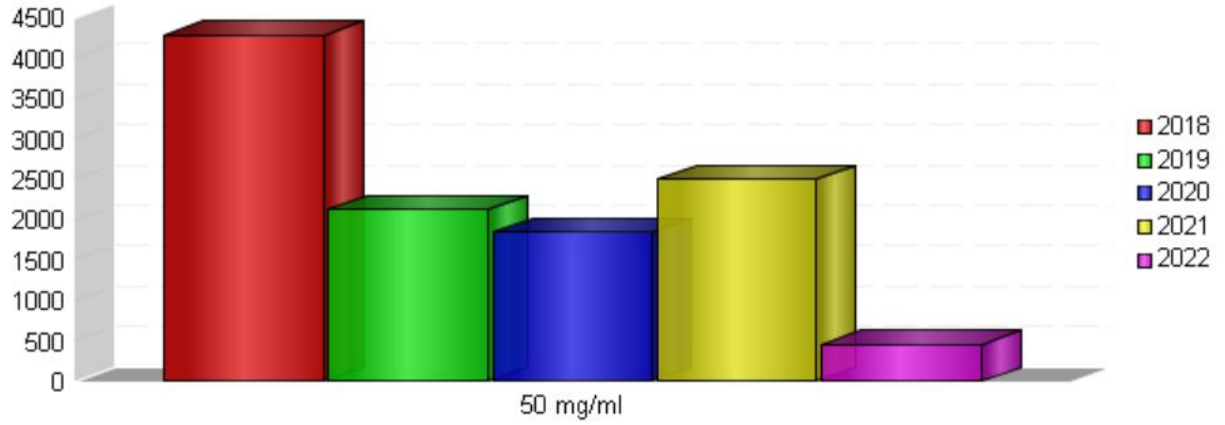
	1 mg/ml
2018	146,775
2019	170,550
2020	134,050
2021	28,322
2022	54,404

MEPERIDINE



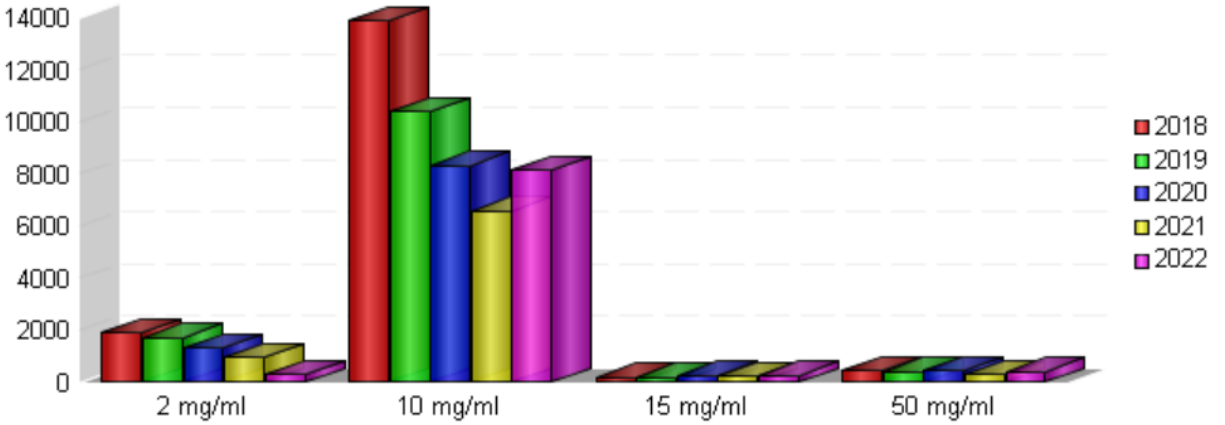
	50 mg
2018	129,595
2019	117,486
2020	68,381
2021	1,775
2022	339

MEPERIDINE INJECTION



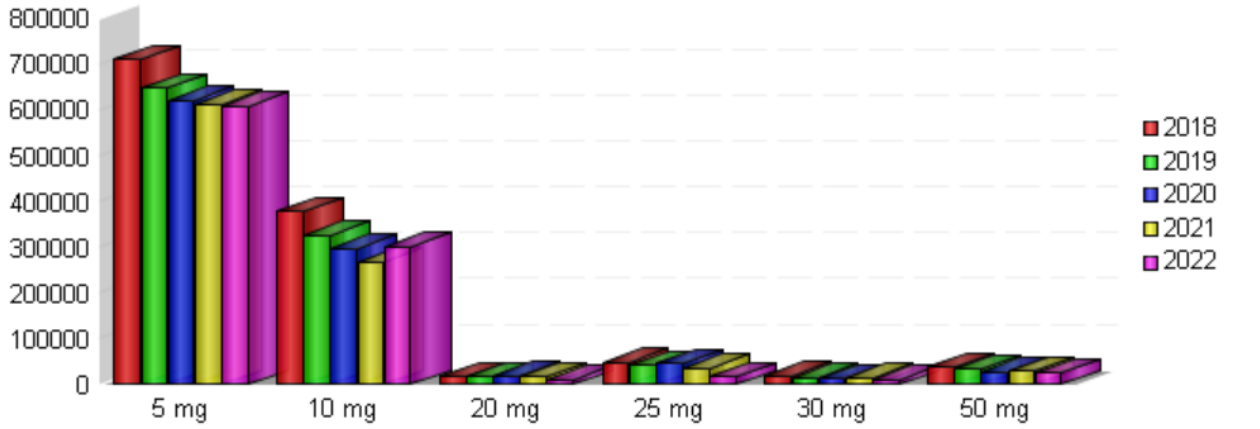
	50 mg/ml
2018	4,283
2019	2,132
2020	1,850
2021	2,497
2022	452

MORPHINE INJECTION



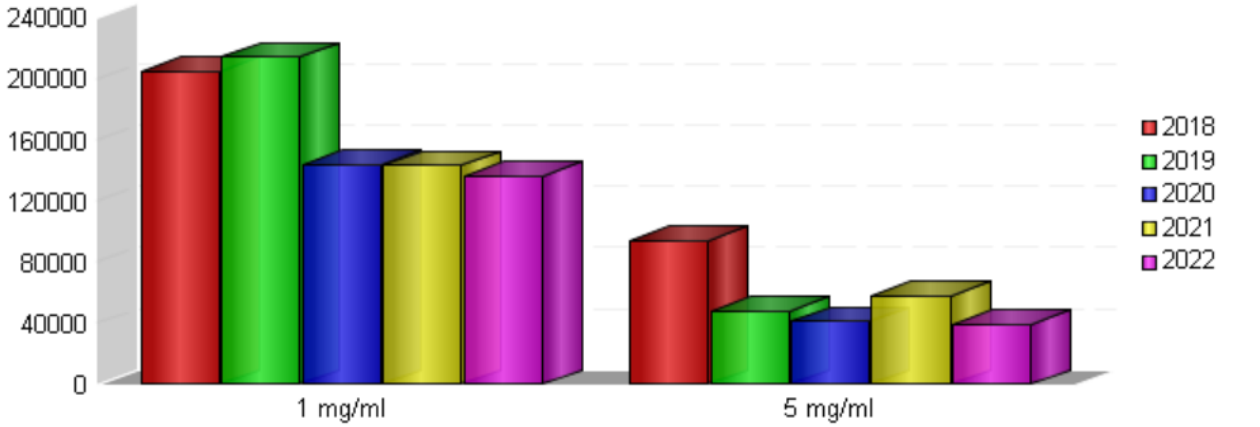
	2 mg/ml	10 mg/ml	15 mg/ml	50 mg/ml
2018	1,890	13,892	177	454
2019	1,731	10,385	174	416
2020	1,307	8,308	260	450
2021	943	6,572	212	280
2022	306	8,133	248	405

MORPHINE IR



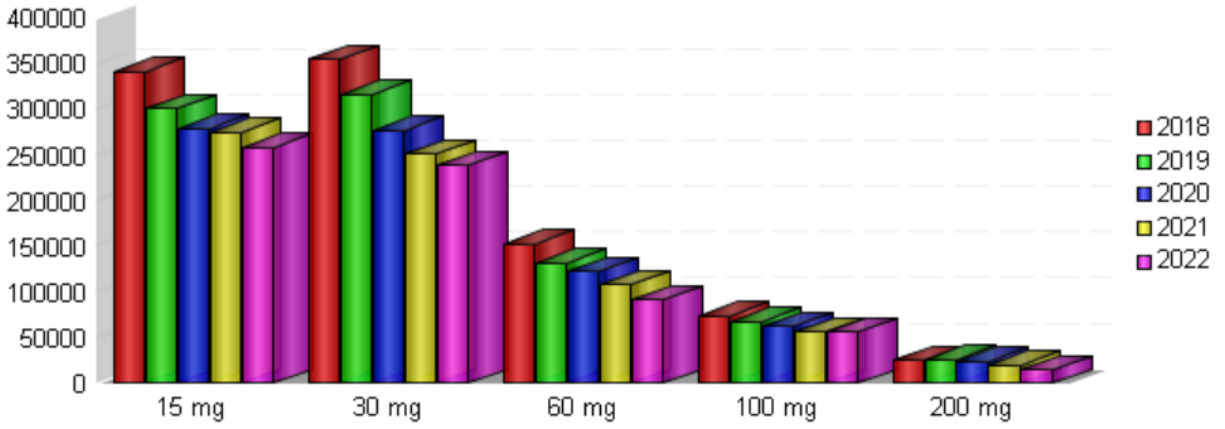
	5 mg	10 mg	20 mg	25 mg	30 mg	50 mg
2018	710,301	378,617	16,384	47,854	19,471	37,368
2019	648,665	326,321	16,314	41,806	14,885	33,671
2020	621,283	297,888	18,759	46,909	12,249	26,786
2021	613,745	267,280	16,671	36,519	14,239	28,744
2022	607,654	300,955	10,347	17,091	10,307	25,067

MORPHINE SYRUP



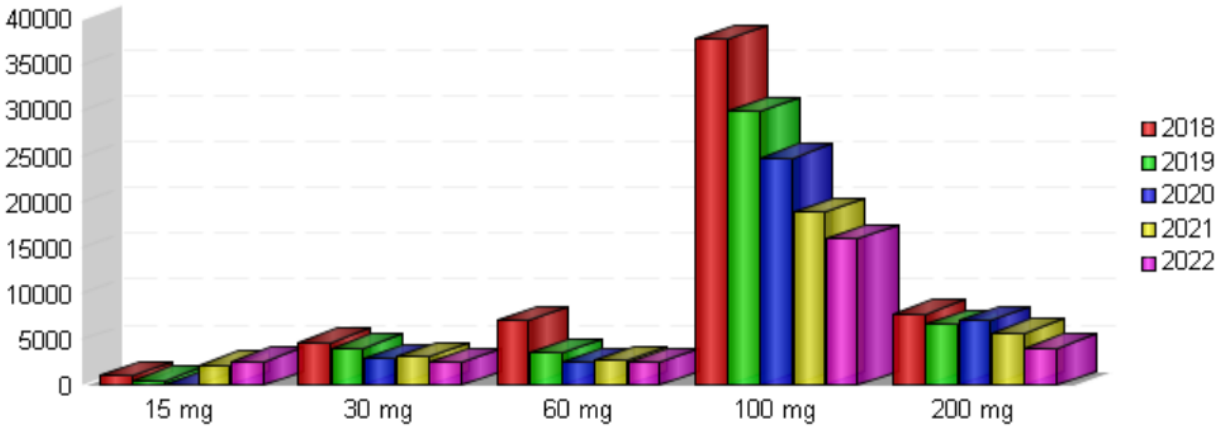
	1 mg/ml	5 mg/ml
2018	205,069	94,442
2019	214,365	48,329
2020	143,763	41,196
2021	143,383	58,259
2022	136,242	39,563

MORPHINE SR



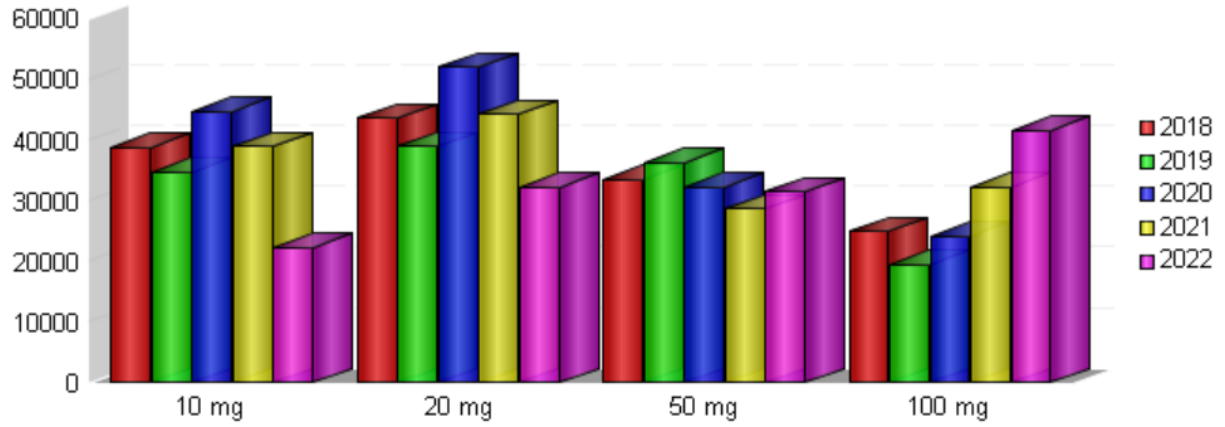
	15 mg	30 mg	60 mg	100 mg	200 mg
2018	341,699	355,136	152,729	74,371	25,310
2019	301,654	316,461	131,780	68,049	26,348
2020	279,500	277,415	122,154	62,838	24,518
2021	274,905	251,098	108,477	55,973	19,882
2022	258,210	238,664	91,917	56,614	14,612

MS CONTIN



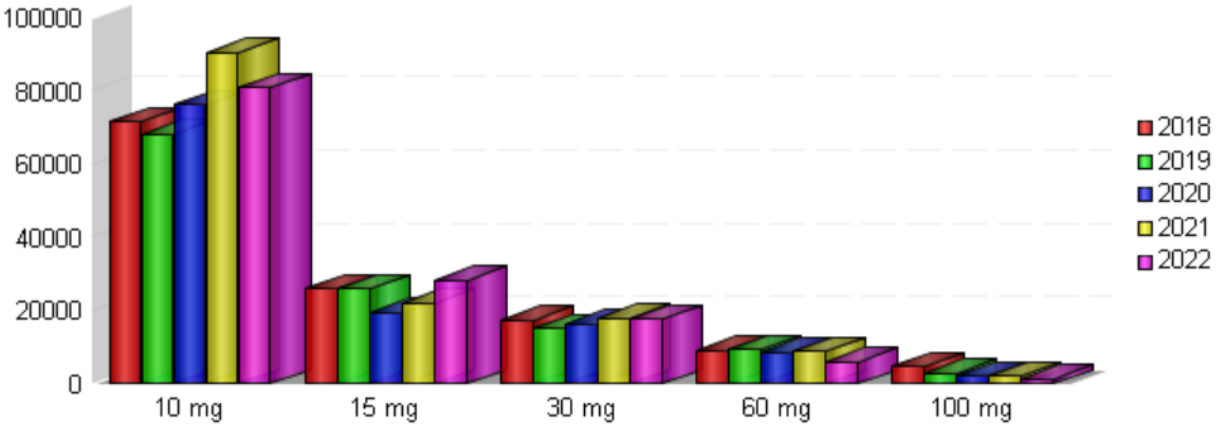
	15 mg	30 mg	60 mg	100 mg	200 mg
2018	1,020	4,716	7,036	37,803	7,799
2019	573	4,043	3,514	29,925	6,655
2020	166	2,940	2,466	24,803	7,038
2021	2,198	3,114	2,763	18,927	5,764
2022	2,644	2,514	2,490	16,016	4,089

KADIAN



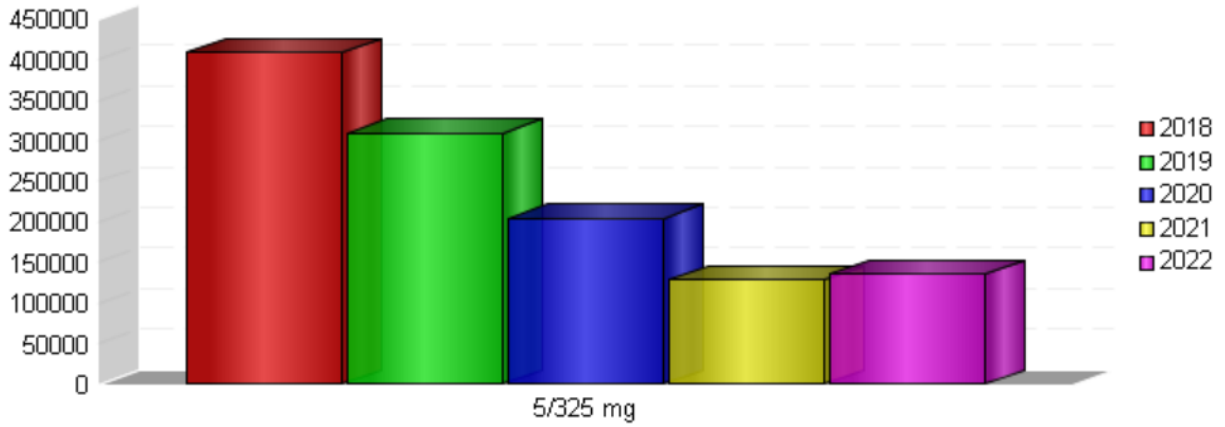
	10 mg	20 mg	50 mg	100 mg
2018	38,794	43,542	33,561	24,974
2019	34,801	38,890	36,289	19,437
2020	44,775	52,054	32,245	24,097
2021	39,021	44,293	28,651	32,191
2022	22,260	32,259	31,497	41,653

M-ESLON



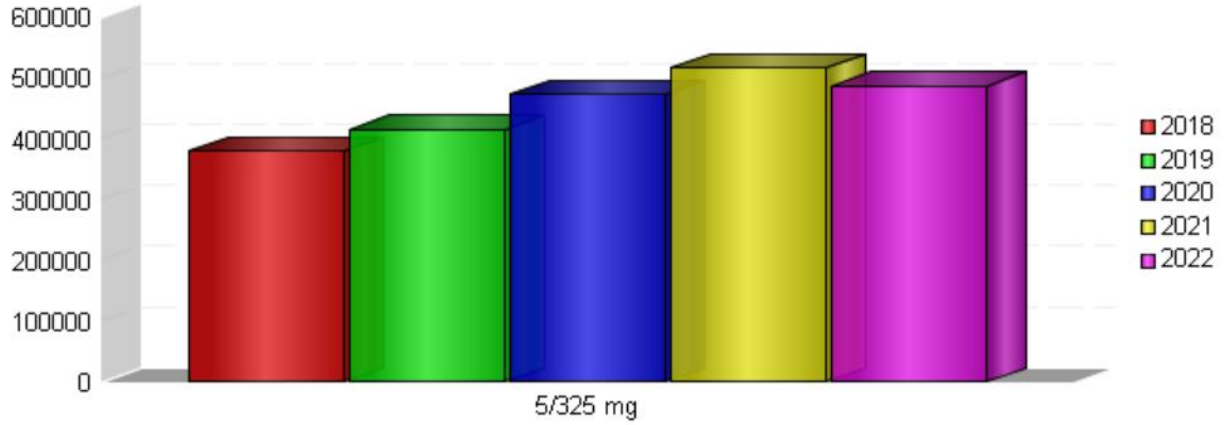
	10 mg	15 mg	30 mg	60 mg	100 mg
2018	71,666	25,976	17,432	9,190	4,626
2019	68,287	25,946	15,225	9,280	2,822
2020	76,254	19,509	16,305	8,522	2,040
2021	90,680	22,155	18,056	8,914	2,071
2022	80,891	28,329	17,600	6,116	1,338

OXYCODONE / ACET



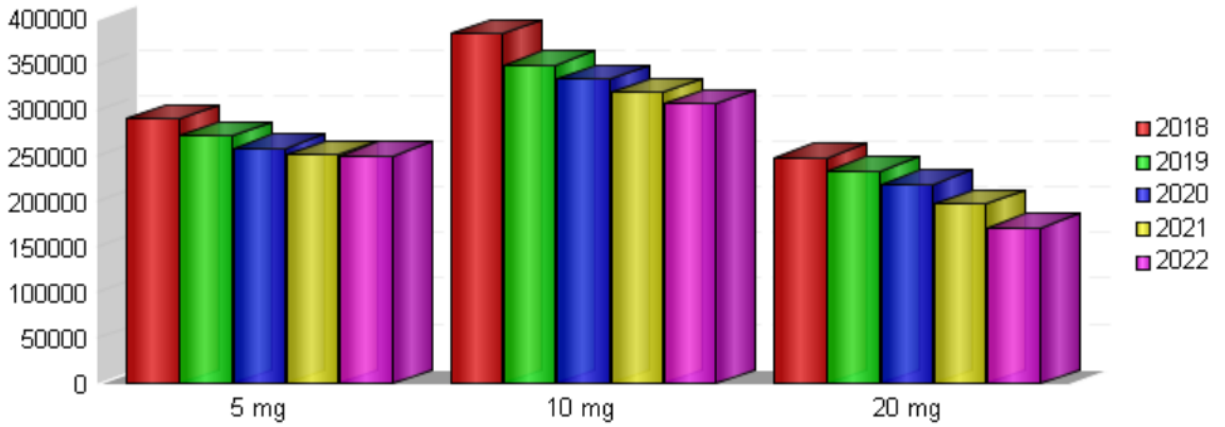
	5/325 mg
2018	409,378
2019	309,328
2020	204,625
2021	129,248
2022	135,189

OXYCODONE / ASA



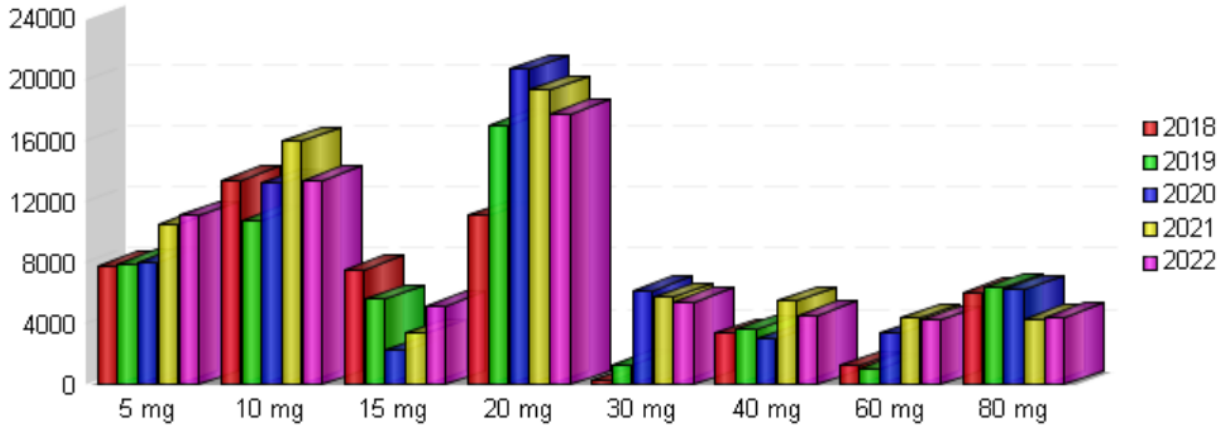
	5/325 mg
2018	380,343
2019	416,649
2020	474,140
2021	517,705
2022	487,739

OXYCODONE IR



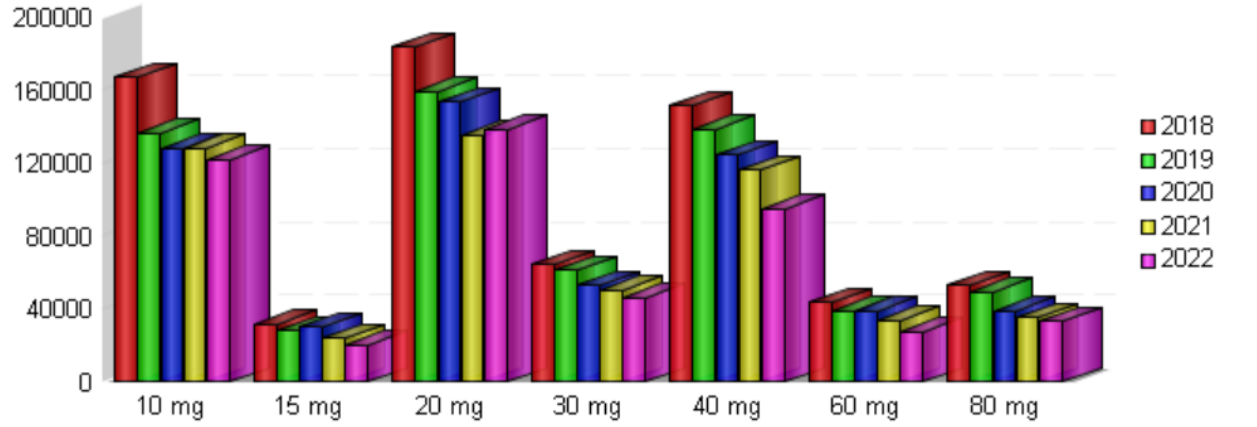
	5 mg	10 mg	20 mg
2018	291,164	384,361	248,334
2019	271,765	349,628	233,516
2020	258,801	334,677	219,250
2021	251,747	319,484	197,472
2022	250,556	307,640	171,033

OXYCODONE CR



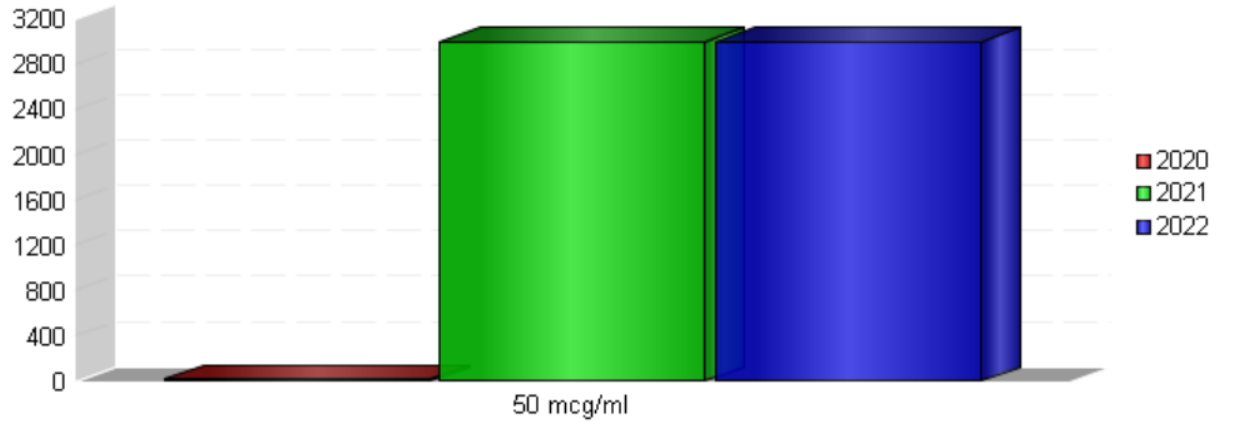
	5 mg	10 mg	15 mg	20 mg	30 mg	40 mg	60 mg	80 mg
2018	7,808	13,392	7,553	11,071	258	3,360	1,264	6,060
2019	7,926	10,808	5,623	16,999	1,346	3,594	1,097	6,336
2020	8,046	13,210	2,257	20,689	6,176	2,988	3,370	6,220
2021	10,555	15,974	3,386	19,321	5,740	5,474	4,345	4,300
2022	11,107	13,380	5,182	17,789	5,438	4,548	4,257	4,437

OXYNEO



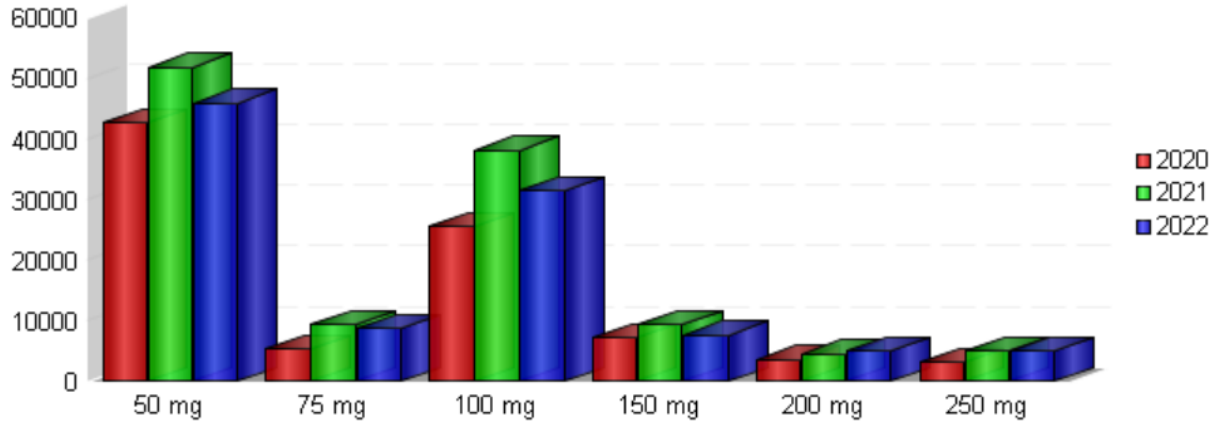
	10 mg	15 mg	20 mg	30 mg	40 mg	60 mg	80 mg
2018	167,356	31,925	183,561	64,556	151,559	43,781	53,165
2019	136,516	28,207	159,650	61,535	138,766	38,846	49,240
2020	128,390	30,187	153,780	52,977	124,901	38,892	39,197
2021	128,139	23,778	135,485	50,395	116,446	33,671	35,432
2022	122,179	20,487	138,439	46,387	95,068	27,662	33,330

SUFENTANIL INJECTION



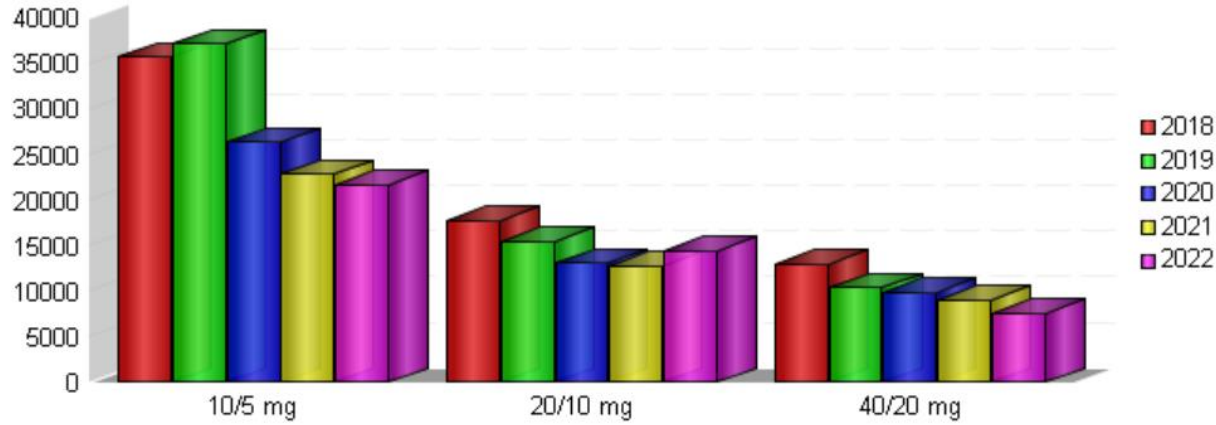
	50 mcg/ml
2020	20
2021	3,000
2022	3,000

TAPENTADOL



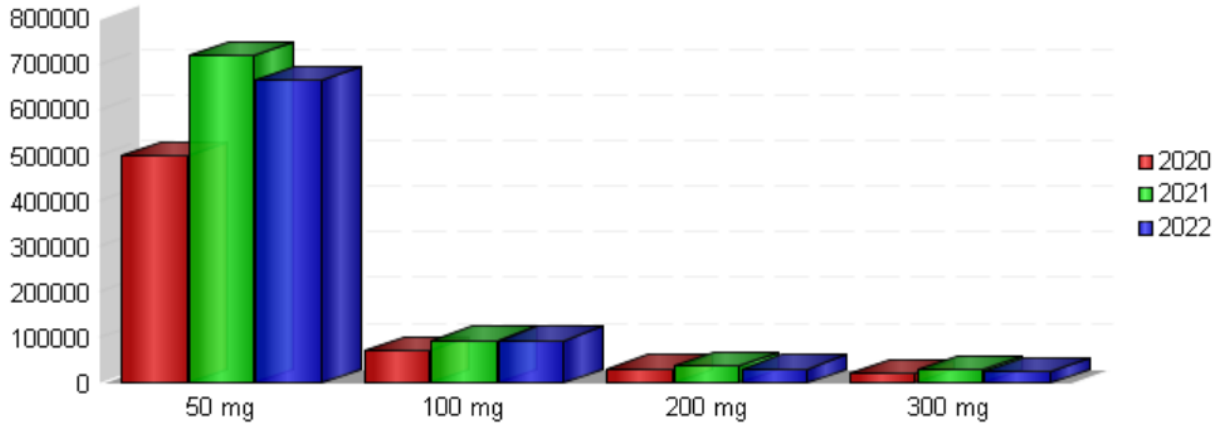
	50 mg	75 mg	100 mg	150 mg	200 mg	250 mg
2020	42,642	5,374	25,508	7,136	3,532	3,217
2021	51,852	9,413	38,166	9,390	4,480	5,010
2022	46,022	8,793	31,469	7,595	5,005	5,016

TARGIN



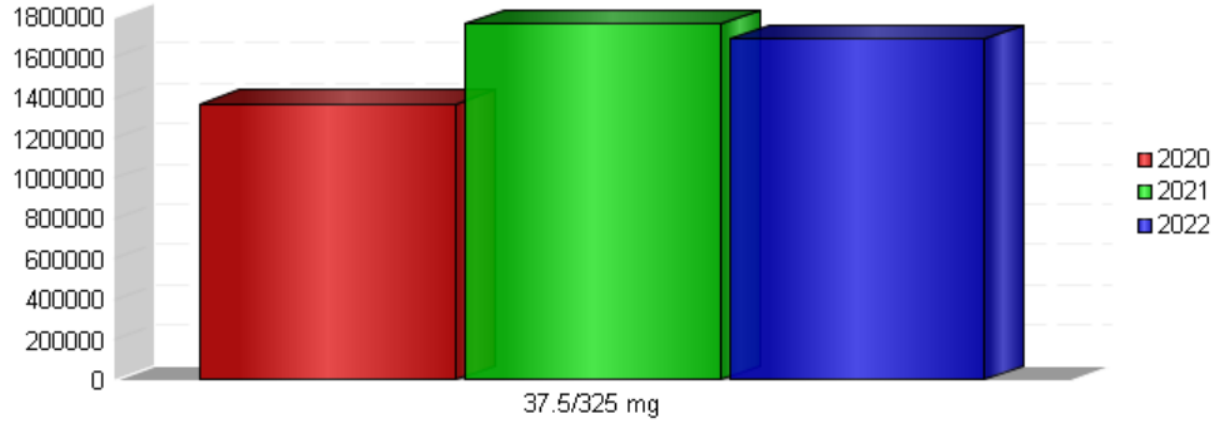
	10/5 mg	20/10 mg	40/20 mg
2018	35,732	17,717	12,974
2019	37,165	15,466	10,440
2020	26,384	13,145	9,829
2021	22,846	12,788	9,085
2022	21,664	14,426	7,572

TRAMADOL



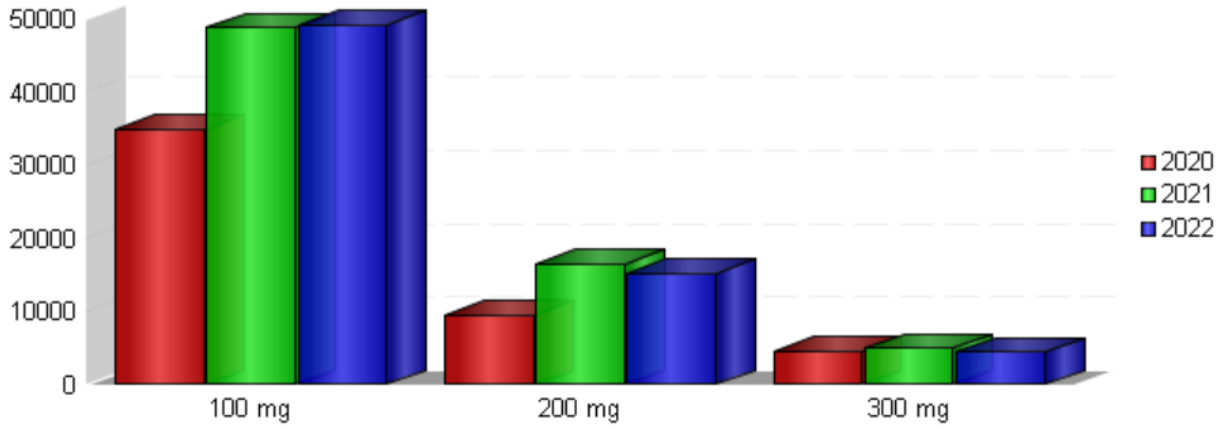
	50 mg	100 mg	200 mg	300 mg
2020	499,173	71,681	32,034	21,686
2021	718,980	93,772	37,909	28,603
2022	664,477	92,809	31,392	24,432

TRAMADOL / ACET



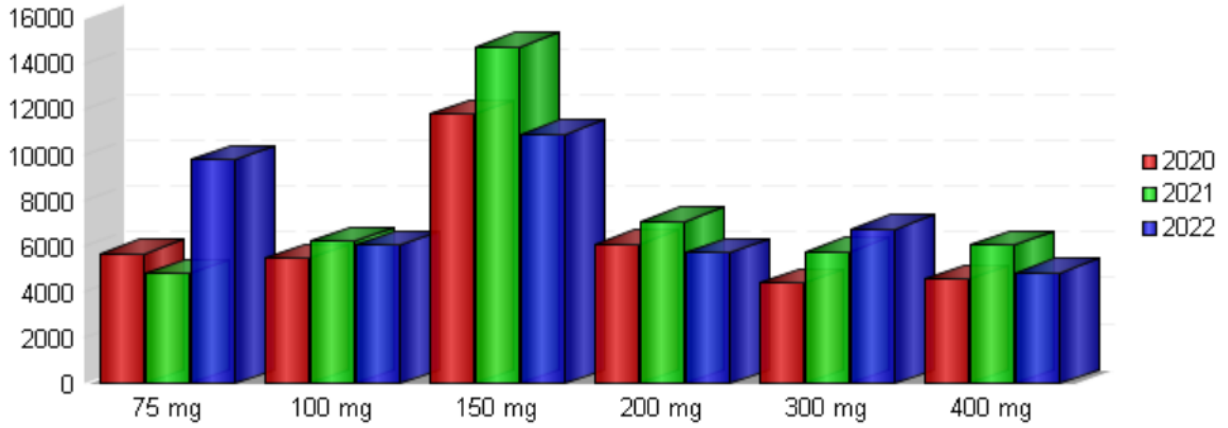
	37.5/325 mg
2020	1,371,131
2021	1,765,233
2022	1,691,050

TRAMADOL ER



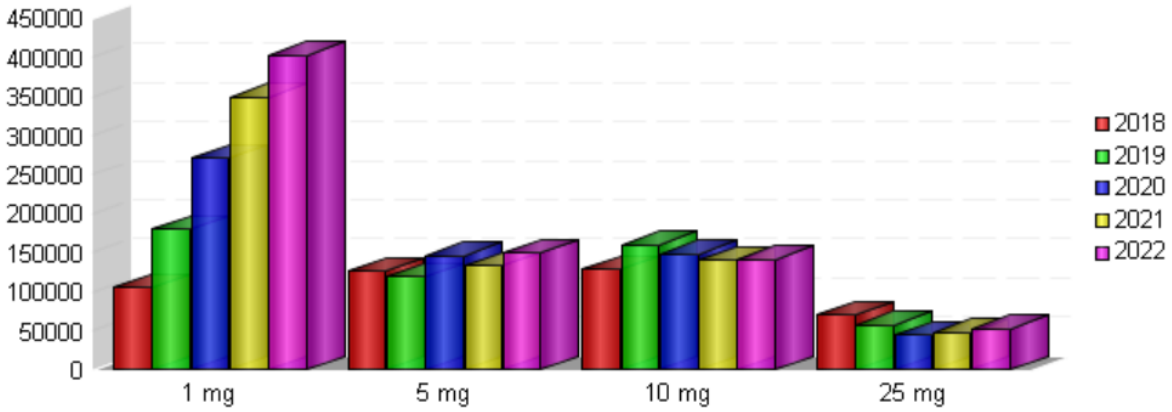
	100 mg	200 mg	300 mg
2020	34,863	9,551	4,603
2021	48,796	16,488	5,002
2022	49,203	15,216	4,379

TRAMADOL XL



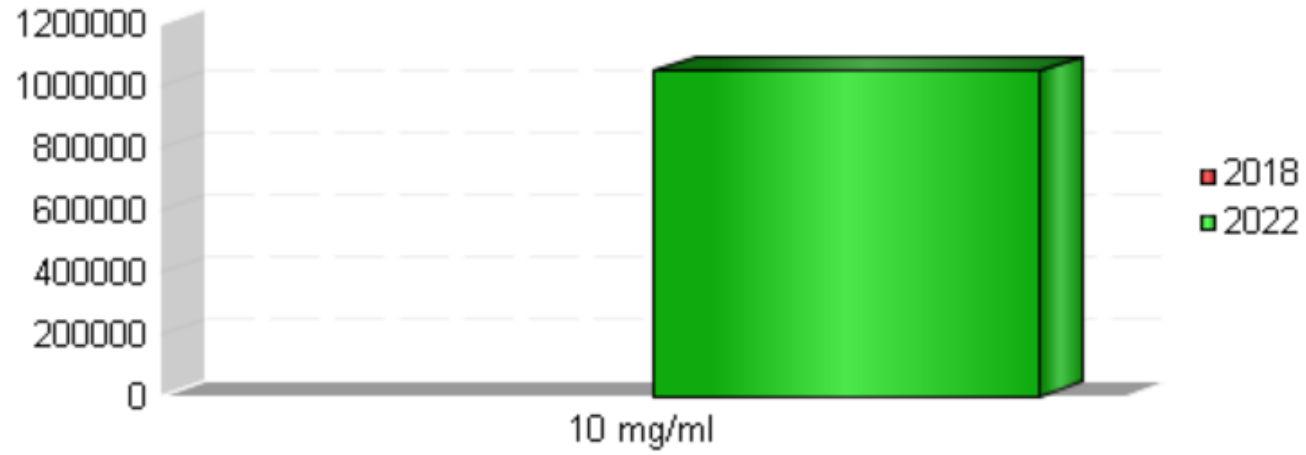
	75 mg	100 mg	150 mg	200 mg	300 mg	400 mg
2020	5,686	5,488	11,819	6,113	4,411	4,594
2021	4,834	6,232	14,747	7,104	5,785	6,066
2022	9,792	6,081	10,918	5,728	6,794	4,876

METADOL



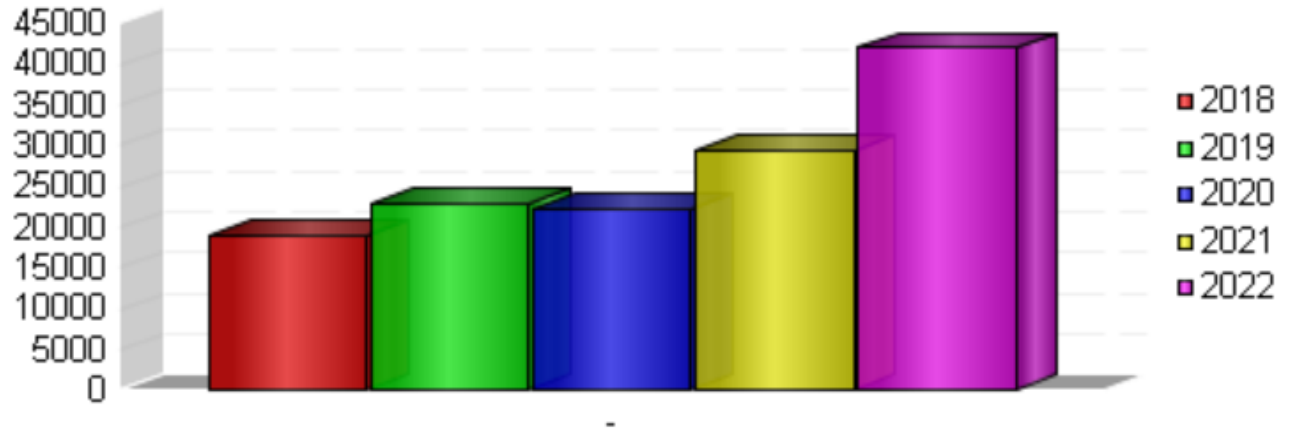
	1 mg	5 mg	10 mg	25 mg
2018	104,764	126,130	128,228	70,435
2019	180,166	119,209	159,709	57,291
2020	271,416	145,850	148,723	44,873
2021	349,635	132,984	140,414	48,260
2022	402,694	150,228	141,506	52,878

METADOL-D



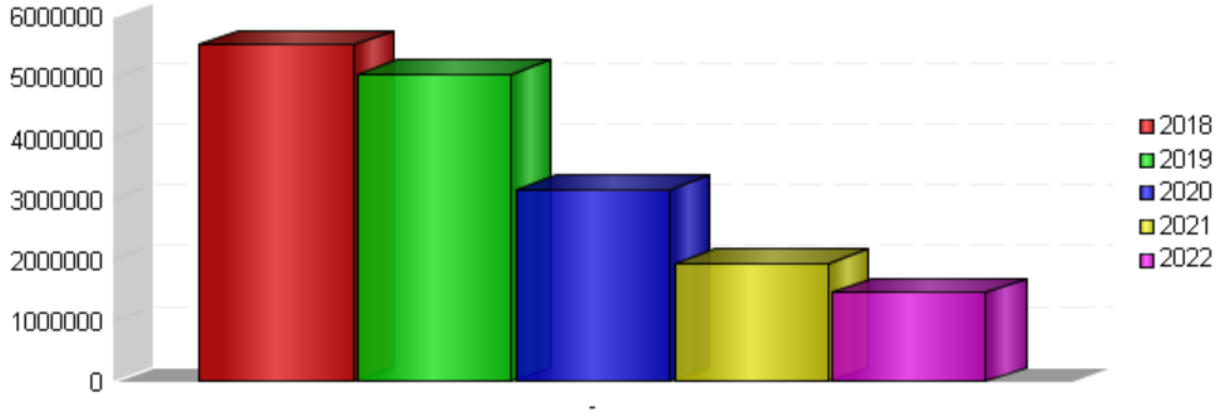
	10 mg/ml
2018	32
2022	1,050,101

METHADOSE

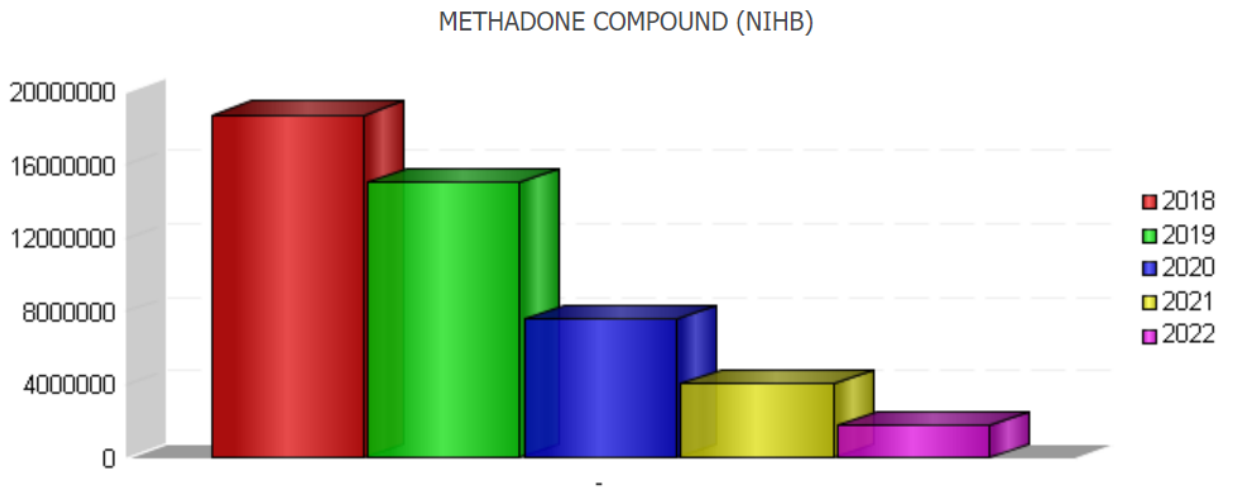


	-
2018	18,979
2019	22,986
2020	22,286
2021	29,428
2022	42,059

METHADONE COMPOUND (A)

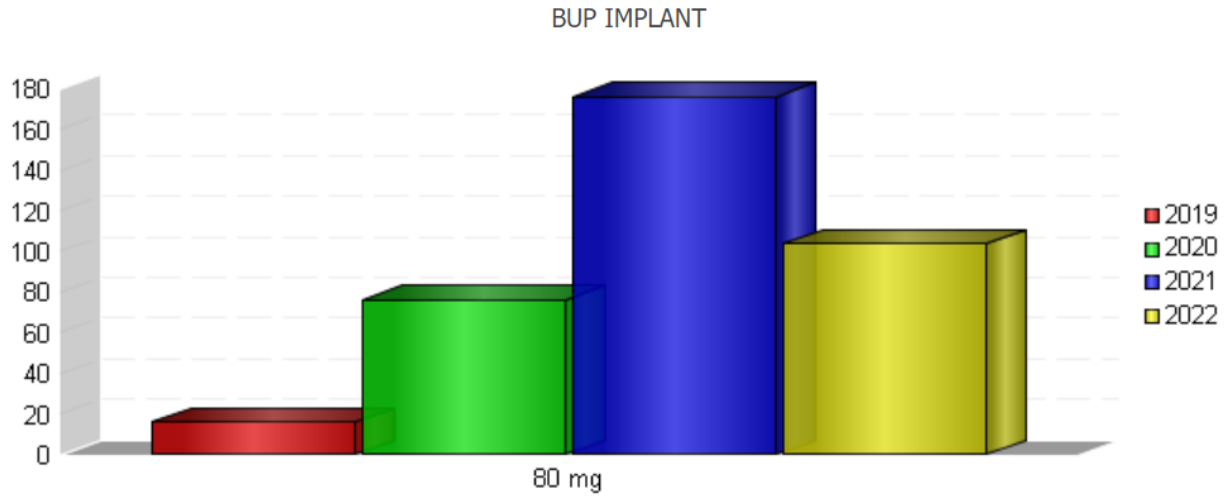


	-
2018	5,547,256
2019	5,067,735
2020	3,168,208
2021	1,948,291
2022	1,467,282

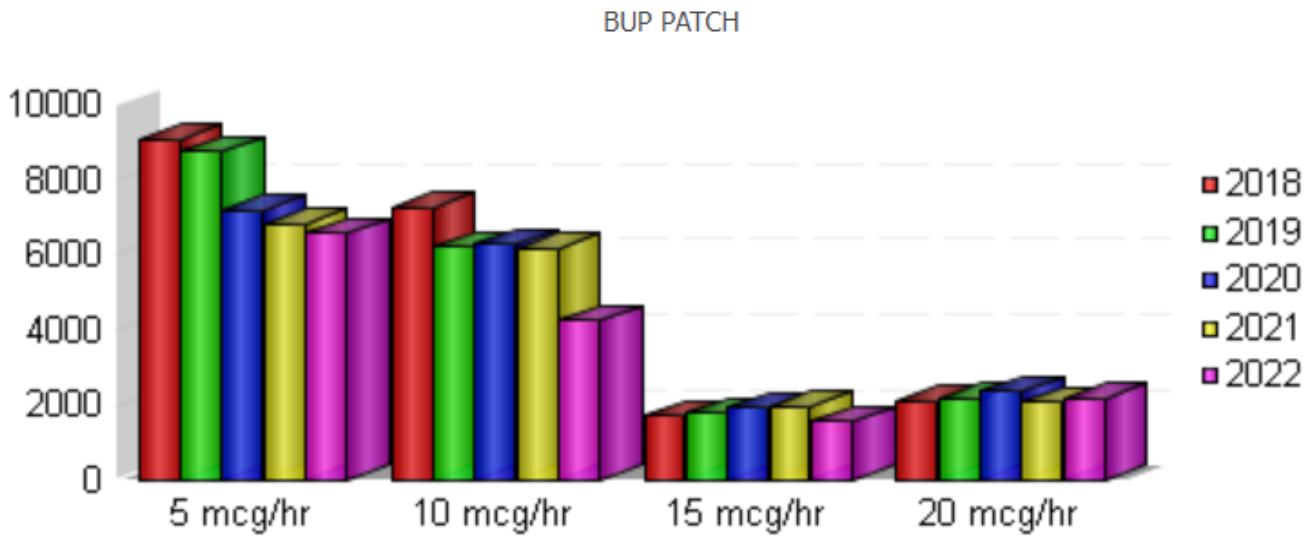


	-
2018	18,726,533
2019	15,033,572
2020	7,584,944
2021	4,061,526
2022	1,753,451

Appendix D: Opiate Partial Agonists

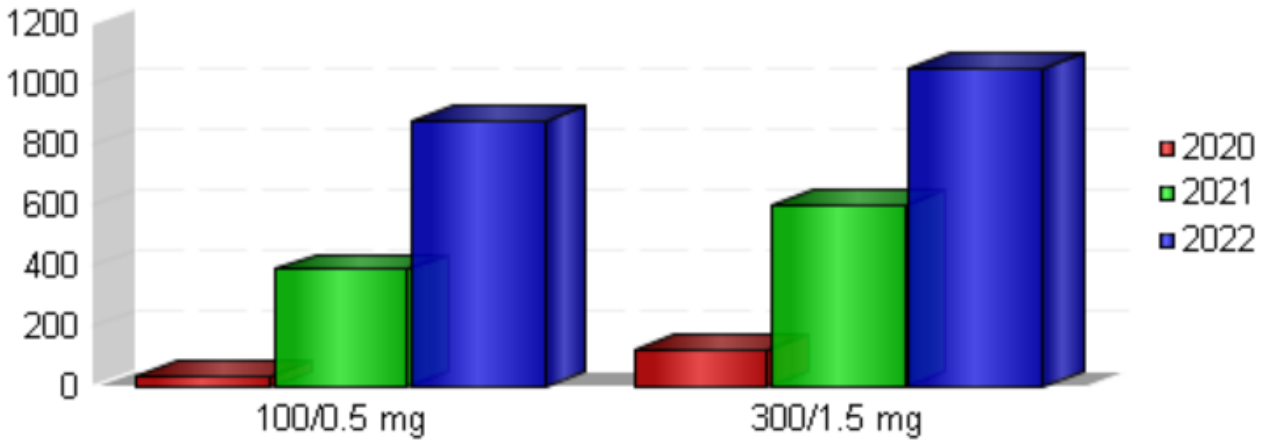


	80 mg
2019	16
2020	76
2021	176
2022	104



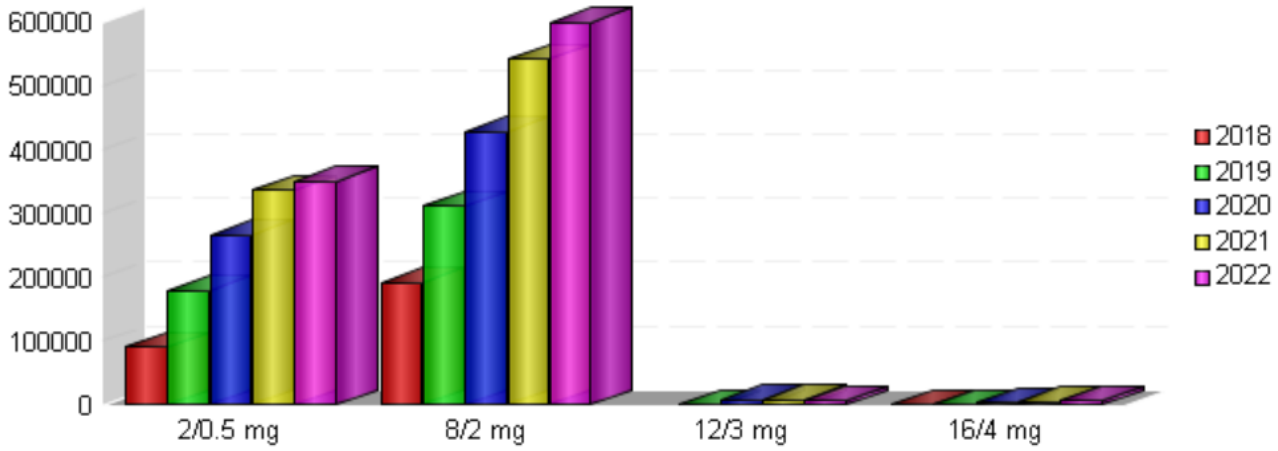
	5 mcg/hr	10 mcg/hr	15 mcg/hr	20 mcg/hr
2018	9,063	7,244	1,729	2,135
2019	8,751	6,201	1,790	2,182
2020	7,200	6,295	1,933	2,360
2021	6,838	6,182	1,968	2,090
2022	6,586	4,250	1,569	2,208

BUP INJECTION

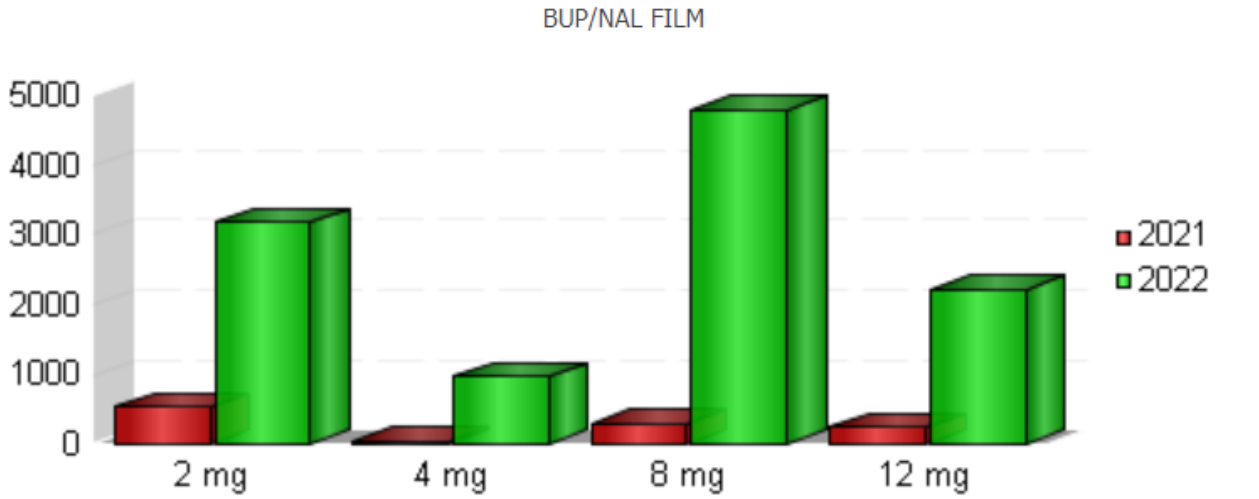


	100/0.5 mg	300/1.5 mg
2020	38	124
2021	388	600
2022	882	1,057

BUP/NAL SL



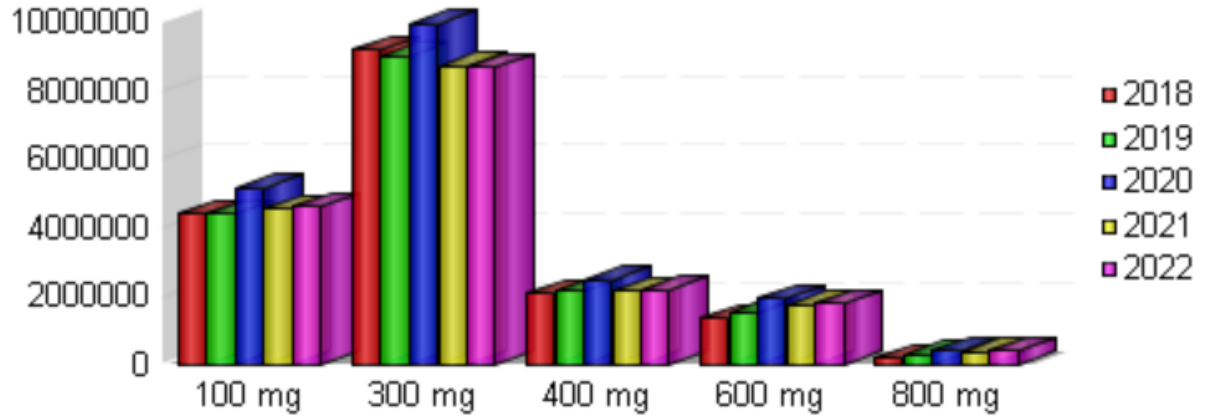
	2/0.5 mg	8/2 mg	12/3 mg	16/4 mg
2018	90,902	191,648	20	94
2019	178,812	311,735	1,004	750
2020	266,300	427,750	8,151	3,990
2021	337,014	541,681	7,939	4,521
2022	350,114	599,933	5,962	5,706



	2 mg	4 mg	8 mg	12 mg
2021	531	39	297	238
2022	3,177	961	4,789	2,214

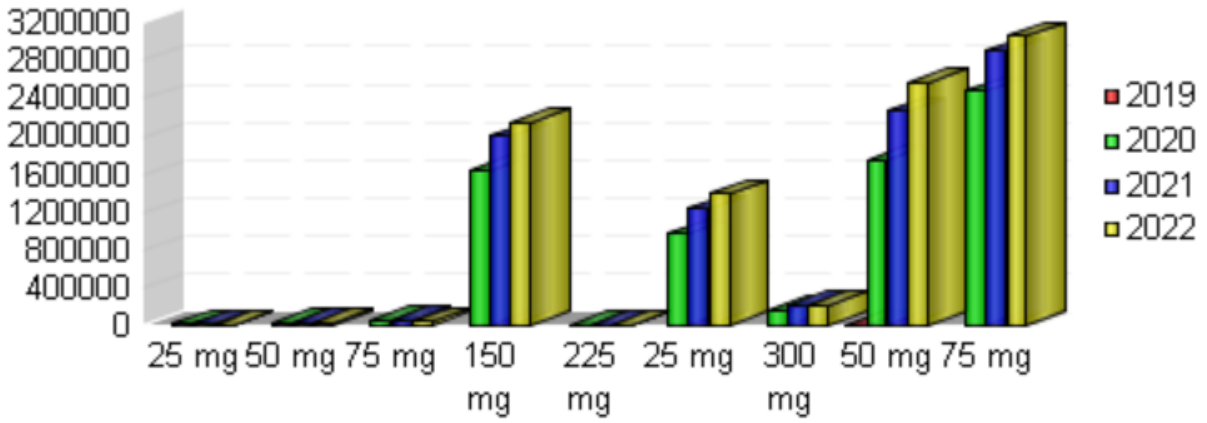
Appendix E: Anticonvulsants

GABAPENTIN



	100 mg	300 mg	400 mg	600 mg	800 mg
2018	4,409,251	9,190,338	2,075,993	1,351,696	209,219
2019	4,410,996	8,987,515	2,145,881	1,526,729	295,015
2020	5,154,924	9,963,288	2,492,753	1,923,810	417,797
2021	4,539,000	8,702,341	2,164,817	1,746,468	385,368
2022	4,615,562	8,686,914	2,185,551	1,797,558	407,012

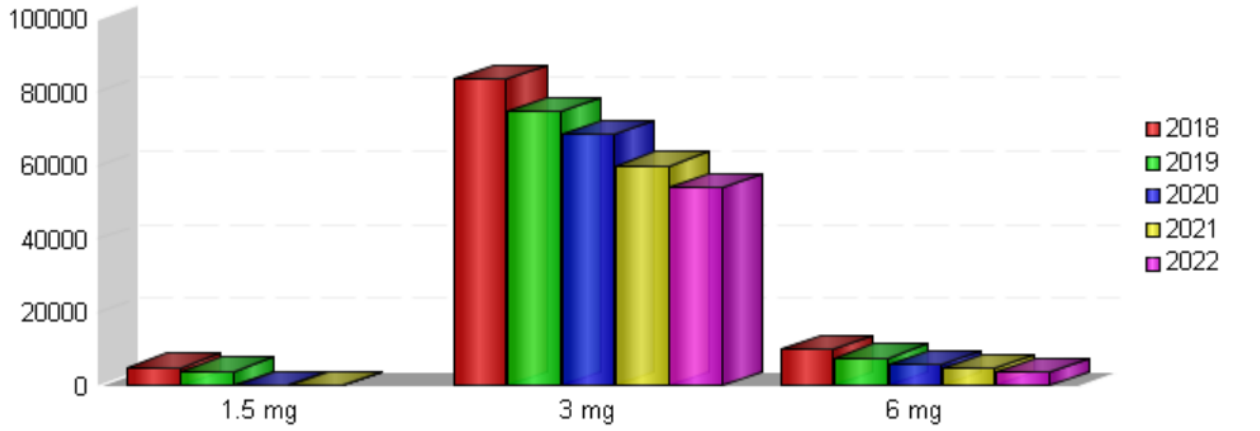
PREGABALIN



	25 mg	50 mg	75 mg	150 mg	225 mg	25 mg	300 mg	50 mg	75 mg
2019								180	
2020	15,590	24,272	53,228	1,640,255	8,054	968,394	166,944	1,757,570	2,482,737
2021	14,265	24,267	52,692	1,998,656	9,494	1,237,739	210,068	2,270,373	2,899,289
2022	13,108	24,654	44,776	2,146,340	9,228	1,392,869	223,409	2,565,266	3,062,322

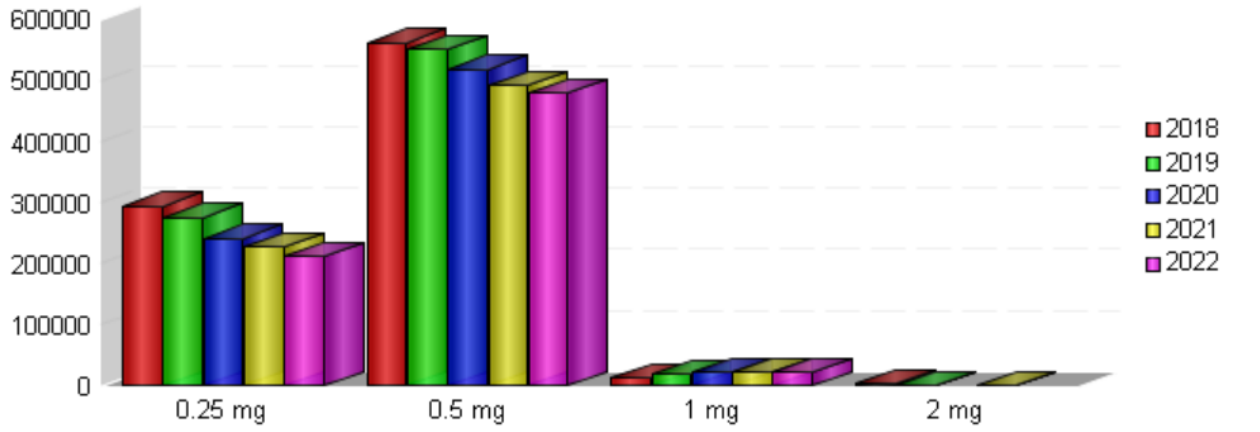
Appendix F: Benzodiazepines

BROMAZEPAM



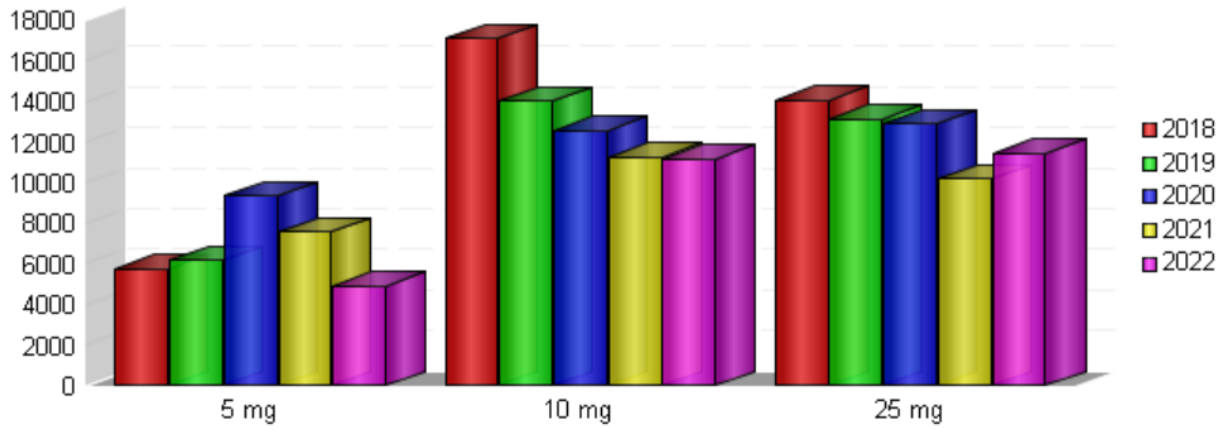
	1.5 mg	3 mg	6 mg
2018	4,875	83,690	9,986
2019	3,925	74,800	7,674
2020	120	68,621	5,743
2021	39	59,887	4,752
2022		54,042	3,674

ALPRAZOLAM



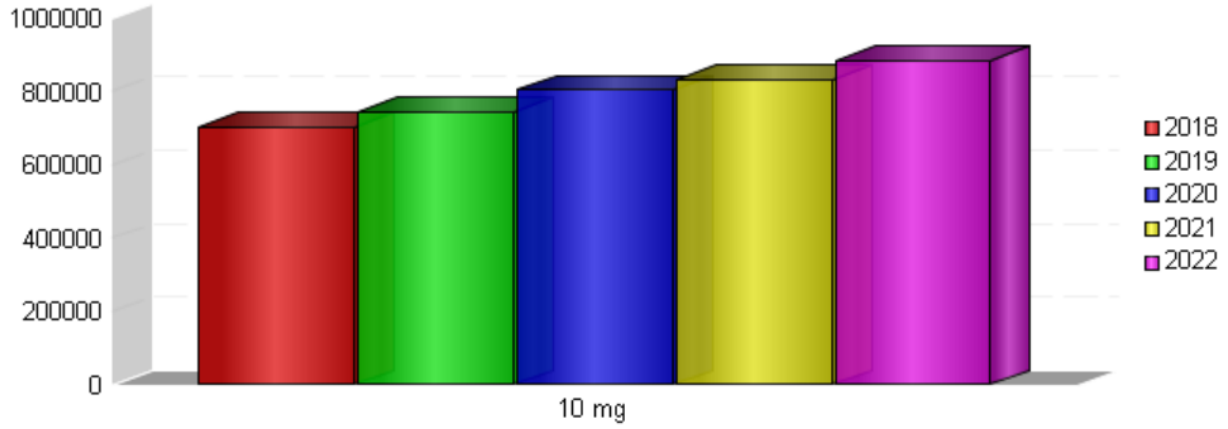
	0.25 mg	0.5 mg	1 mg	2 mg
2018	294,428	562,607	12,915	2,841
2019	275,670	552,188	18,390	243
2020	242,208	518,629	22,337	
2021	226,851	492,917	21,434	90
2022	211,718	480,525	22,182	

CHLORDIAZEPOXIDE



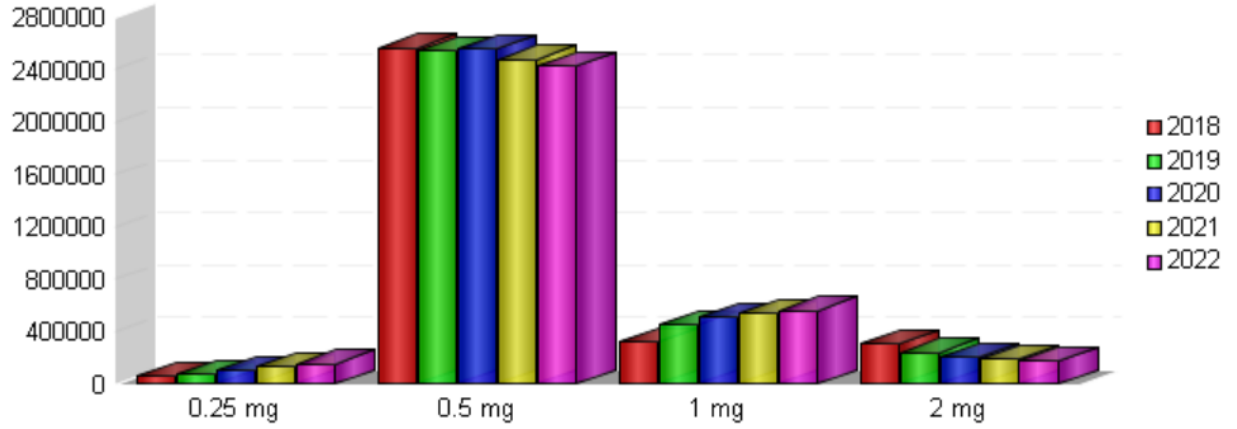
	5 mg	10 mg	25 mg
2018	5,740	17,083	14,061
2019	6,176	14,036	13,154
2020	9,328	12,556	12,883
2021	7,567	11,249	10,202
2022	4,923	11,158	11,473

CLOBAZAM



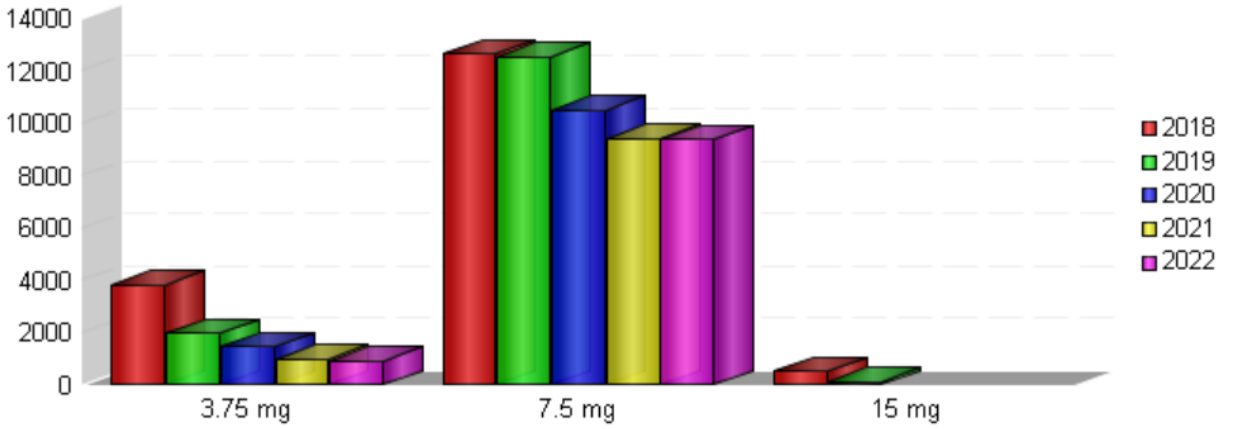
	10 mg
2018	702,921
2019	745,614
2020	805,206
2021	833,569
2022	884,563

CLONAZEPAM



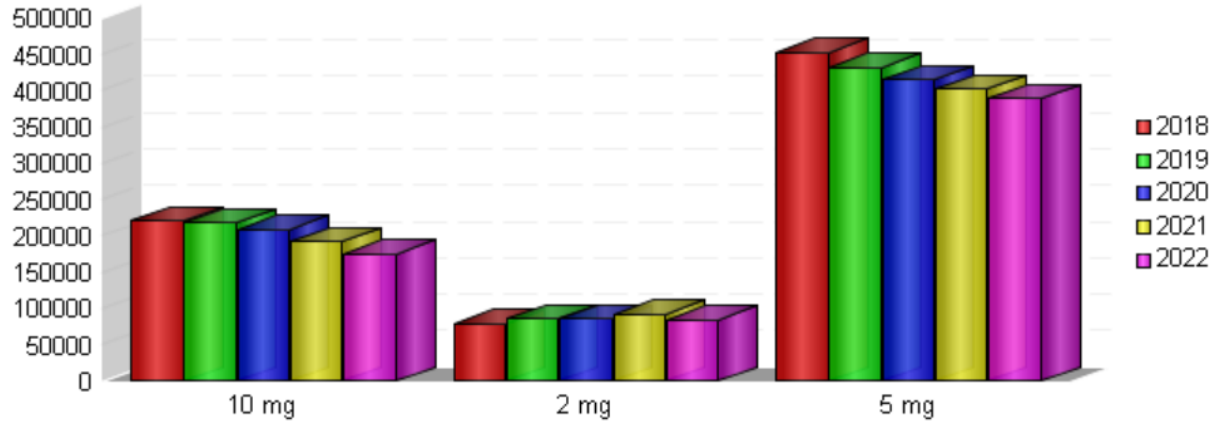
	0.25 mg	0.5 mg	1 mg	2 mg
2018	57,764	2,567,749	322,862	303,513
2019	71,111	2,543,695	448,450	237,963
2020	102,474	2,559,707	510,151	208,350
2021	135,459	2,477,568	541,103	192,655
2022	155,713	2,426,634	558,206	174,565

CLORAZEPATE



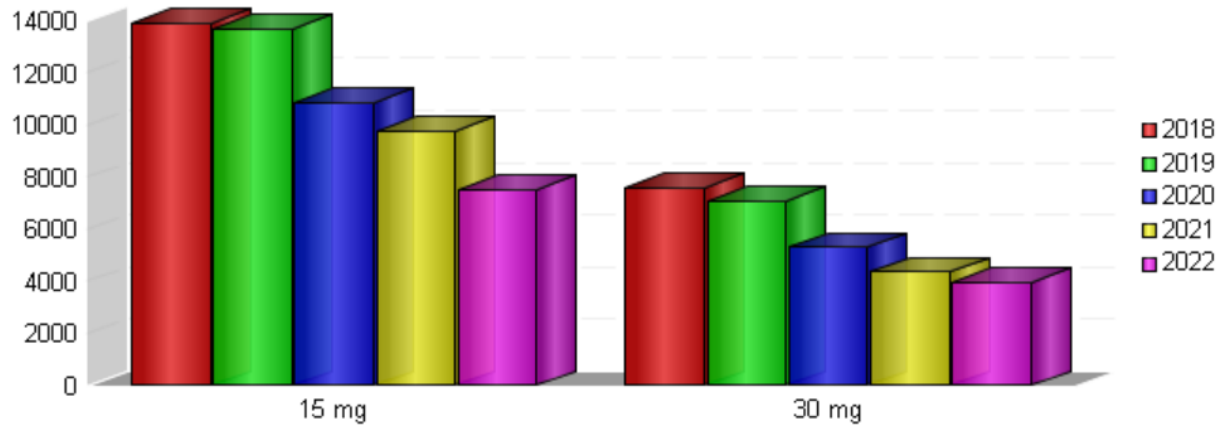
	3.75 mg	7.5 mg	15 mg
2018	3,818	12,645	524
2019	1,970	12,523	132
2020	1,450	10,513	
2021	1,002	9,422	
2022	900	9,386	

DIAZEPAM



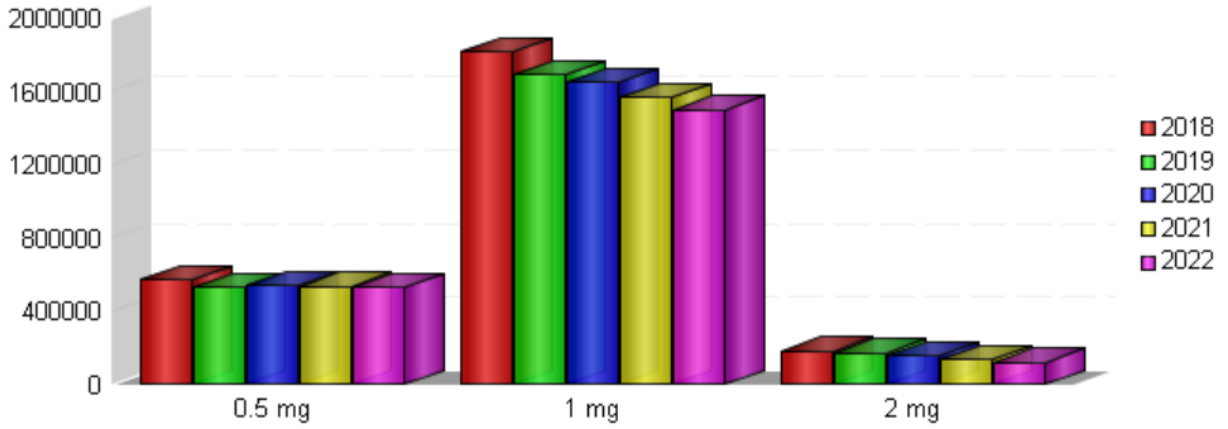
	10 mg	2 mg	5 mg
2018	221,328	78,950	452,901
2019	218,221	85,345	432,604
2020	209,618	85,959	414,933
2021	191,596	92,109	402,917
2022	175,117	84,027	390,009

FLURAZEPAM



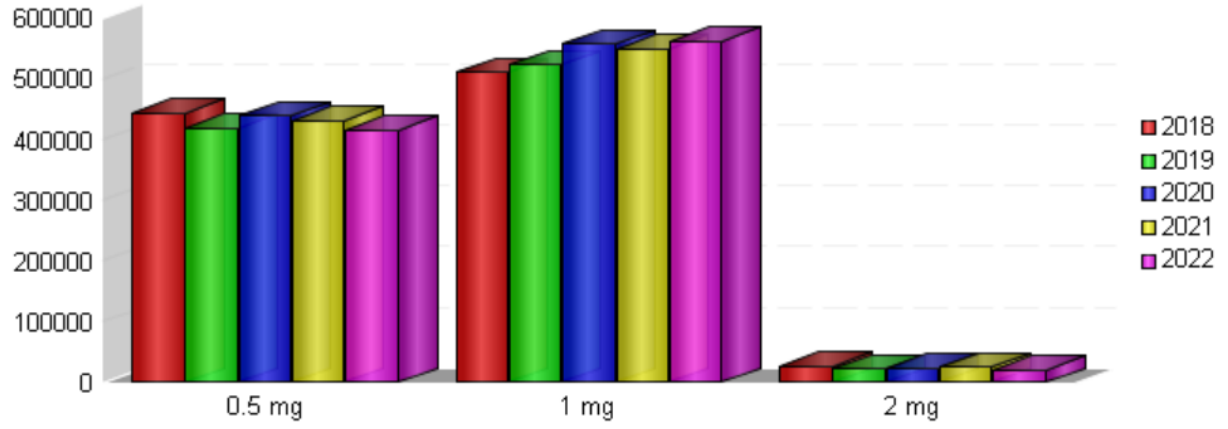
	15 mg	30 mg
2018	13,933	7,611
2019	13,693	7,082
2020	10,869	5,315
2021	9,796	4,361
2022	7,536	3,966

LORAZEPAM



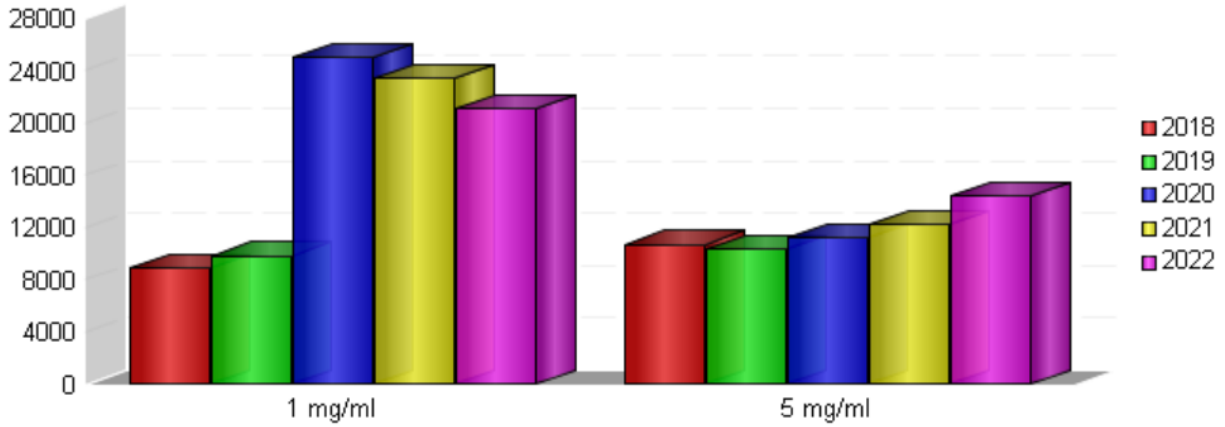
	0.5 mg	1 mg	2 mg
2018	571,829	1,818,750	182,788
2019	531,472	1,693,274	171,172
2020	542,082	1,648,602	155,994
2021	536,021	1,568,959	134,336
2022	529,624	1,499,056	120,545

LORAZEPAM SL



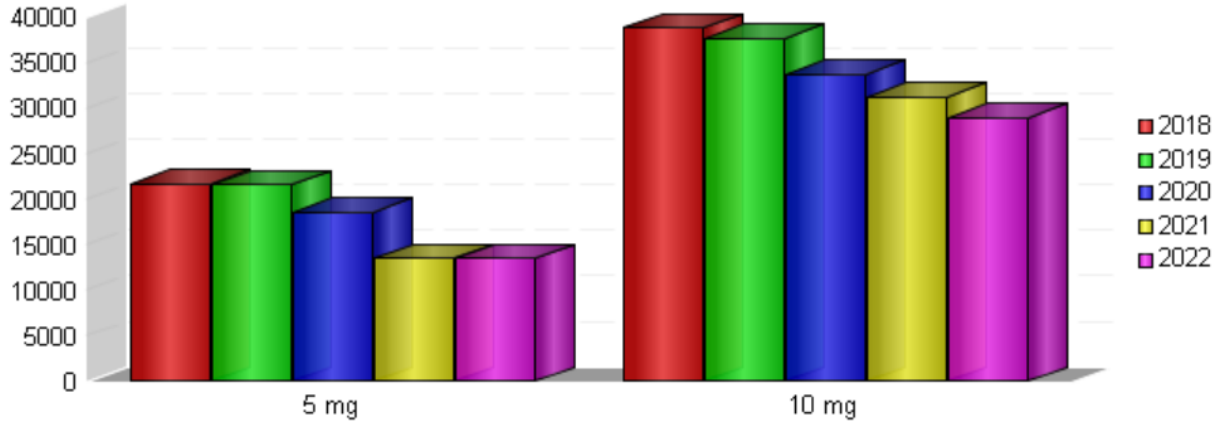
	0.5 mg	1 mg	2 mg
2018	443,363	511,206	26,458
2019	419,370	522,796	22,194
2020	439,607	557,305	23,288
2021	430,984	550,436	24,678
2022	415,406	562,632	21,060

MIDAZOLAM INJECTION



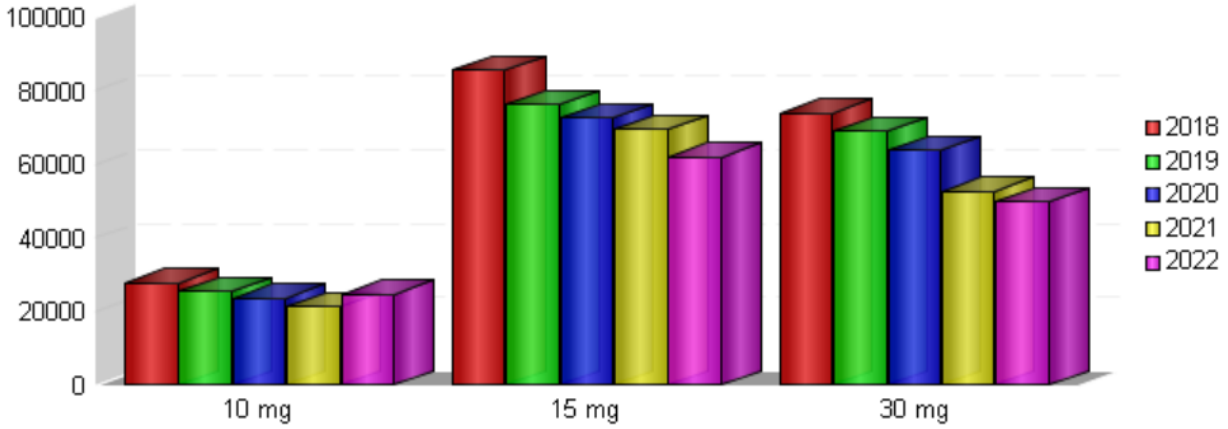
	1 mg/ml	5 mg/ml
2018	8,857	10,667
2019	9,807	10,349
2020	25,021	11,224
2021	23,378	12,246
2022	21,080	14,396

NITRAZEPAM



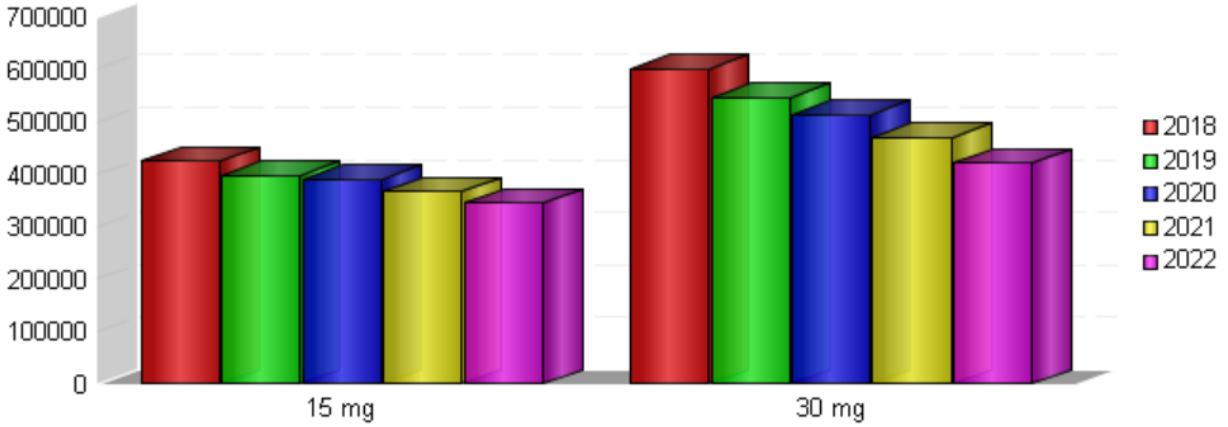
	5 mg	10 mg
2018	21,669	38,875
2019	21,638	37,726
2020	18,630	33,762
2021	13,535	31,288
2022	13,478	28,992

OXAZEPAM

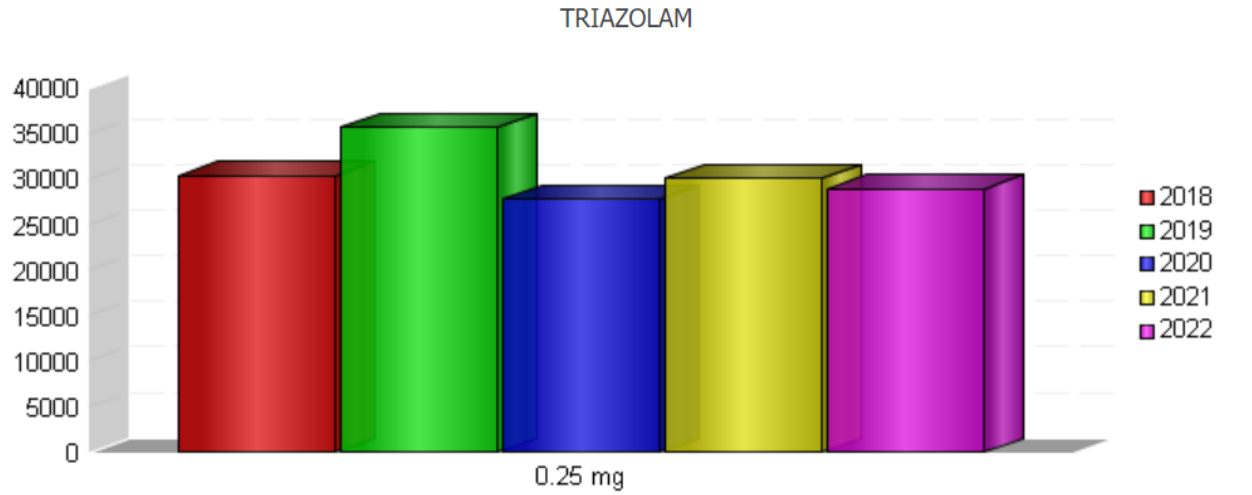


	10 mg	15 mg	30 mg
2018	27,893	85,648	73,921
2019	25,517	76,410	68,946
2020	23,658	72,773	63,787
2021	21,232	69,633	52,635
2022	24,669	62,096	49,948

TEMAZEPAM

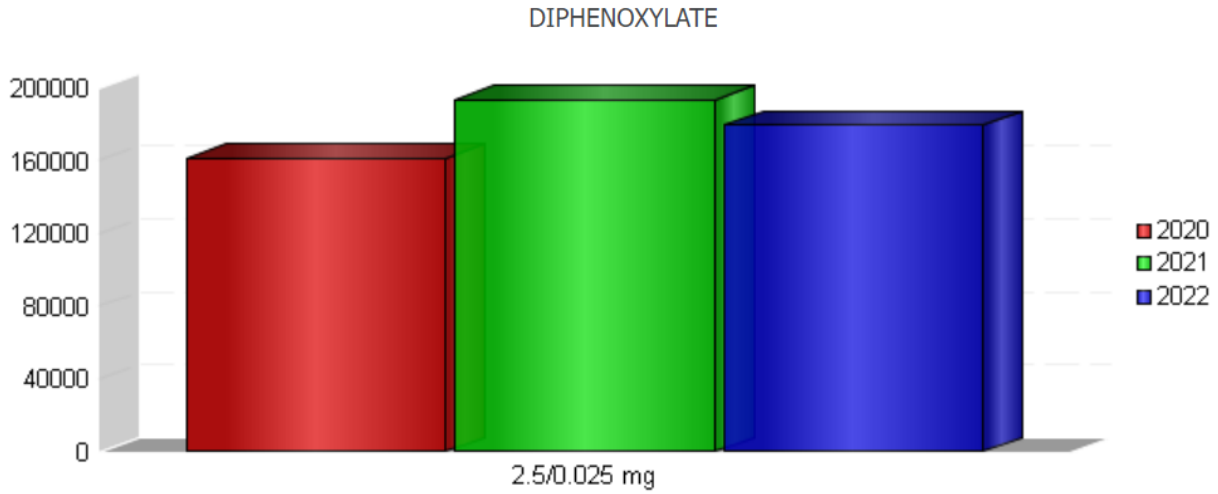


	15 mg	30 mg
2018	425,192	601,687
2019	398,759	546,495
2020	391,011	514,779
2021	367,005	470,572
2022	346,261	421,864



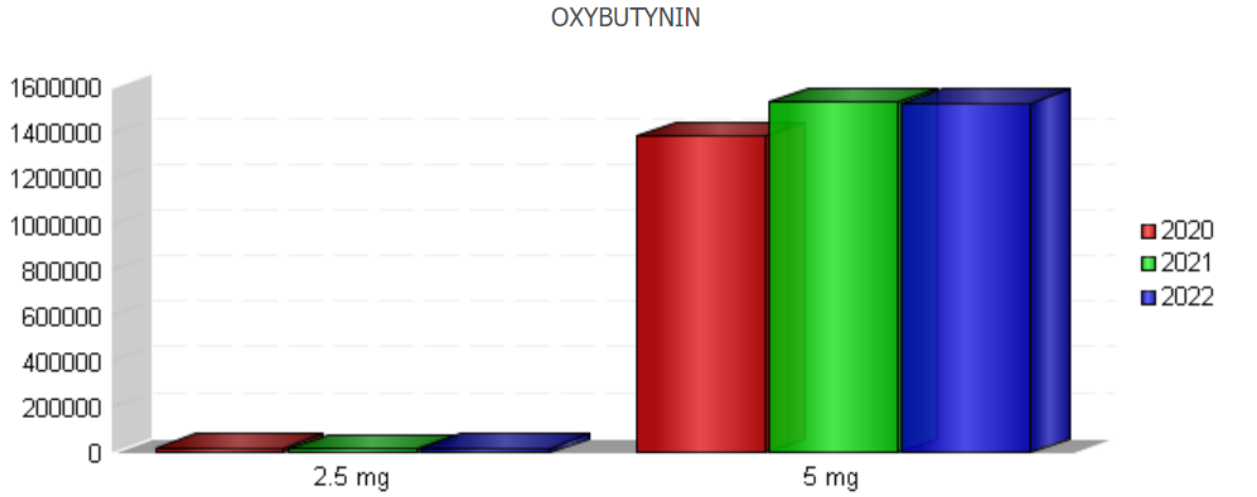
	0.25 mg
2018	30,388
2019	35,744
2020	27,835
2021	30,142
2022	29,016

Appendix G: Antidiarrhea Agents

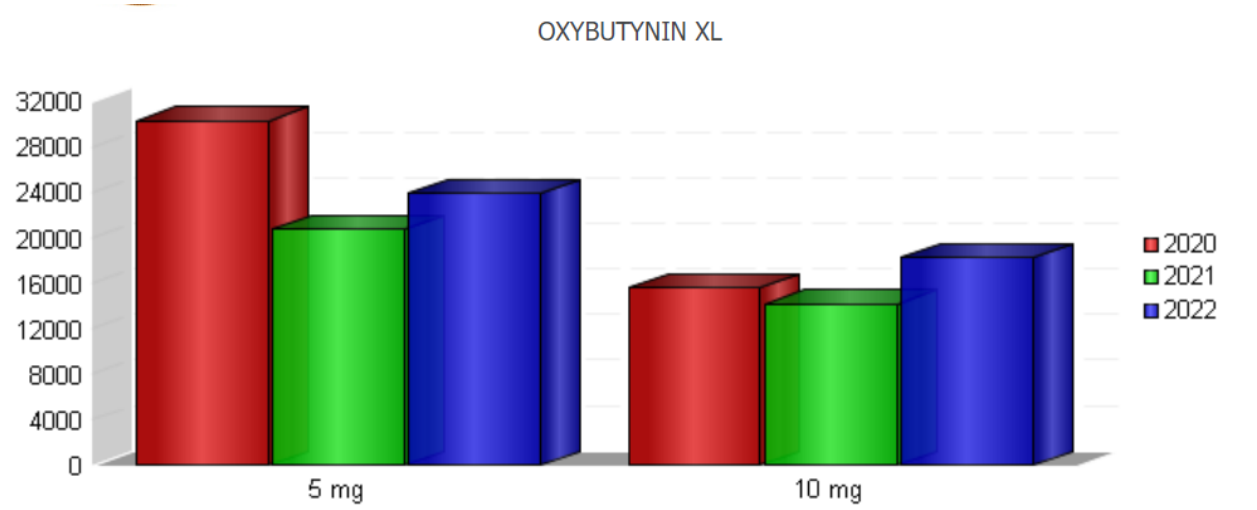


	2.5/0.025 mg
2020	161,639
2021	193,517
2022	179,686

Appendix H: Antimuscarinics



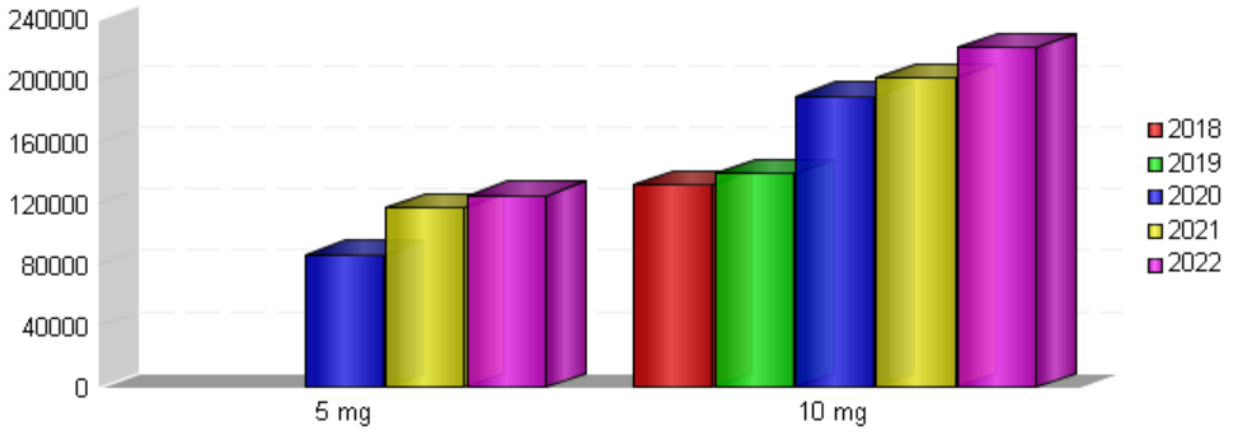
	2.5 mg	5 mg
2020	19,875	1,386,737
2021	16,624	1,535,322
2022	19,667	1,533,073



	5 mg	10 mg
2020	30,325	15,607
2021	20,753	14,191
2022	23,908	18,244

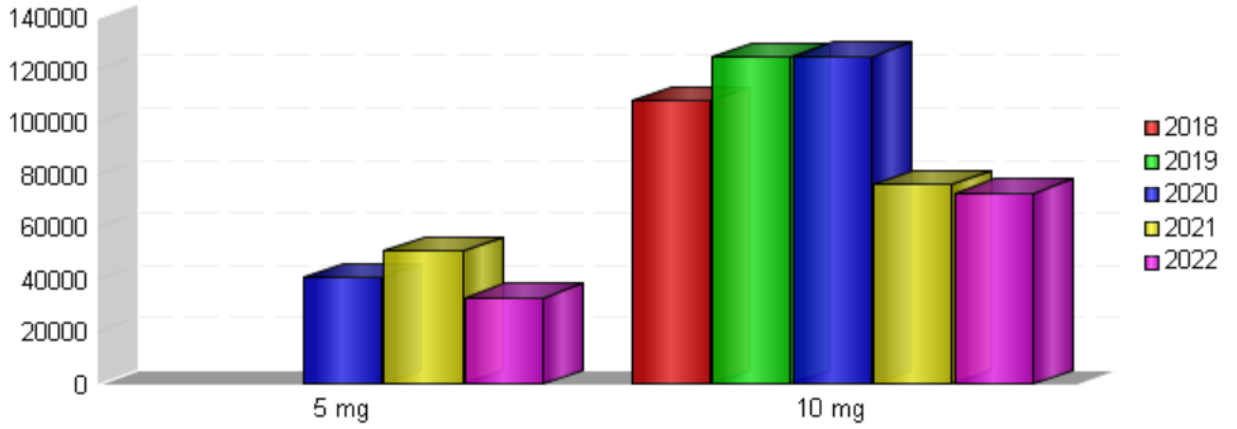
Appendix I: Anxiolytics Sedatives and Hypnotics

ZOLPIDEM ODT

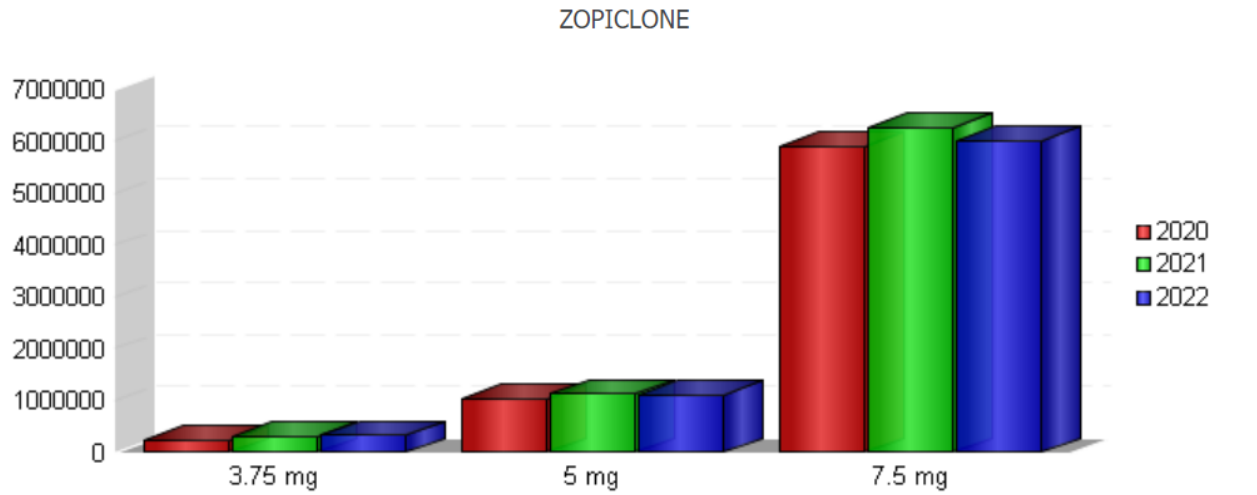


	5 mg	10 mg
2018		132,080
2019		139,831
2020	86,757	189,921
2021	117,256	201,870
2022	125,420	221,901

ZOLPIDEM SL

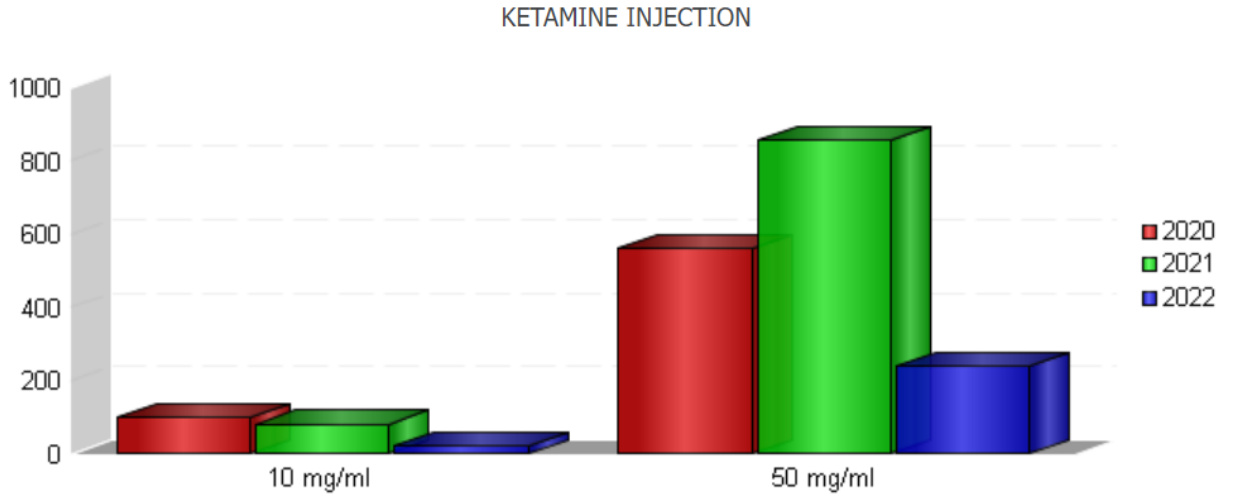


	5 mg	10 mg
2018		108,141
2019		124,845
2020	40,716	125,524
2021	50,970	76,469
2022	33,101	73,172



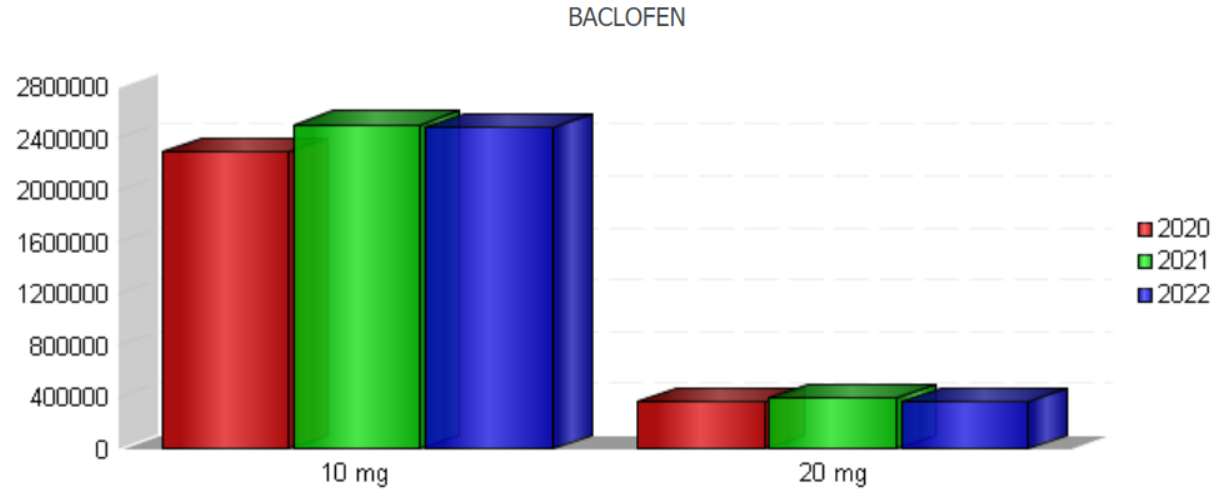
	3.75 mg	5 mg	7.5 mg
2020	247,985	1,045,761	5,898,407
2021	316,915	1,130,689	6,265,493
2022	332,159	1,106,476	6,020,854

Appendix J: General Anesthetics



	10 mg/ml	50 mg/ml
2020	100	562
2021	80	857
2022	20	240

Appendix K: Muscle Relaxants



	10 mg	20 mg
2020	2,293,640	361,244
2021	2,507,508	393,559
2022	2,484,115	367,372

Saskatchewan Coroners Service

DRUG TOXICITY DEATHS
Saskatchewan, 2016 to 2023
(Confirmed Drug Toxicity Deaths Updated – April 30, 2023)
(Suspected Drug Toxicity Deaths Updated – April 30, 2023)

The data in the following tables include all death investigations concluded by the Saskatchewan Coroners Service (SCS) **between January 1, 2016 and April 30, 2023** 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 2021, 2022 and 2023 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, 2021 to December 31, 2021", "Suspected Drug Toxicity Deaths, January 1, 2022 to December 31, 2022" and "Suspected Drug Toxicity Deaths, January 1, 2023 to April 30, 2023". 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 - 2023								
	2016	2017	2018	2019	2020	2021	2022	2023
Accident	92	95	139	155	305	380	257	21
Suicide	13	16	27	21	18	16	20	1
Homicide	--	--	--	--	--	--	--	--
Undetermined	4	8	6	4	1	7	1	--
Total	109	119	172	180	324	403	278	22

Suspected Drug Toxicity Deaths, January 1, 2021 to December 31, 2021	
Total	5*

Suspected Drug Toxicity Deaths, January 1, 2022 to December 31, 2022	
Total	109*

Suspected Drug Toxicity Deaths, January 1, 2023 to April 30, 2023	
Total	164*

***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 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. To provide an aggregate number for 2023, please add the Suspected Drug Toxicity Deaths to the 2023 Confirmed Drug Toxicity Deaths shown above.**

Breakdown of Opioid Drugs Identified in Confirmed Drug Toxicity Deaths by Manner of Death, 2016 – 2023

		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	164	--	8	85	49	42	5	--	--	5	6	144	1	--	1	2	--
	Suicide	5	3	--	--	6	--	3	--	--	--	--	--	2	--	--	--	--	--
	Homicide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Undetermined	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2021	Accident	4	271	--	3	39	41	19	2	--	--	3	14	210	--	--	--	2	71
	Suicide	--	3	--	--	3	--	--	--	--	--	--	--	3	--	--	--	--	1
	Homicide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Undetermined	--	2	--	--	--	2	--	--	--	--	1	--	1	--	--	--	--	--
2022	Accident	9	174	--	1	29	24	7	3	--	--	3	55	112	--	--	--	--	63
	Suicide	3	3	--	1	3	1	1	1	--	--	1	1	3	--	--	--	--	1
	Homicide	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Undetermined	--	1	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--	1

* 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.

Confirmed Drug Toxicity Deaths Involving Opioid Drugs by Manner of Death, Sex and Race, 2016 - 2023									
			2016	2017	2018	2019	2020	2021	2022	2023
Accident	**Female**									
		Caucasian	10	12	19	11	25	25	27	1
		First Nations (status & non-status)	15	17	25	30	52	71	48	4
		Asian	-	-	-	-	-	-	-	-
		Black/African American	-	-	-	-	-	-	-	-
		Hispanic or Latino	-	-	-	-	-	-	-	-
		Inuit	-	-	-	-	-	-	-	-
		Metis	1	-	2	2	7	3	2	-
		Other Specified Race	-	-	-	-	-	-	-	-
		Unknown	5	3	3	4	3	8	3	-
		Total Female	31	32	49	47	87	107	80	5
	Male									
		Caucasian	19	23	36	33	71	95	61	8
		First Nations (status & non-status)	15	18	15	30	78	91	67	1
		Asian	1	-	1	-	3	-	-	-
		Black/African American	1	-	-	-	1	2	2	-
		Hispanic or Latino	-	-	-	-	-	1	1	-
		Inuit	-	-	-	-	-	-	-	-
		Metis	5	2	2	2	4	3	1	-
		Other Specified Race	1	-	-	-	2	3	-	-
		Unknown	3	1	11	11	11	12	10	1
		Total Male	45	44	65	76	170	207	142	10
		Total Female and Male	76	76	114	123	257	314	222	15

** 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.

Saskatchewan Coroners Service

DRUG TOXICITY DEATHS
Saskatchewan, 2016 to 2023
(Confirmed Drug Toxicity Deaths Updated – April 30, 2023)
(Suspected Drug Toxicity Deaths Updated – April 30, 2023)

Confirmed Drug Toxicity Deaths Involving Opioid Drugs by Manner of Death, Sex and Age Group, 2016 - 2023

			2016	2017	2018	2019	2020	2021	2022	2023
Accident	Female	0 – 9	--	--	--	--	--	--	--	--
		10 – 19	--	3	--	--	4	3	3	--
		20 – 29	3	12	10	11	18	35	15	1
		30 – 39	13	5	13	12	22	29	25	1
		40 – 49	6	3	10	13	14	18	20	--
		50 – 59	7	4	13	10	19	14	13	1
		60 – 69	2	5	3	--	10	8	4	2
		70 – 79	--	--	--	--	--	--	--	--
		80 +	--	--	--	1	--	--	--	--
	Male	0 – 9	--	--	--	--	--	--	--	--
		10 – 19	--	--	--	1	3	1	2	--
		20 – 29	6	9	16	15	34	38	23	2
		30 – 39	21	12	18	21	52	46	32	2
		40 – 49	4	13	12	15	39	59	49	4
		50 – 59	9	8	11	19	29	47	30	--
		60 – 69	4	1	6	4	11	14	6	2
		70 – 79	1	1	2	1	1	2	--	--
		80 +	--	--	--	--	1	--	--	--
		Total	76	76	114	123	257	314	222	15
Suicide	Female	0 – 79	4	6	8	5	6	3	5	--
		80 +	--	--	--	--	--	--	--	--
	Male	0 – 19	--	--	--	--	--	--	--	--
		20 – 29	--	--	3	1	2	1	1	--
		30 – 39	--	--	--	--	--	1	--	--
		40 – 49	--	1	--	--	--	--	1	--
		50 – 80 +	--	3	2	5	3	--	2	--
		Total	4	10	13	11	11	5	9	0
Homicide	Female	0 – 80 +	--	--	--	--	--	--	--	--
	Male	0 – 80 +	--	--	--	--	--	--	--	--
		Total	--	--	--	--	0	0	0	0
Undetermined	Female	0 – 19	--	--	--	--	--	--	--	--
		20 – 29	1	--	1	--	--	--	1	--
		30 – 80 +	2	2	--	1	--	1	--	--
	Male	0 – 80 +	--	1	1	1	1	3	--	--
		Total	3	3	2	2	1	4	1	0
Total			83	89	129	136	269	323	232	15

** 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.

Confirmed Drug Toxicity Deaths by Place of Death, 2020, 2021, 2022 & 2023

	2020	2021	2022	2023
Saskatoon	73	114	68	14
Regina	146	197	118	8
Aberdeen	1	-	-	-
Ahtahkakoop Cree Nation	3	1	2	2
Antler	1	-	-	-
Assiniboia	-	-	1	1
Beauval	-	-	1	-
Big Island Cree Territory	1	-	-	-
Big River First Nation	-	1	3	-
Blaine Lake	-	-	1	-
Briercrest	1	-	-	-
Buffalo Narrows	1	-	-	-
Candle Lake	-	-	1	-
Canoe Narrows	1	-	-	-
Colonsay	1	-	-	1
Corman Park	-	-	1	-
Corning	-	1	1	-
Cote First Nation	1	-	-	-
Cowessess First Nation	-	1	-	-
Craven	-	1	-	-
Cupar	1	-	-	1
Cumberland House	-	2	-	-
Dundurn	-	2	-	-
Elfros	-	-	1	-
Emerald Park	-	1	-	-
Esterhazy	-	1	-	-
Estevan	1	1	2	-
Fishing Lake First Nation	-	-	1	-
Flying Dust First Nation	-	-	1	-
Fort Qu'Appelle	2	-	1	-
Frenchman Butte	-	-	1	-
Glaslyn	-	-	1	-
Golden Prairie	1	-	-	-
Good Spirit Acres	1	-	-	-
Goodwater	-	1	-	-
Gordon's First Nation	3	4	4	-
Grenfell	-	1	-	-
Gull Lake	-	1	-	-
Guernsey	2	-	-	-
Hafford	-	-	1	-
Hall Lake	-	1	-	-
Hoey	-	1	-	-
Hudson Bay	1	-	-	-
Humboldt	1	1	2	-
Ile a la Crosse	1	1	1	-
Indian Head	-	-	1	-
Jan Lake	-	-	1	-
Kamsack	1	-	1	-
Kawacatoose First Nation	-	1	-	-
Keeseekoose First Nation	-	2	2	-
Key First Nation	-	-	1	-
Kindersley	1	-	2	-
Kinistin First Nation	-	1	-	-
Langenburg	1	-	-	-
La Loche	1	-	1	-
La Ronge	1	1	-	-
Leader	-	1	-	-
Lebret	1	-	-	-
Lestock	-	-	1	-
Little Black Bear First Nation	1	-	-	-
Little Red River First Nation	1	-	1	-
Livelong	-	-	1	-
Lloydminster	9	7	12	5
Loon Lake	-	1	-	-
Luseland	-	1	-	-
Maidstone	-	1	-	-
Manor	-	-	1	-
Marshall	1	-	-	-
Martensville	1	-	1	-
McLean	1	-	-	-
Meadow Lake	-	-	1	-
Melfort	1	-	-	-
Melville	1	1	1	-
Mistawasis First Nation	-	-	1	-
Moose Jaw	7	3	7	1
Moosomin	-	-	-	1
Mosquito First Nation	1	-	-	-
Muskeg Lake Cree Nation	1	-	2	-
Muskoday	-	1	-	-
Muskowekwan First Nation	1	2	-	-
Muskowpetung First Nation	-	1	-	-
Naicam	-	1	-	-
Nipawin	1	-	-	-

Confirmed Drug Toxicity Deaths by Place of Death, 2020, 2021, 2022 & 2023				
	2020	2021	2022	2023
North Battleford	3	2	3	-
Ochapowace First Nation	-	-	1	-
Odessa	1	-	-	-
Okanese First Nation	-	1	-	-
Onion Lake	-	2	3	-
Osler	-	-	-	1
Oxbow	-	-	1	-
Paradise Hill	-	-	1	-
Pasqua First Nation	3	1	-	-
Patunak	-	1	-	-
Peepeekisis First Nation	-	1	1	-
Pelican Cove	-	-	1	-
Pelican Narrows	1	-	-	-
Pelly	1	-	-	-
Pense	-	-	1	-
Piapot First Nation	1	-	-	-
Pierceland	1	-	-	-
Pilot Butte	1	-	1	-
Poundmaker First Nation	-	2	-	-
Prince Albert	11	14	9	-
Qu'Appelle	-	1	-	-
Radisson	1	-	1	-
Red Pheasant First Nation	1	-	-	-
Regina Beach	-	1	1	1
Richardson	-	1	-	-
Rosthern	-	-	2	-
Sakimay First Nation	-	-	1	-
Sandy Bay	-	-	1	-
Saulteaux First Nation	-	-	1	-
Shellbrook	1	-	-	-
South Lake	-	-	1	-
Spalding	-	1	-	-
Spiritwood	1	-	-	-
Star Blanket Cree Nation	-	1	-	-
Stoughton	1	-	-	-
Sturgeon Lake	-	-	-	1
St. George's Hill	-	-	1	-
St. Walburg	1	-	-	-
Sweetgrass First Nation	1	1	-	-
Swift Current	2	4	5	1
Sylvania	-	1	-	1
Tatallon	1	-	-	-
Thunderchild First Nation	-	-	1	-
Turtleford	-	-	-	1
Unity	1	-	-	-
Vibank	1	-	-	-
Viscount	1	-	-	-
Wadena	1	-	-	-
Waldheim	-	-	-	1
Weyburn	1	3	1	-
White Bear First Nation	1	-	1	-
Whitewood	-	-	1	-
Wynyard	-	-	1	-
Uranium City	1	-	-	-
Yorkton	7	6	2	-
Zehner	-	-	1	-
Total	324	403	295	41

Saskatchewan Coroners Service

DRUG TOXICITY DEATHS
Saskatchewan, 2016 to 2023
(Confirmed Drug Toxicity Deaths Updated – April 30, 2023)
(Suspected Drug Toxicity Deaths Updated – April 30, 2023)

Confirmed Drug Toxicity Deaths Involving Fentanyl by Manner of Death, Sex and Age Group, 2016 - 2023										
			2016	2017	2018	2019	2020	2021	2022	2023
Accident	Female	0 – 9	--	--	--	--	--	--	--	--
		10 – 19	--	2	--	--	3	3	2	--
		20 – 29	--	2	2	7	16	34	13	1
		30 – 39	1	--	7	3	13	22	21	1
		40 – 49	--	--	2	2	6	17	15	--
		50 – 59	--	1	2	2	6	5	7	--
		60 – 69	--	1	--	--	1	5	--	1
		70 – 79	--	--	--	--	--	--	--	--
		80 +	--	--	--	--	--	--	--	--
	Male	0 – 9	--	--	--	--	--	--	--	--
		10 – 19	--	--	--	1	1	1	2	--
		20 – 29	1	3	12	6	25	35	18	2
		30 – 39	5	2	12	14	44	45	29	2
		40 – 49	--	2	5	4	28	54	41	4
		50 – 59	--	1	3	3	17	39	22	--
		60 – 69	1	--	--	--	4	11	4	1
		70 – 79	--	--	1	1	--	--	--	--
		80 +	--	--	--	--	--	--	--	--
		Total	8	14	46	43	164	271	174	12
Suicide	Female	0 – 29	--	--	--	--	--	1	--	--
		30 - 39	--	--	--	--	1	--	--	--
		40 - 49	--	--	--	--	--	--	--	--
		50 - 59	--	--	--	--	1	--	--	--
		60 - 79	--	--	--	--	--	--	--	--
		80 +	--	--	--	--	--	--	--	--
	Male	0 – 19	--	--	--	--	--	--	--	--
		20 – 29	--	--	1	--	1	1	1	--
		30 – 39	--	--	--	--	--	1	--	--
		40 – 49	--	--	--	--	--	--	--	--
		50 – 80 +	--	--	--	--	--	--	3	--
		Total	--	--	1	--	3	3	3	0
Homicide	Female	0 – 80 +	--	--	--	--	--	--	--	--
	Male	0 – 80 +	--	--	--	--	--	--	--	--
		Total	--	--	--	--	--	0	0	0
Undetermined	Female	0 – 19	--	--	--	--	--	--	--	--
		20 – 29	1	--	--	--	--	--	1	--
		30 – 80 +	--	1	--	--	--	1	--	--
	Male	0 – 80 +	--	--	--	--	1	1	--	--
		Total	1	1	--	--	1	2	1	0
Total			9	15	47	43	168	276	178	12

Appendix L: 2022 Audited Financial Statements (attached)