

2022 Annual Report

South Carolina Prescription Drug Monitoring Program

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Publication Date:

May 2023



2006
Legislation passed
• Legislation was passed mandating SC PMP.

February 2008
SCRIPTS Launched
• SC PMP was launched.

January 2014
Legislation passed
• Legislation was passed requiring dispensers to upload their dispensations daily to SC PMP.

November 2014
Revised Pain Management Guidelines
• Joint Revised Pain Management Guidelines Approved by the SC State Medical Board, SC Board of Dentistry, and SC Board of Nursing consider registration and utilization of SC PMP “mandatory for prescribers to provide safe, adequate pain treatment.”

December 2014
State Plan to Prevent and Treat Prescription Drug Abuse
• The Governor’s Prescription Drug Abuse Prevention Council released the State Plan to Prevent and Treat Prescription Drug Abuse.

September 2015
First integrations
• First two integrations of SC PMP into Emergency Departments' electronic health records were completed.

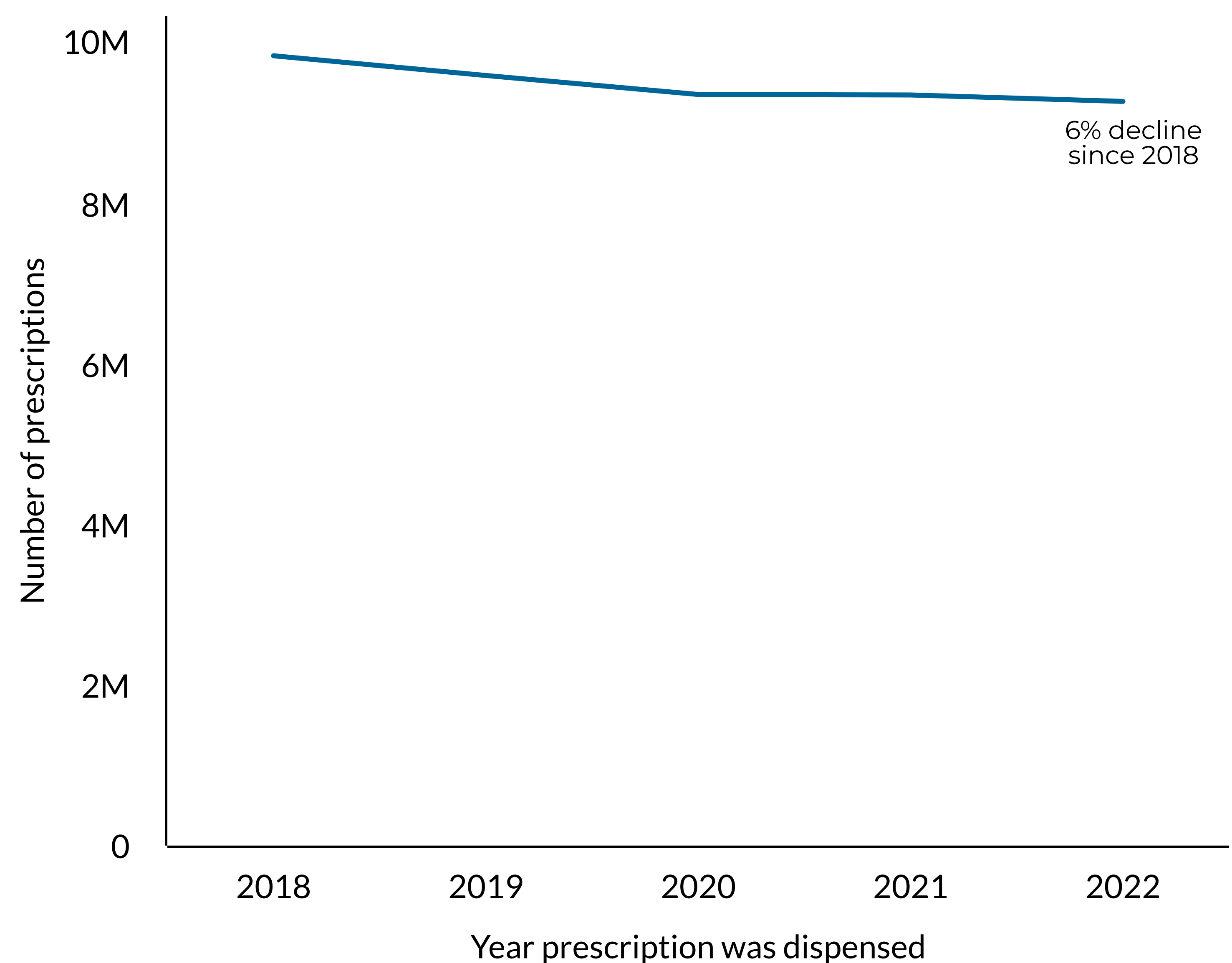
November 2015
Online registration
• SC PMP switched vendors and started online registration for users, registration of delegate accounts, and online password resets.

I. Executive Summary

The South Carolina Prescription Monitoring Program (SC PMP) became fully operational on February 1, 2008. The purpose of the PMP is to improve the state’s ability to identify and stop diversion of prescription drugs in an efficient and cost-effective manner that will not impede the appropriate medical utilization of licit controlled substances. This summary highlights (1) prescription trends, (2) trends in prescriber and pharmacist PMP utilization, and (3) updates on PMP education efforts. The full report provides details regarding the prescribing patterns of SC prescribers by drug schedule.

In 2022, the number of controlled substances dispensed in SC was 9,246,739. Fortunately, this number has declined by 6% since 2018 (Figure 1). Benzodiazepines and opioids have also continued to decrease since 2018 (Figure 2). However, stimulants have increased by 15% from 2018 to 2022. In 2022, for the first time, the number of stimulants that were dispensed in SC surpassed the number of benzodiazepines. Additionally, dextroamphetamine sulf-saccharate/amphetamine sulf-aspartate was the number one controlled substance dispensed in SC, where previously the top prescription was hydrocodone bitartrate/acetaminophen. For further details regarding the characteristics of the controlled substances dispensed in SC, please see Table 1.

Figure 1. Number of controlled substances dispensed over time, 2018 - 2022



May 2017

Mandated prescriber use of PMP

- Mandated that prescribers must check the PMP prior to issuing any CII prescriptions greater than a 5-day supply. (S.C. Code Ann. § 44-53-1645)

August 2017

Quarterly prescriber reports

- Sent out first round of quarterly prescriber report cards of approximately 8,000 prescribers.

May 2018

NarxCare began

- Limited initial opioid prescriptions for acute pain management or postoperative pain management to not exceed a seven-day supply, except when clinically indicated. (S.C. Code Ann. § 44-53-360)
- PMP began using NarxCare for prescribers and pharmacists to use for clinical decision support.

November 2018

Mandated prescriber reports

- Mandated quarterly prescriber report cards to provide a set of metrics of which included patient risk categories. (S.C. Code Ann. § 44-53-1655)

April 2020

Clinical alerts began

- Performed targeted education efforts to veterinarians regarding dispensation reporting requirements.
- Turned on clinical alerts to alert prescribers of potential risks including polypharmacy, multiple prescriber episodes, daily MME > 90, and overlapping opioid and benzodiazepine prescriptions.

Figure 2. Number of controlled substances dispensed by drug class, 2018 - 2022

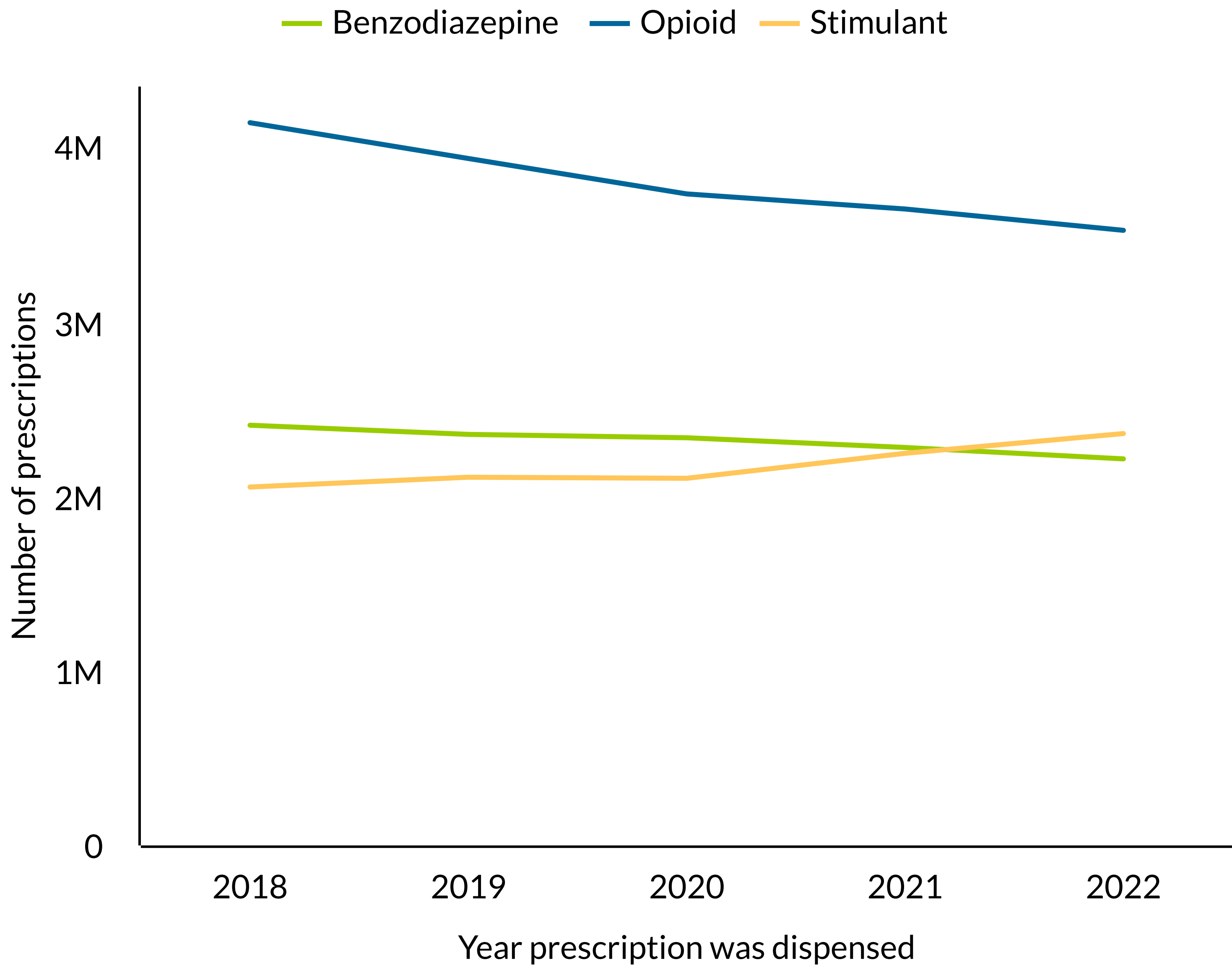


Table 1. Characteristics of controlled substance prescriptions dispensed in SC, 2018 - 2022

Characteristics	2018	2019	2020	2021	2022
Number of Controlled Substance Prescriptions	9,813,704	9,568,742	9,332,936	9,326,654	9,246,739
Prescription Quantity ¹	509,203,474	475,188,590	461,967,025	452,408,771	441,777,706
Number of Unique Prescribers ²	64,547	65,843	67,843	68,165	69,307
Number of Unique Pharmacies ³	1,853	1,721	1,808	1,710	1,720

¹ Prescription quantity only includes controlled substances that were classified as capsules or tablets.

² Number of unique prescribers is determined based on the number of unique prescriber DEA numbers. A single prescriber can have multiple DEA numbers.

³ The number of unique pharmacies is determined based on the number of unique pharmacy DEA numbers.

May 2020

Interactive prescriber reports

- Prescriber reports are interactive when viewed in the PMP Aware portal.

December 2020

Interstate data sharing

- SCRIPTS users can access data from 44 other state PMPs, plus the District of Columbia, Puerto Rico and the Military Health System.

January 2021

Opioid antidote administrations and electronic prescribing

- Healthcare facilities and first responders are required to report opioid antidote administrations to DHEC. (S.C. Code Ann. § 44-130-60 & S.C. Code Ann. § 44-130-80)
- All controlled substances must be sent via electronic prescribing. (S.C. Code Ann. § 44-53-360)

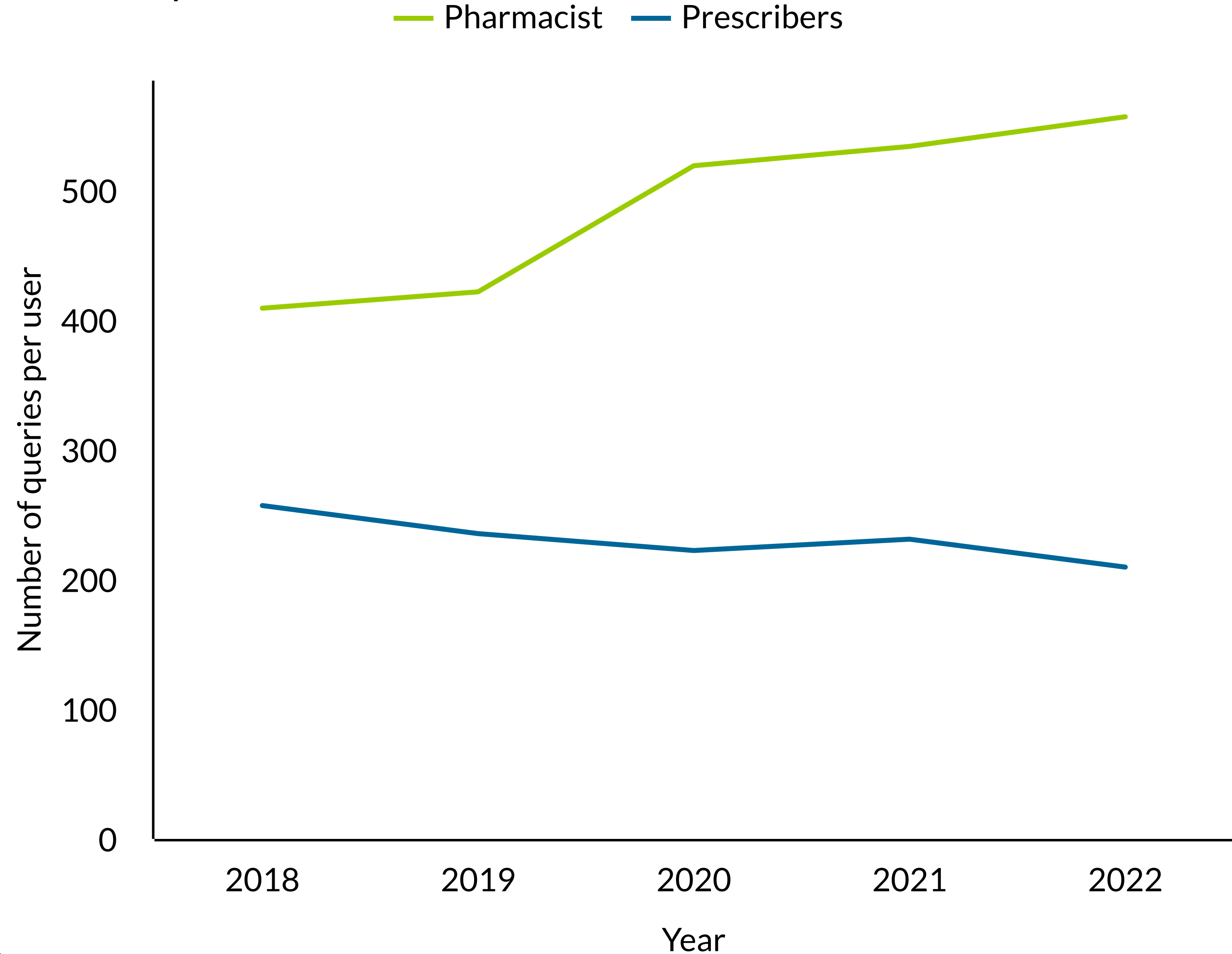
April 2021

Naloxone and Schedule II prescriptions

- Prescribers must offer naloxone prescriptions to a patient if they prescribe: (1) an opioid greater than 50 morphine milligram equivalents per day, (2) an opioid concurrently with a benzodiazepine, or (3) to any patients that presents with an increased risk of an overdose. Naloxone counseling and education must be provided to the patient or patient’s caregiver. (S.C. Code Ann. § 44-53-361)
- Schedule II controlled substance day supply limitation law was amended to exclude transdermal patches and surgical implanted drug delivery systems from the 31-day supply limitation. (S.C. Code Ann. § 44-53-360)

In 2022, the total number of queries conducted by pharmacists and prescribers increased by approximately 41% since 2018. The large increase in the usage of the PMP may be due primarily to the PMP’s efforts to increase users through letter campaigns and education efforts. Thus, as of 2022, there has been approximately a 45% increase in the number of users since 2018. Fortunately, usage per pharmacist has continued to increase with approximately 556 queries conducted per pharmacist during the year 2022, a 30% increase from 2018 (Figure 3). Unfortunately, the number of queries conducted per prescriber has decreased by 21% from 2018 to 2022.

Figure 3. Number of prescribers and pharmacists queries¹ per user over time, 2018 - 2022



¹ A PMP query is defined as an active PMP user that retrieves a patient report that either does not return a result or returns a patient’s dispensation history.

January 1, 2021, a law went into effect (SC 44-130-60 and SC 44-130-80) requiring both healthcare facilities and first responders to report opioid antidote administrations to the Bureau of Drug Control for inclusion in the PMP. This system allows healthcare facilities and first responders to report an opioid antidote administration and integrates with NarxCare to enable clinicians to see a record of the event in the patient’s report.(Appriss Health, 2020) On August 1, 2022, SC’s PMP program conducted a questionnaire consisting of 11 questions to evaluate PMP prescribers’ awareness of the opioid antidote indicator that may be found on a patient’s report. Of the 878 prescribers that responded to the survey, 539 were unaware that the opioid antidote indicator existed. In response to a low level of awareness of the indicator, on March 8, 2023, SC’s PMP partnered with the South Carolina Medical Association to conduct a virtual educational webinar on how to interpret a patient’s PMP report. Following that webinar, the SC PMP sent out a follow-up survey to re-assess prescribers’ awareness of the opioid antidote

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indicator. The survey showed that in a short amount of time there was approximately an 18% increase in the awareness of the opioid antidote indicator as compared to the survey that was conducted prior to these education efforts.

The SC PMP team will continue to evaluate and modify efforts to improve awareness and emphasize how valuable the PMP can be as a clinical decision-making tool in mitigating overdose risk factors. The hope is to contribute to the solution of the current overdose crisis and ensure that patients have better access to safe and effective treatment options.

Top 5 Controlled Substances Dispensed in 2022

1. dextroamphetamine sulf-saccharate/amphetamine sulf-asparate (Adderall, Adderall XR, Mydaysis)
2. hydrocodone bitrate/acetaminophen (Vicodin, Lortab)
3. alprazolam (Xanax)
4. tramadol HCl (Ultram)
5. zolpidem tartrate (Ambien)

II. Introduction

In 2006, the SC PMP, known as SCRIPTS (South Carolina Reporting & Identification Prescription Tracking System), was mandated by the South Carolina General Assembly. S.C. Code Ann. § 44-53-1640 requires in-state and nonresident South Carolina licensed dispensers to submit daily dispensation data on Schedule II - IV controlled substances to the Department of Health and Environmental Control (DHEC). For details on the information required for each dispensation, please see Table 2.

Table 2. Required prescription information	
Category	Domain Fields
Dispenser data	<ul style="list-style-type: none">Dispenser DEA number
Prescriber data	<ul style="list-style-type: none">Prescriber DEA number
Patient data	<ul style="list-style-type: none">NameAddressDate of birth
Prescription data	<ul style="list-style-type: none">NDC codePrescription numberDate the prescription was issued by prescriberDate the prescription was dispensedIf the prescription was a refill or new prescriptionQuantity dispensedEstimated days of supply

The PMP continues to be a promising strategy to “improve opioid prescribing, inform clinical practice, and protect patients at risk”.(Centers for Disease Control and Prevention, 2021) The PMP is a state-run database that collects patient-specific prescription information at the point of dispensation. This report focuses on the prescribing patterns of SC prescribers and provides details on Schedule II-IV controlled substances with a special edition on stimulants. All drug classes were classified through Lexicomp, and all drug schedules discussed in this report were classified through the DEA and FDA.(FDA, 2022; United States Drug Enforcement Administration, 2022; Wolters Kluwer, 2022)

III. Schedule II

3.1 Overview

Schedule II prescriptions are defined as substances with a “high potential for abuse, with use potentially leading to severe psychological and physical dependence”.(United States Drug Enforcement Administration, 2022) This section reports on Schedule II controlled substances (CII) that were prescribed by SC prescribers and dispensed in SC. In 2022, the most common CII prescriptions dispensed in SC were hydrocodone bitartrate/acetaminophen, dextroamphetamine sulf-saccharate/amphetamine sulf-asparate, oxycodone HCl/acetaminophen, oxycodone HCl, and methylphenidate HCl. From 2018 to 2022, the number of dispensed CII prescriptions decreased by 3% (4,212,781 vs 4,065,947, respectively) (Figure 4). Additionally, the average quantity of dispensed CII prescriptions decreased by 9% during the same time period (Figure 5).

Figure 4. Number of dispensed CII prescriptions prescribed by SC prescribers over time, 2018 - 2022

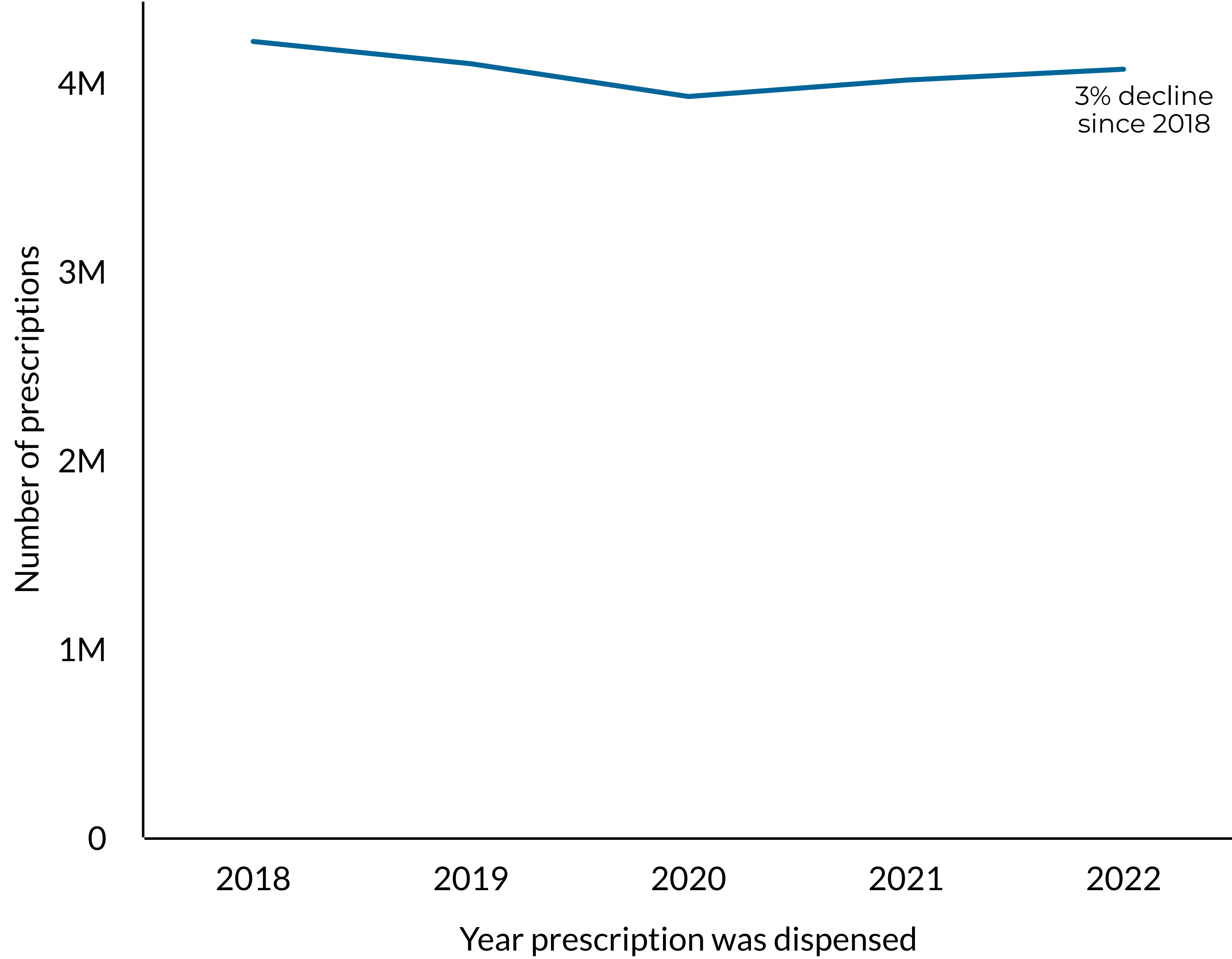
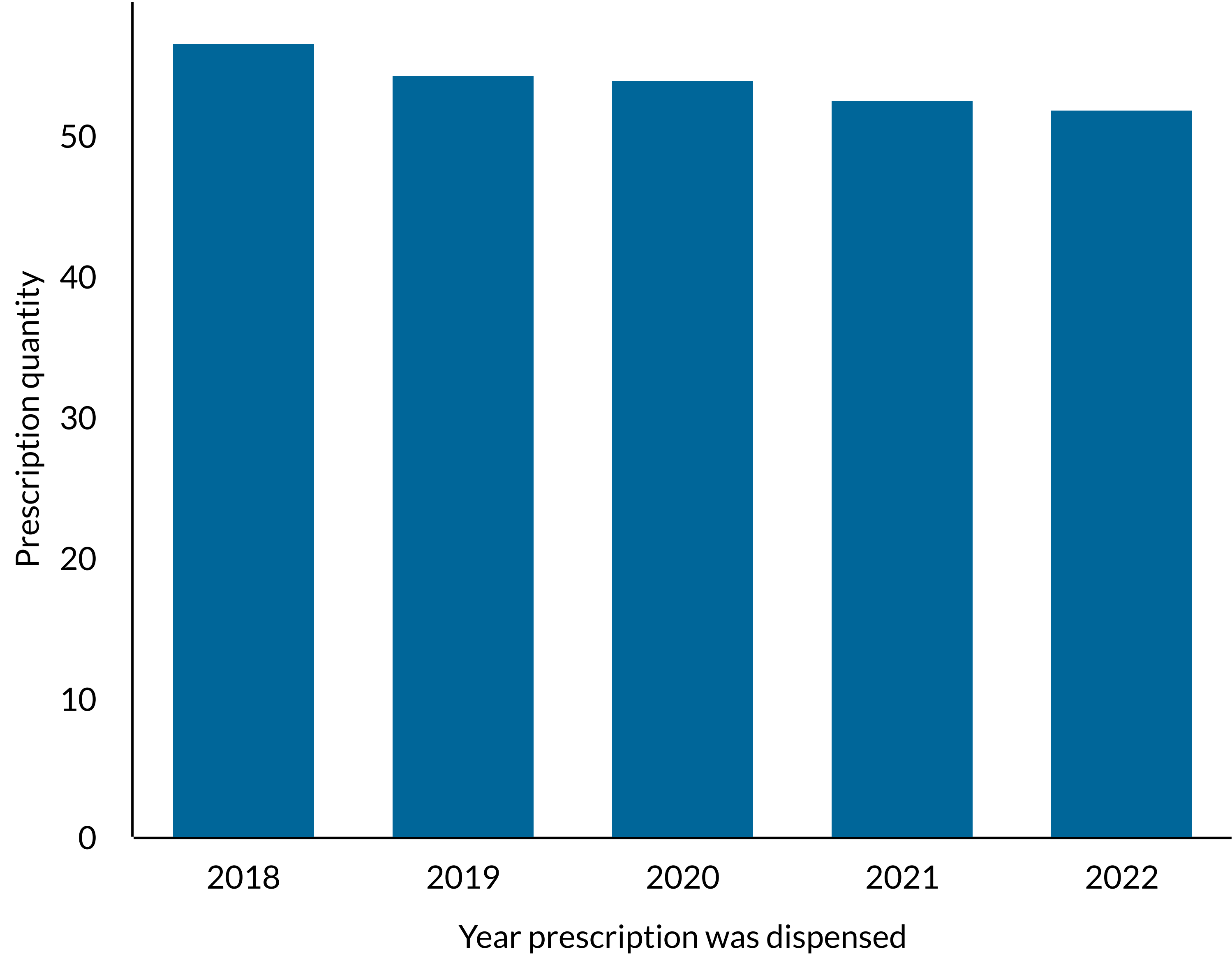


Figure 5. Average prescription quantity¹ dispensed for CII prescriptions over time, 2018 - 2022

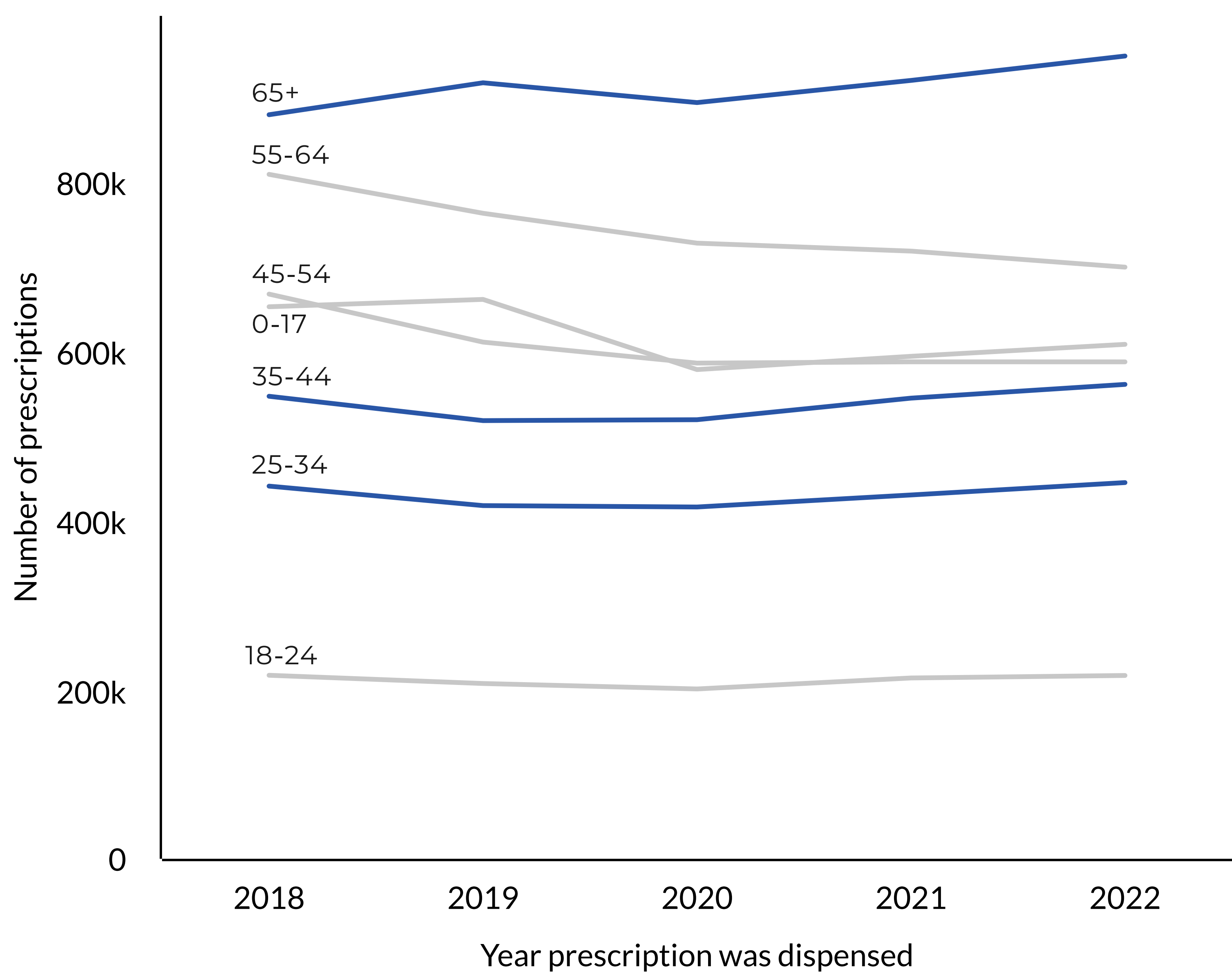


¹ Prescription quantity is defined as a CII prescription in a capsule or tablet form.

3.2 Patient Demographics

Consistent with previous years, in 2022, the average age of patients receiving CII prescriptions from SC prescribers was 46 years of age. Patients in all age groups were dispensed less CII prescriptions in 2022 compared to 2018 from SC prescribers, except those 25 to 44 years of age and 65 years of age and older (Figure 6). Additionally, females were dispensed more CII prescriptions than males in 2022 (2,152,207 versus 1,772,268, respectively). Dispensed CII prescriptions decreased by 2% for females and 8% for males from 2018 to 2022.

Figure 6. Number of dispensed CII prescriptions prescribed by SC prescribers by patient age¹, 2018 - 2022



¹ Age may be self-reported from the patient to the pharmacist. Please note that if age was unknown, it was not included in this analysis. The blue line indicates an increase in the number of prescriptions from 2018, while a gray line indicates a decrease.

3.3 Geographic Location (Prescriber County)

The rate of dispensed CII prescriptions prescribed by SC prescribers has declined from 828.6 per 1,000 people in 2018 to 783.3 per 1,000 people in 2022. The rate of CII prescriptions was higher than the SC rate in Oconee, Anderson, and Horry County in 2018, while this was not the case in 2022 (Figure 7 and 8). From 2018 to 2022, the number of CII prescriptions increased by more than 150% in Calhoun and Bamberg County and more than 35% for Edgefield and Williamsburg County. In 2022, Charleston, Florence, Greenville, Greenwood, and Darlington County had the highest rate of dispensed CII prescriptions.

Figure 7. Rate of dispensed CII prescriptions per 1,000 people by prescriber county for 2018

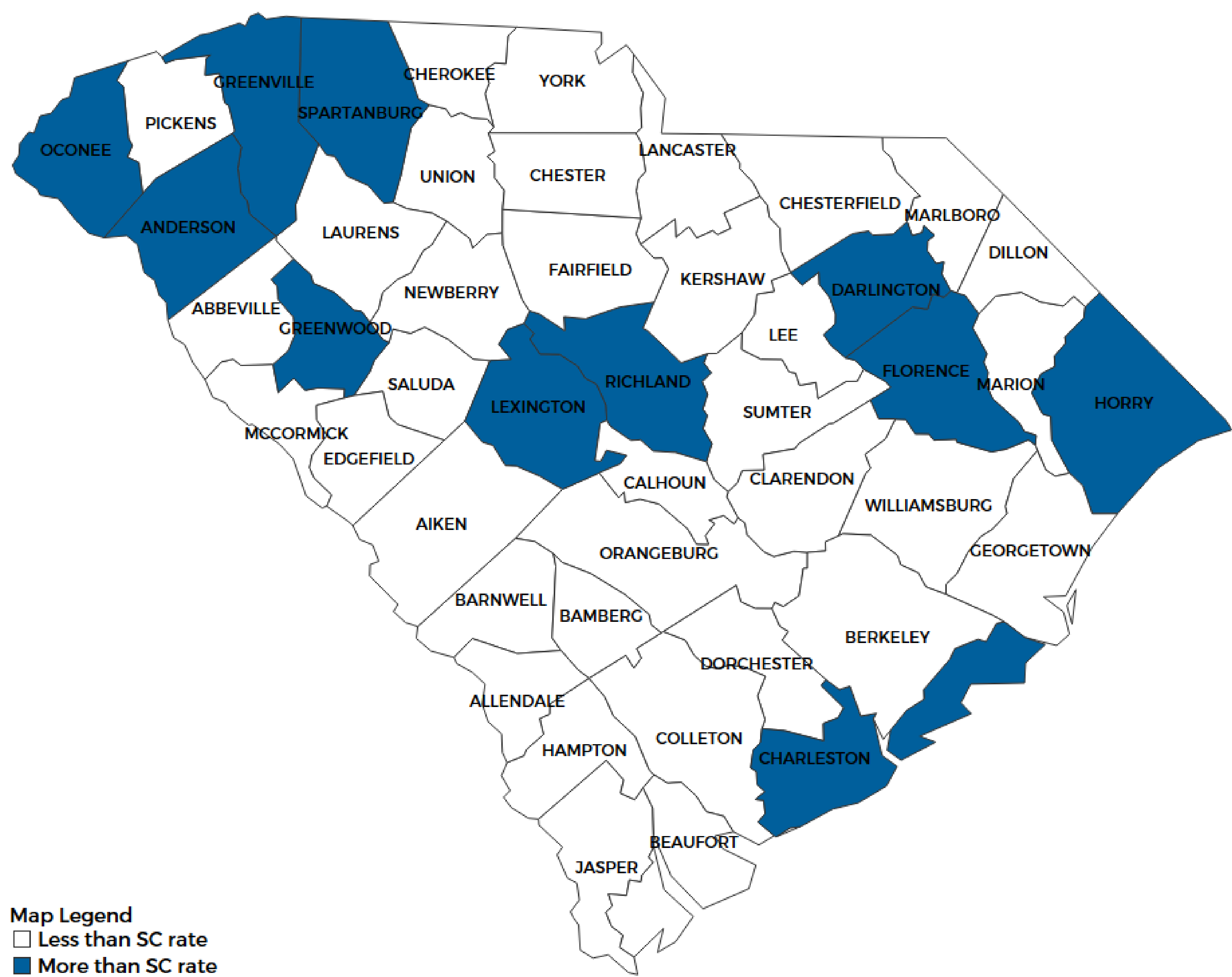
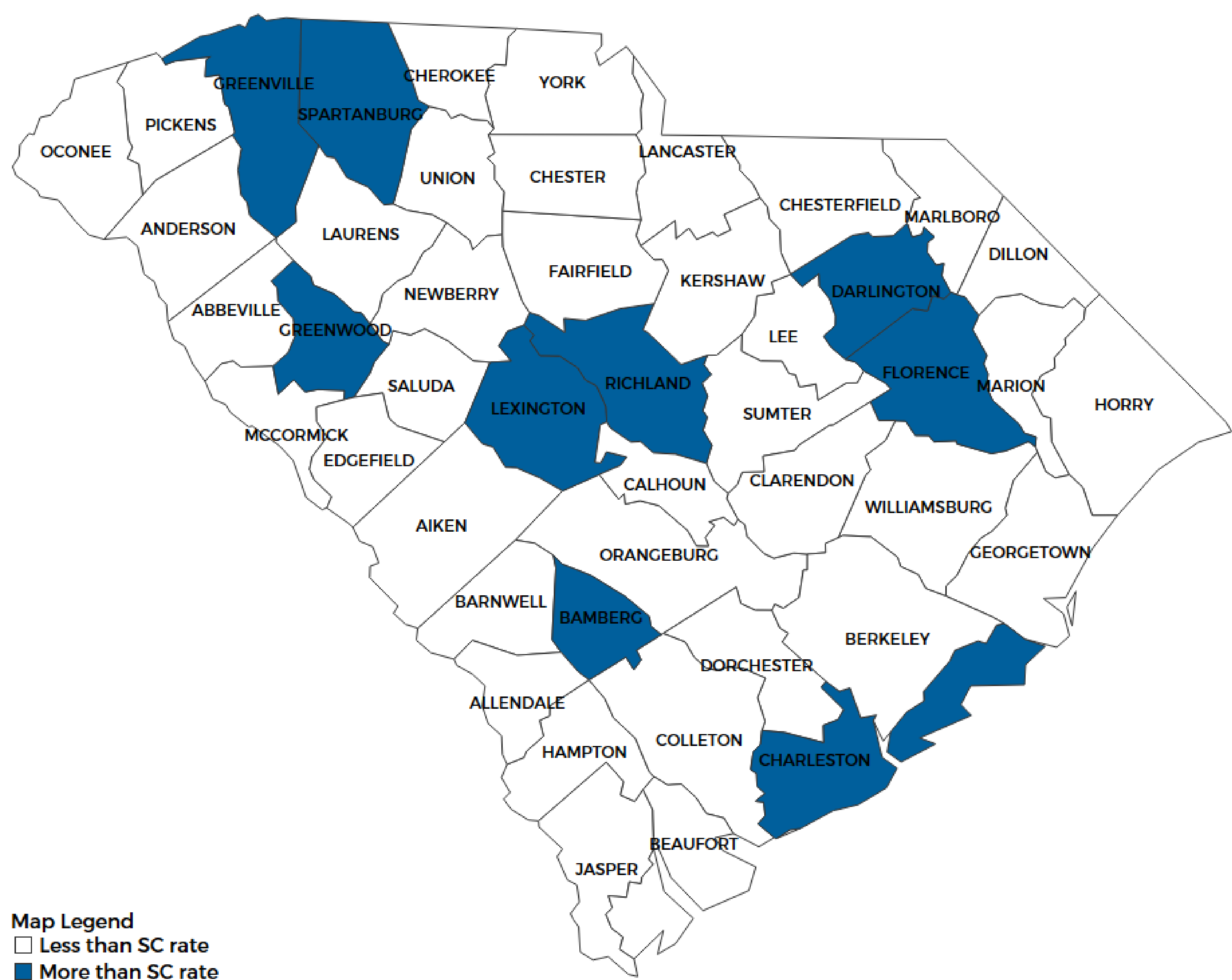


Figure 8. Rate of dispensed CII prescriptions per 1,000 people by prescriber county for 2022



IV. Schedule III

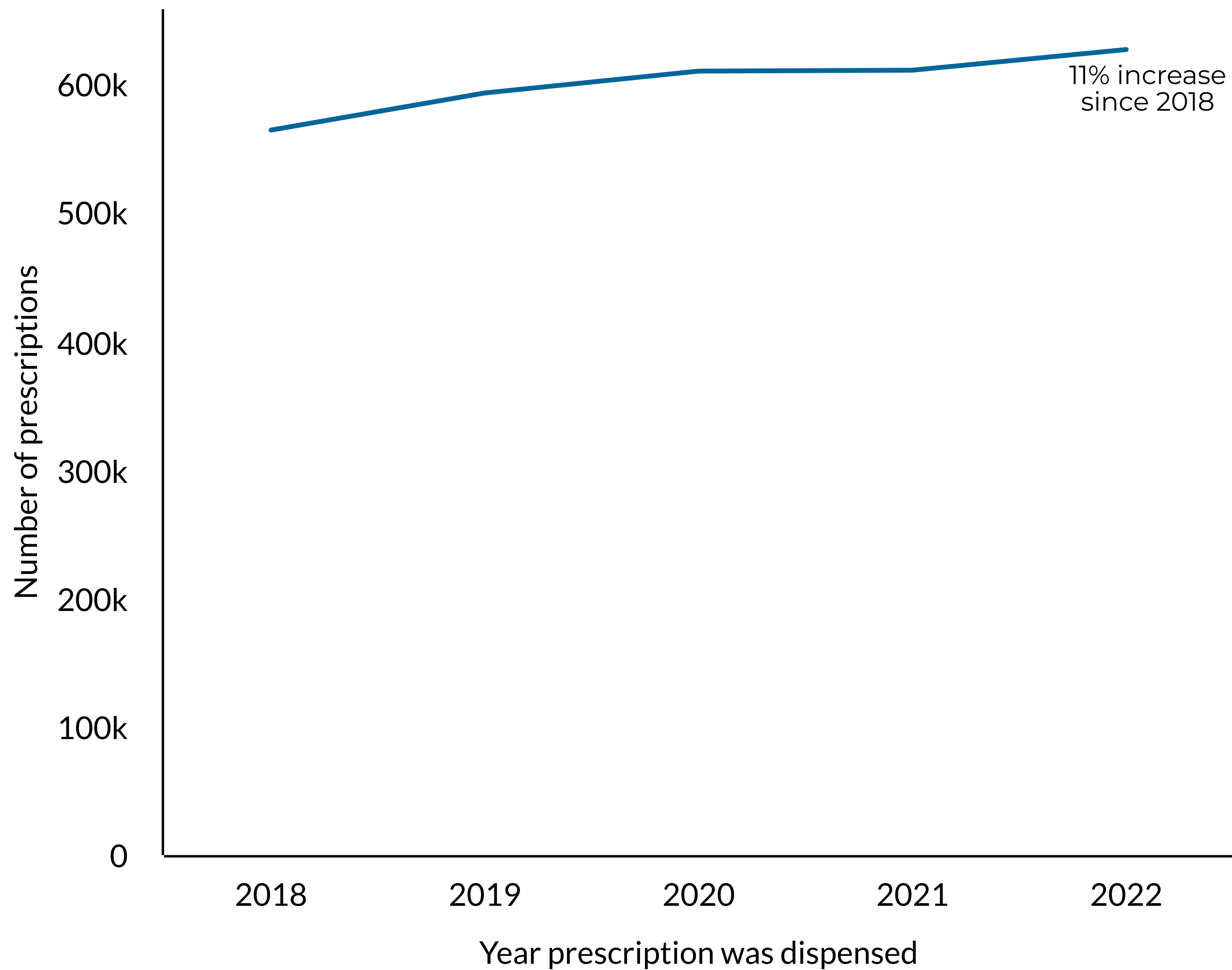
4.1 Overview

Schedule III prescriptions are defined as substances with a “moderate to low potential for physical and psychological dependence”.(United States Drug Enforcement Administration, 2022)

This section reports on Schedule III controlled substances (CIII) that were prescribed by SC prescribers and dispensed in SC. In 2022, the most common CIII prescriptions dispensed in SC were buprenorphine HCl/naloxone HCl, testosterone cypionate, acetaminophen with codeine phosphate, buprenorphine HCl, and testosterone micronized.

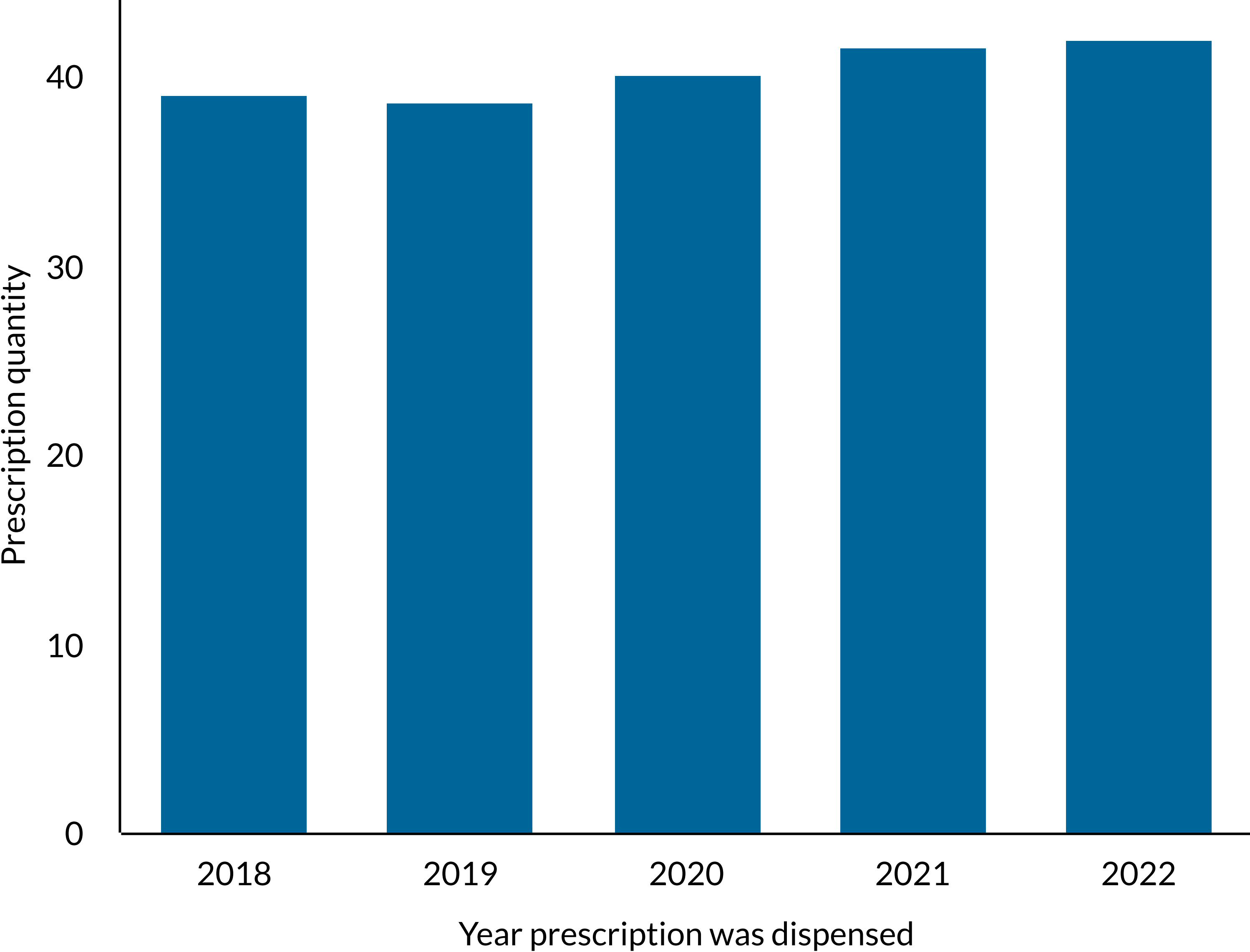
From 2018 to 2022, the number of dispensed CIII prescriptions increased by 11% (563,613 to 626,241, respectively)

Figure 9. Number of dispensed CIII prescriptions prescribed by SC prescribers over time, 2018 - 2022



(Figure 9). Additionally, the average quantity of CIII prescriptions increased by 8% during the same time period (Figure 10). It is important to note that the increase in CIII prescriptions is partially due to the increase in buprenorphine, which has increased

Figure 10. Average prescription quantity¹ for CIII prescriptions over time, 2018 - 2022



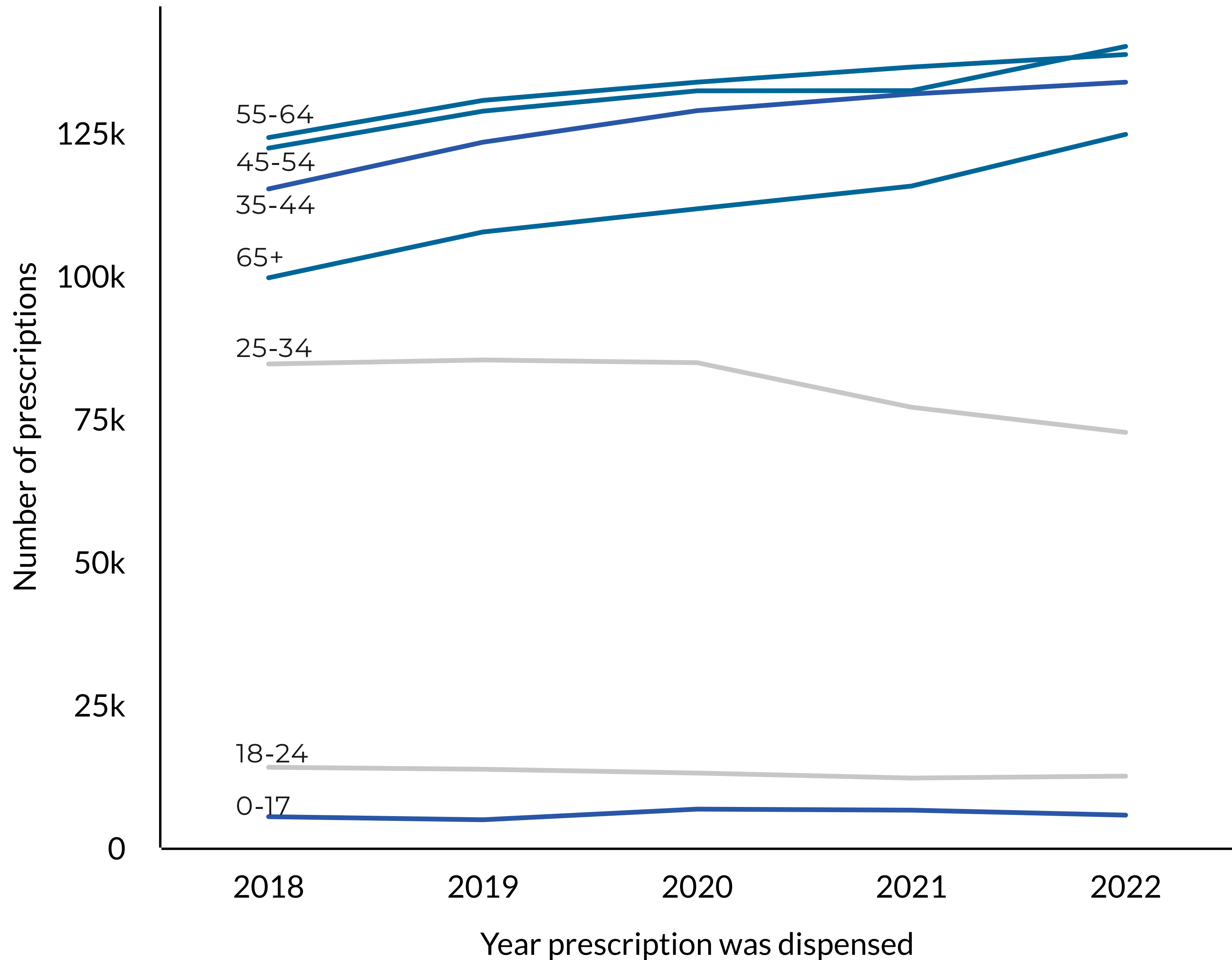
by 32% from 2018 to 2022. However, please note, that due to federal statute restrictions, the SC PMP is unable to collect buprenorphine prescriptions dispensed from Opioid Treatment Programs, therefore, these were excluded in this analysis. Buprenorphine is a controlled substance that has been approved by the Food and Drug Administration (FDA) to be used as a medication-assisted treatment (MAT) to treat Opioid Use Disorder.(SAMHSA, 2022)

¹ Prescription quantity is defined as a CIII prescription in a capsule or tablet form.

4.2 Patient Demographics

In 2022, the average age of patients receiving CIII prescriptions from SC prescribers was 51 years of age. Patients 0 to 17 years of age and those 35 years of age and older were dispensed more CIII prescriptions in 2022 compared to 2018 from SC prescribers (Figure 11). Additionally, males were dispensed more CIII prescriptions than females in 2022 (359,002 versus 242,135, respectively). Dispensed CIII prescriptions increased by 6% for females and 13% for males from 2018 to 2022.

Figure 11. Number of dispensed CIII prescriptions prescribed by SC prescribers by patient age¹, 2018 - 2022



¹Age may be self-reported from the patient to the pharmacist. Please note that if age was unknown, it was not included in this analysis. The blue line indicates an increase in the number of prescriptions from 2018, while a gray line indicates a decrease.

4.3 Geographic Location (Prescriber County)

The rate of dispensed CIII prescriptions prescribed by SC prescribers has increased from 110.9 per 1,000 people in 2018 to 120.7 per 1,000 people in 2022. The rate of CIII prescriptions was higher than the SC rate in Cherokee, Spartanburg, and Calhoun County in 2022, while this was not the case in 2018 (Figure 12 and 13). Additionally, from 2018 to 2022, the number of CIII prescriptions increased by more than 150% in Union, Calhoun, Cherokee, Marlboro, and Bamberg County. In 2022, Cherokee, Florence, Charleston, Georgetown, and Greenville County had the highest rate of dispensed CIII prescriptions.

Figure 12. Rate of dispensed CIII prescriptions per 1,000 people by prescriber county for 2018

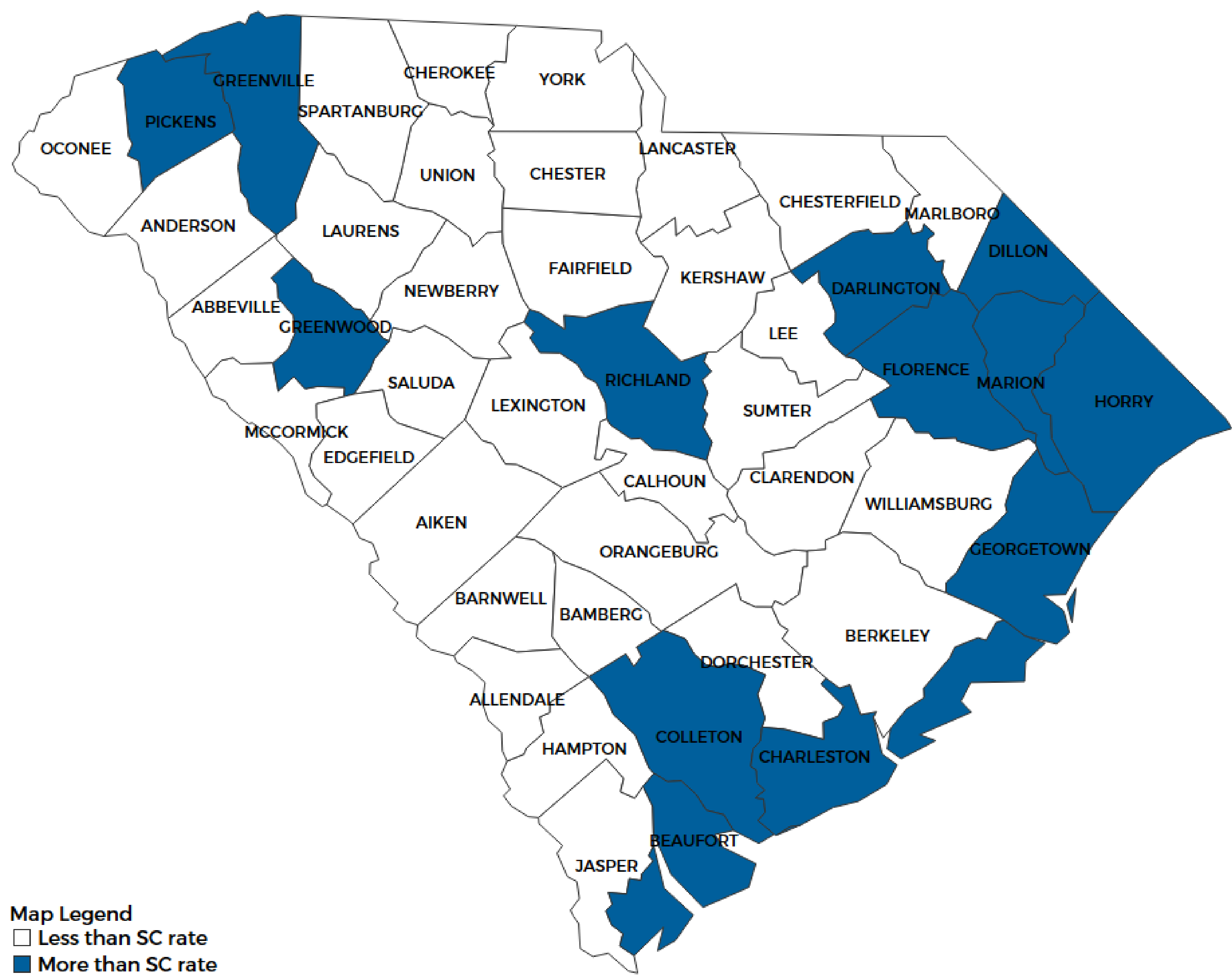
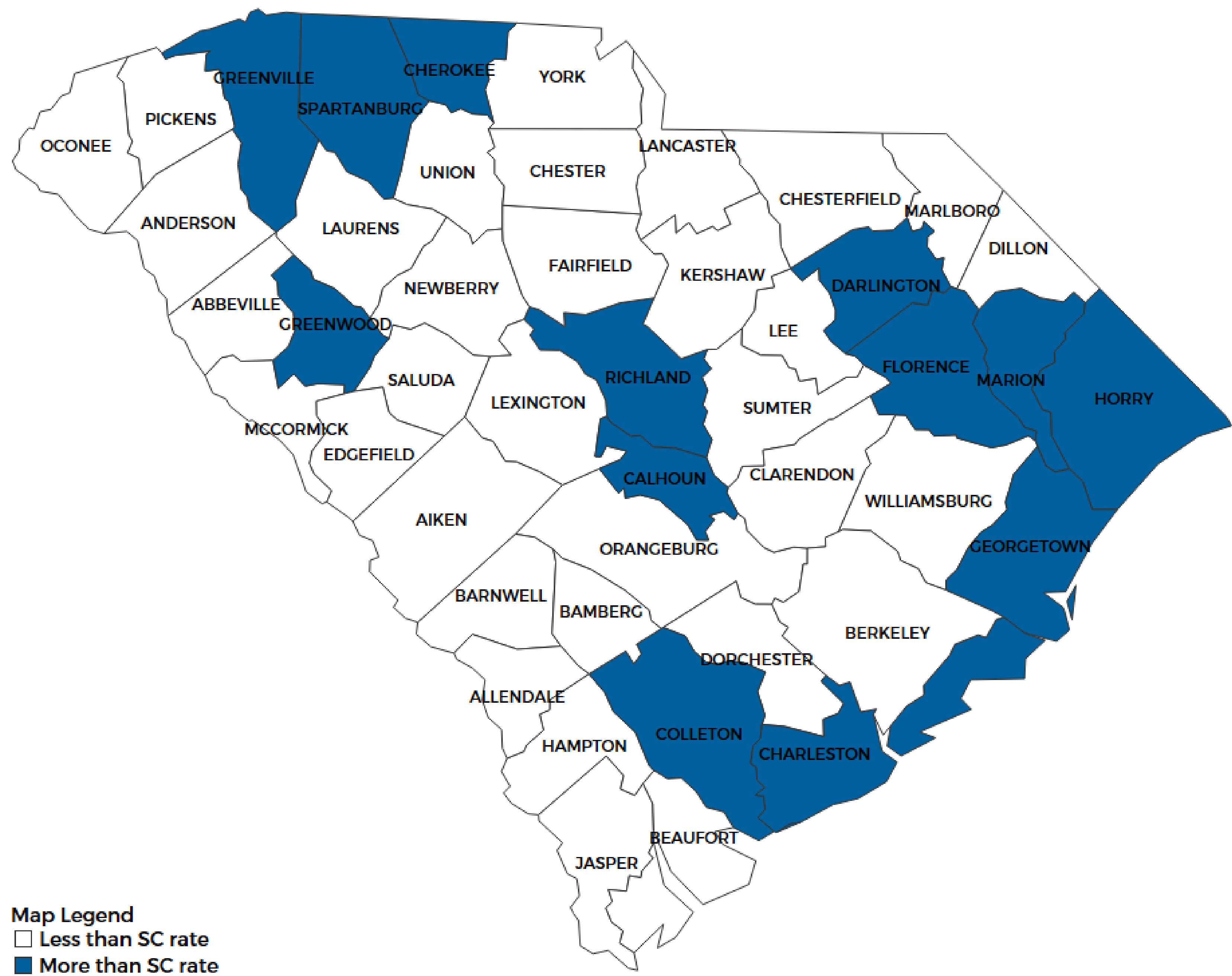


Figure 13. Rate of dispensed CIII prescriptions per 1,000 people by prescriber county for 2022



V. Schedule IV

5.1 Overview

Schedule IV prescriptions are defined as substances with a “low potential for abuse and low risk of dependence”.(United States Drug Enforcement Administration, 2022)

This section reports on Schedule IV controlled substances (CIV) that were prescribed by SC prescribers and dispensed in SC. In 2022, the most common CIV prescriptions dispensed in SC were alprazolam, tramadol HCl, zolpidem tartrate, lorazepam, and clonazepam. From 2018 to 2022, the number of dispensed CIV prescriptions decreased by 9% (4,295,218 to 3,889,873, respectively) (Figure 14).

Additionally, the average quantity of dispensed CIV prescriptions decreased by 8% during the same time period (Figure 15).

Figure 14. Number of dispensed CIV prescriptions prescribed by SC prescribers over time, 2018 - 2022

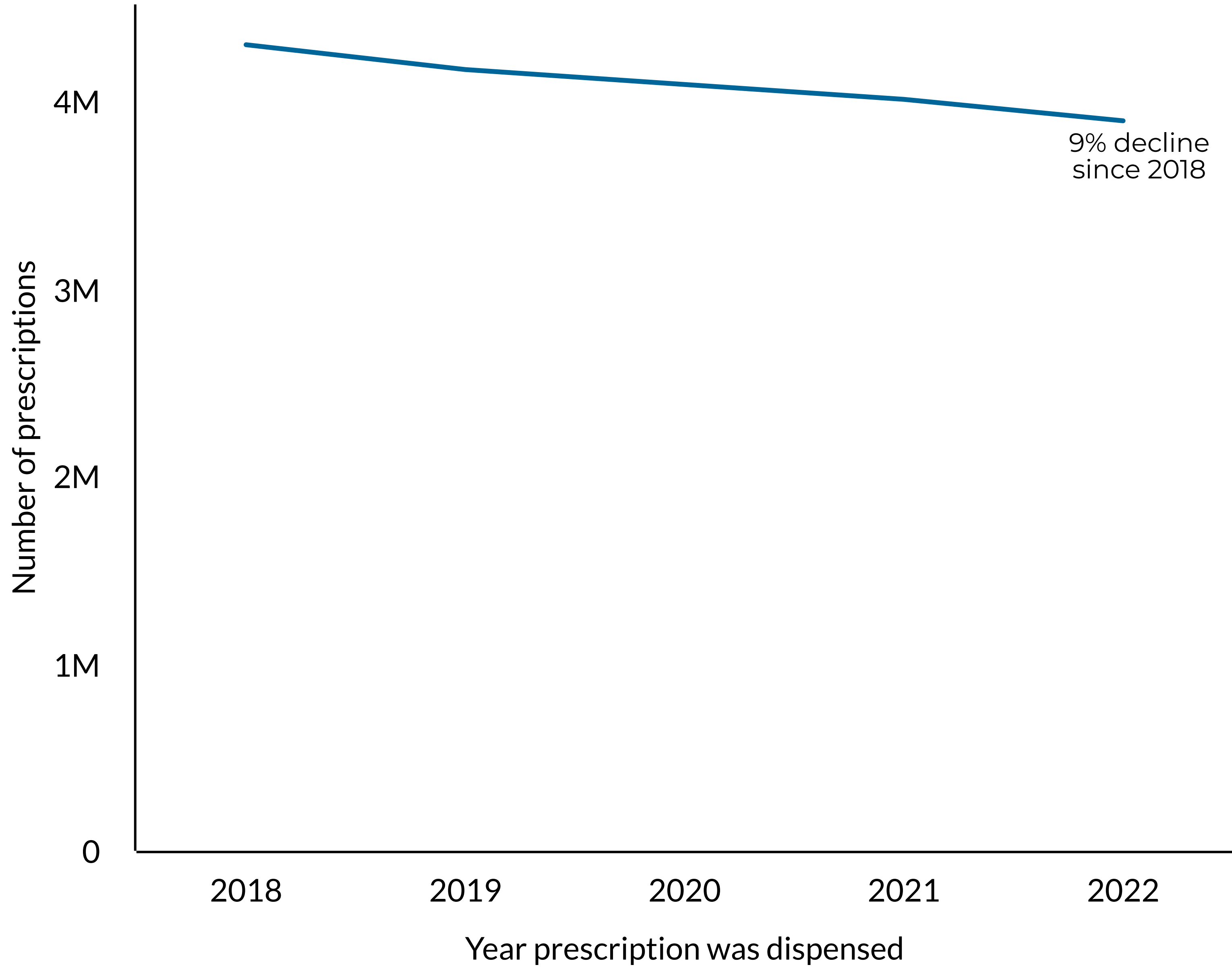
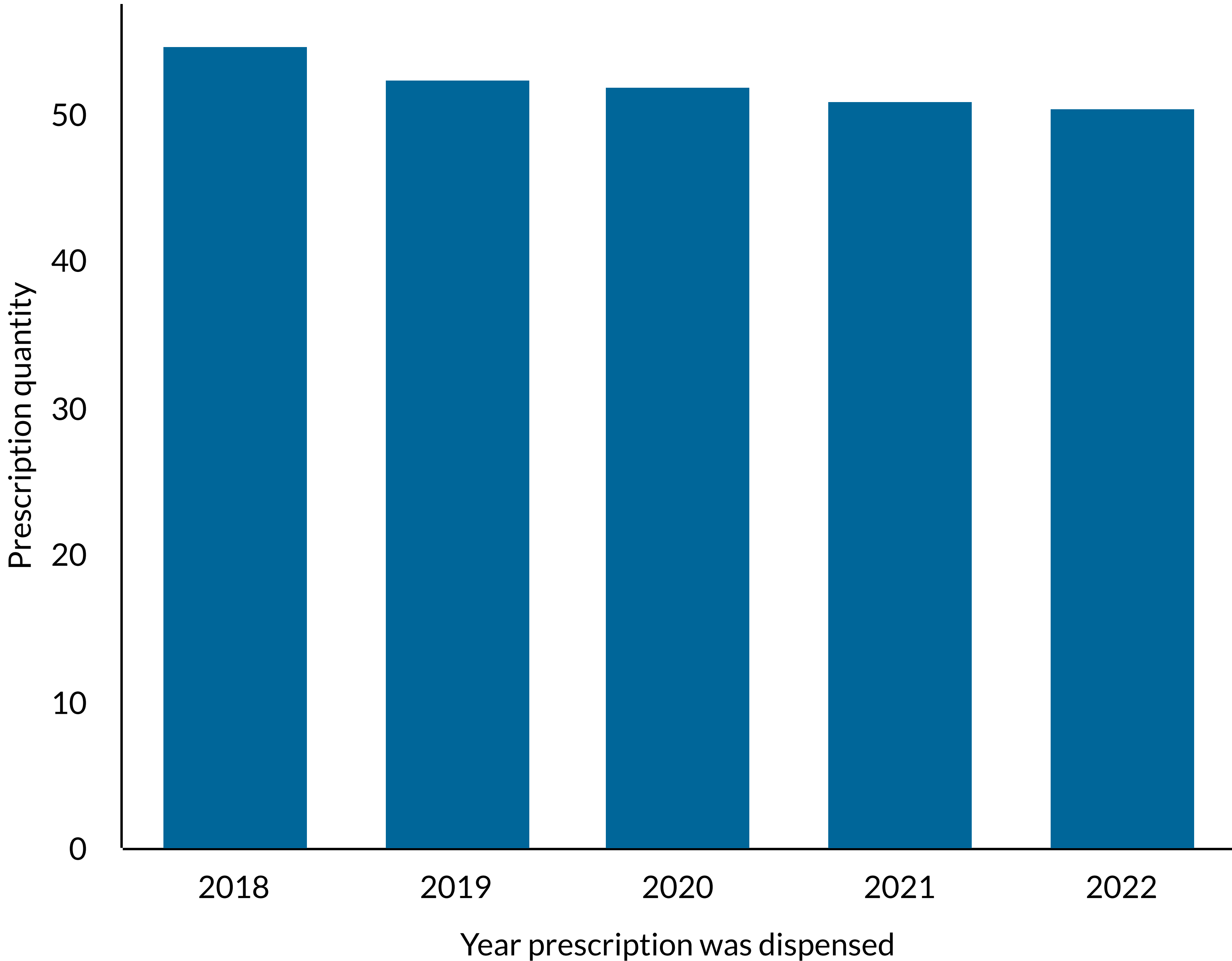


Figure 15. Average prescription quantity¹dispensed for CIV prescriptions over time, 2018 - 2022

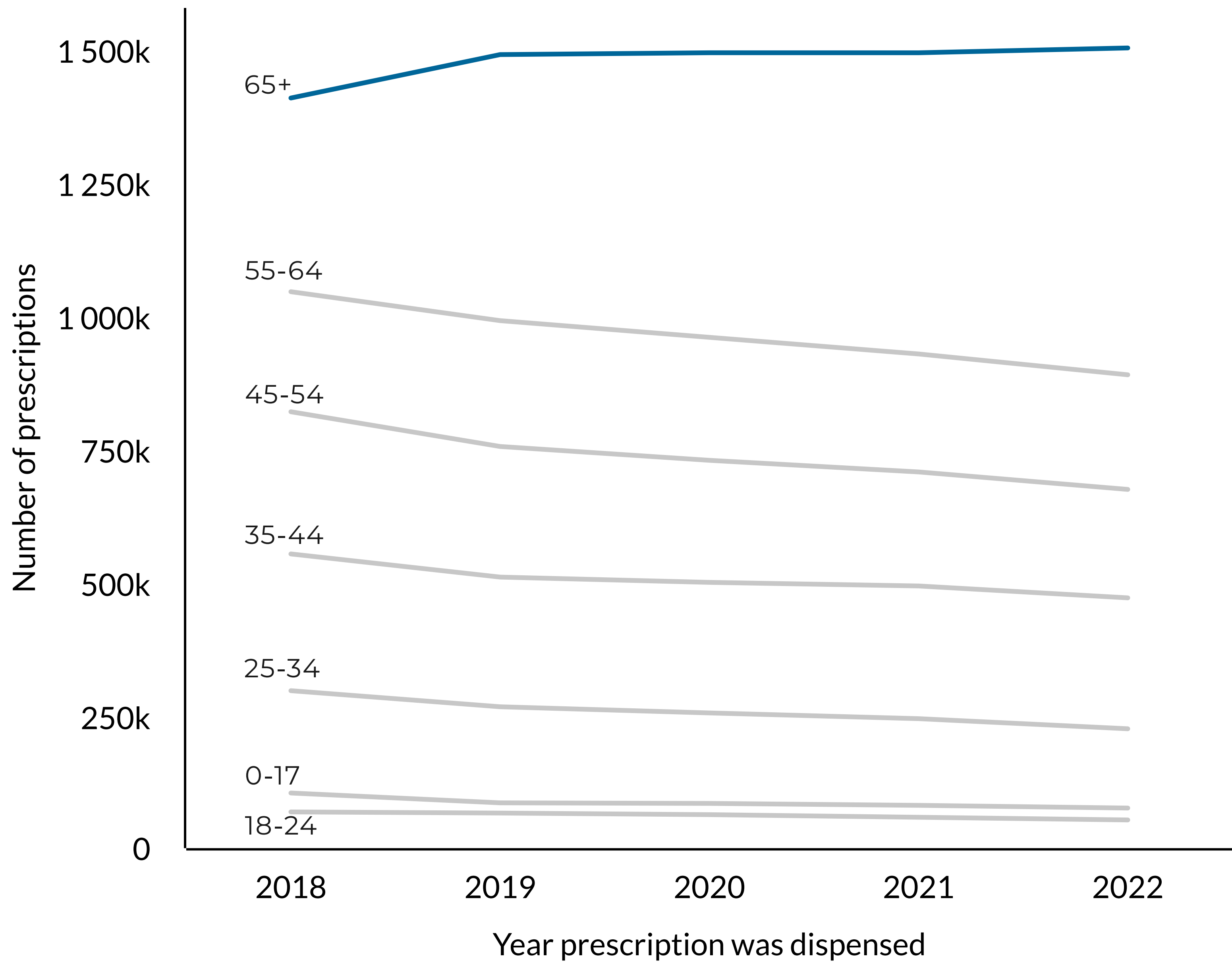


¹ Prescription quantity is defined as a CIV prescription in a capsule or tablet form.

5.2 Patient Demographics

In 2022, the average age of patients receiving CIV prescriptions from SC prescribers was 58 years of age. Patients 65 years of age and older were dispensed more CIV prescriptions in 2022 compared to 2018 from SC prescribers (Figure 16). Additionally, females were dispensed more CIV prescriptions than males in 2022 (2,487,892 versus 1,237,401, respectively). Dispensed CIV prescriptions decreased by 9% for females and 13% males from 2018 to 2022.

Figure 16. Number of dispensed CIV prescriptions prescribed by SC prescribers by patient age¹, 2018 - 2022



¹ Age may be self-reported from the patient to the pharmacist. Please note that if age was unknown, it was not included in this analysis. The blue line indicates an increase in the number of prescriptions from 2018, while a gray line indicates a decrease.

5.3 Geographic Location (Prescriber County)

The rate of dispensed CIV prescriptions prescribed by SC prescribers has decreased from 844.8 per 1,000 people in 2018 to 749.4 per 1,000 people in 2022. The rate of CIV prescriptions was higher than the SC rate in Allendale, Hampton, and Spartanburg County in 2022, while this was not the case in 2018 (Figure 17 and 18). Additionally, from 2018 to 2022, the number of CIV prescriptions increased more than 95% in Calhoun and Bamberg County. In 2022, Florence, Charleston, Greenville, Greenwood, and Darlington County had the highest rate of dispensed CIV prescriptions.

Figure 17. Rate of dispensed CIV prescriptions per 1,000 people by prescriber county for 2018

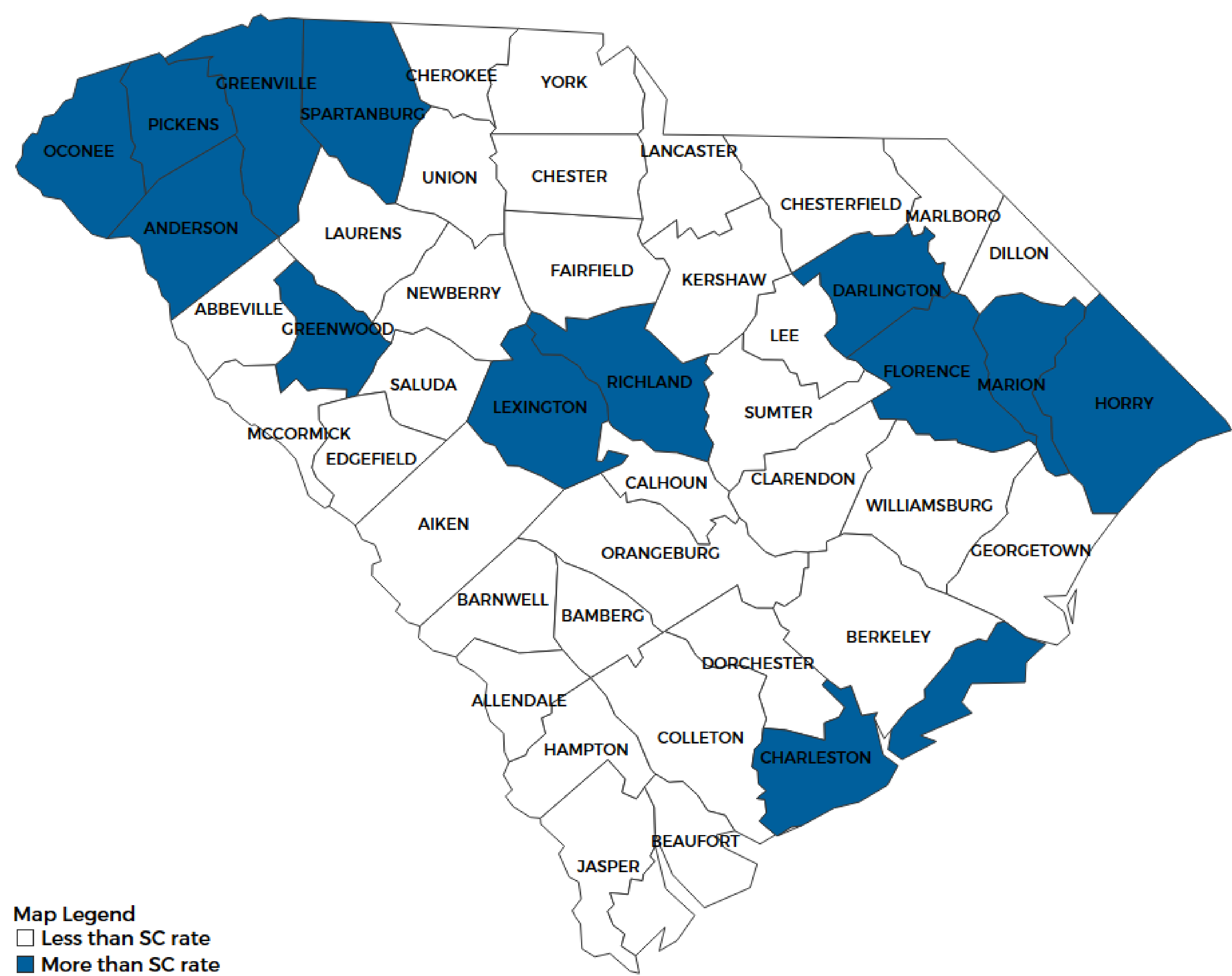
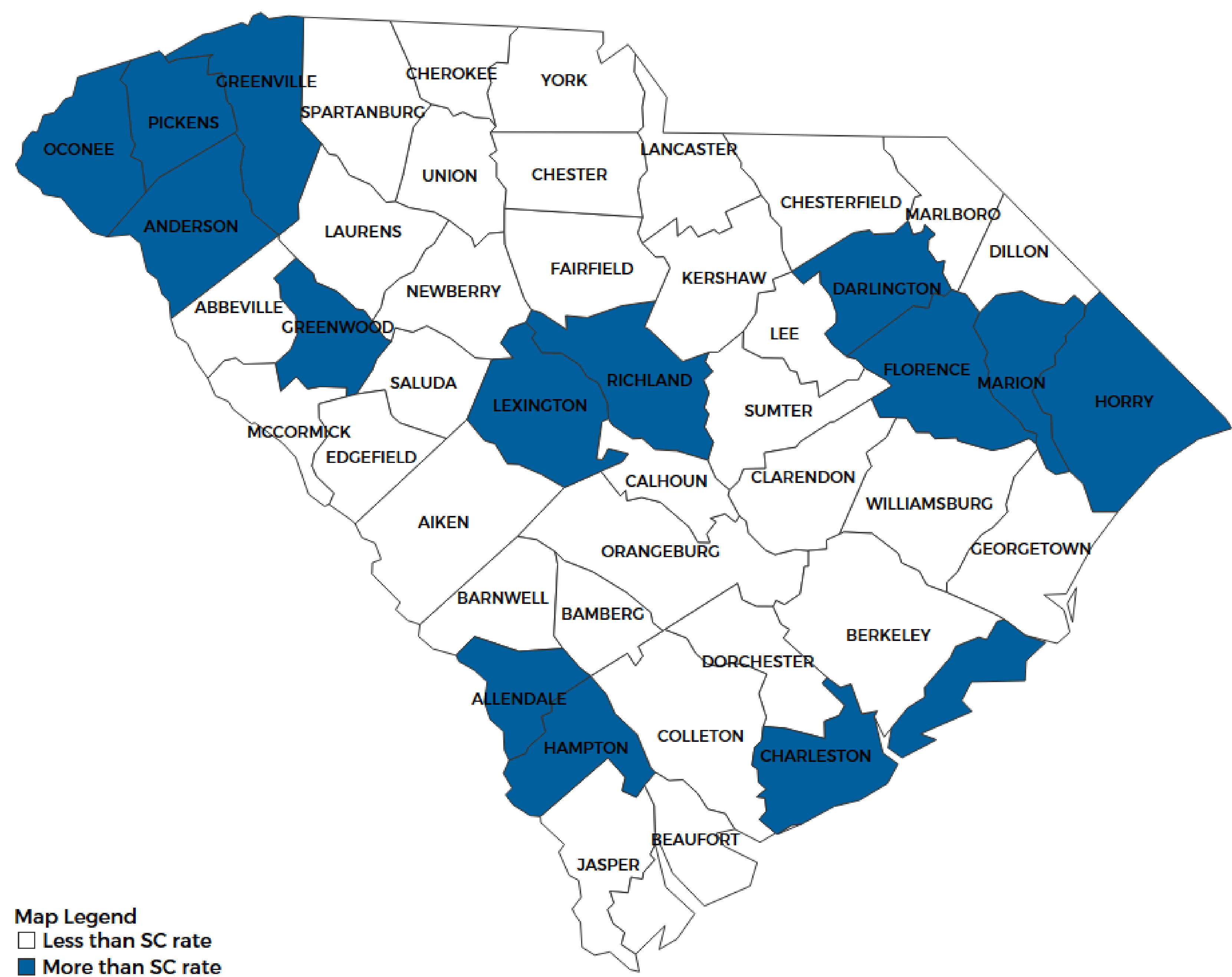


Figure 18. Rate of dispensed CIV prescriptions per 1,000 people by prescriber county for 2022

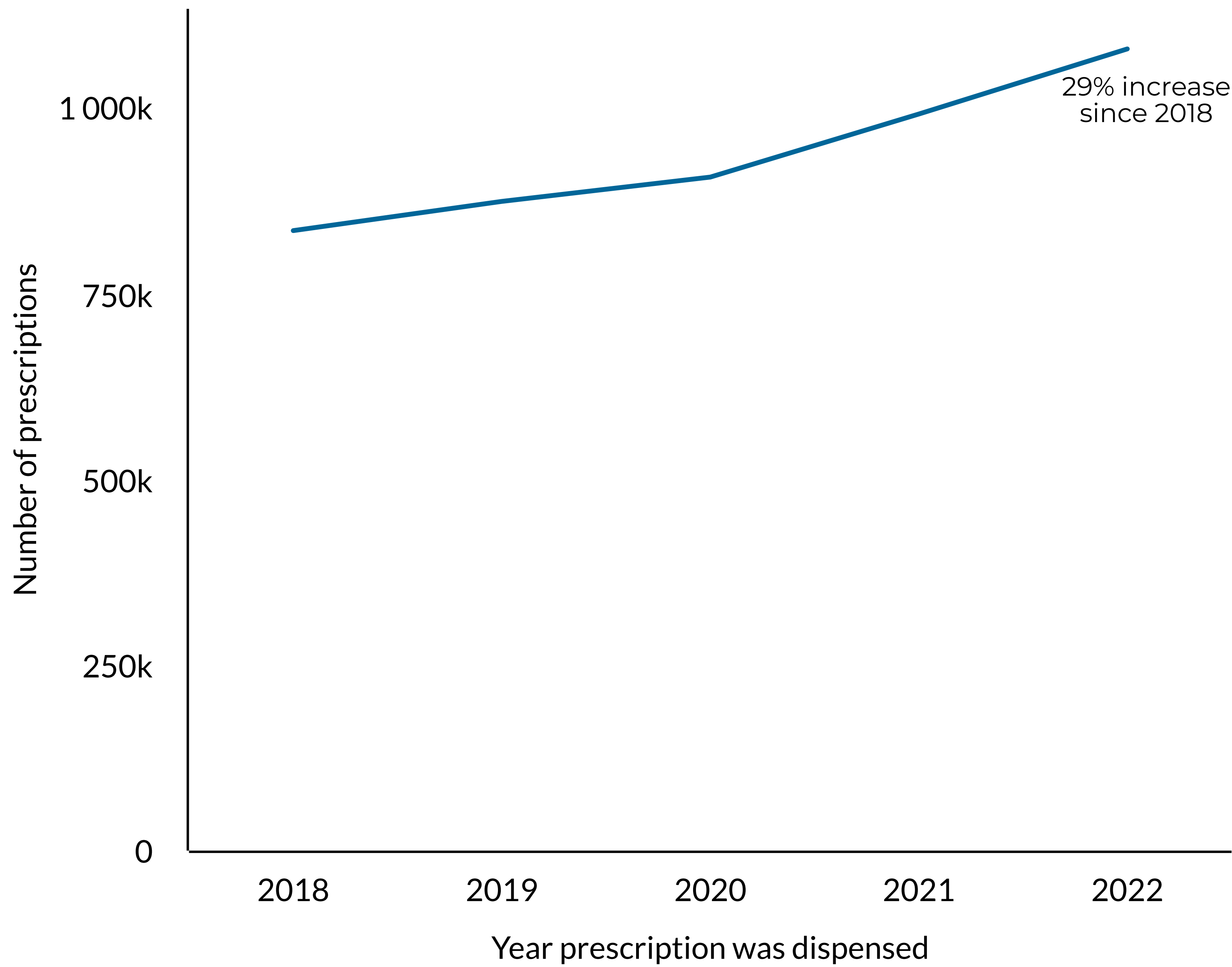


VI. Stimulants

6.1 Overview

Stimulants are a class of drugs used to increase alertness, attention, and energy for conditions such as attention-deficit hyperactivity disorder and narcolepsy.(NIDA, 2018) In 2022, the number one prescription dispensed in SC was dextroamphetamine sulf-saccharate/amphetamine sulf-asparate. Therefore, this section focuses on dextroamphetamine sulf-saccharate/amphetamine sulf-asparate, more commonly known as Adderall, Adderall XR, or Mydayis, that was prescribed by SC prescribers and dispensed in SC. For the purposes of this report, we will refer to this drug as dextroamphetamine/amphetamine throughout the remainder of this report. From 2018 to 2022, the number of dispensed dextroamphetamine/amphetamine prescriptions increased by 29% (833,588 to 1,077,883, respectively) (Figure 19).

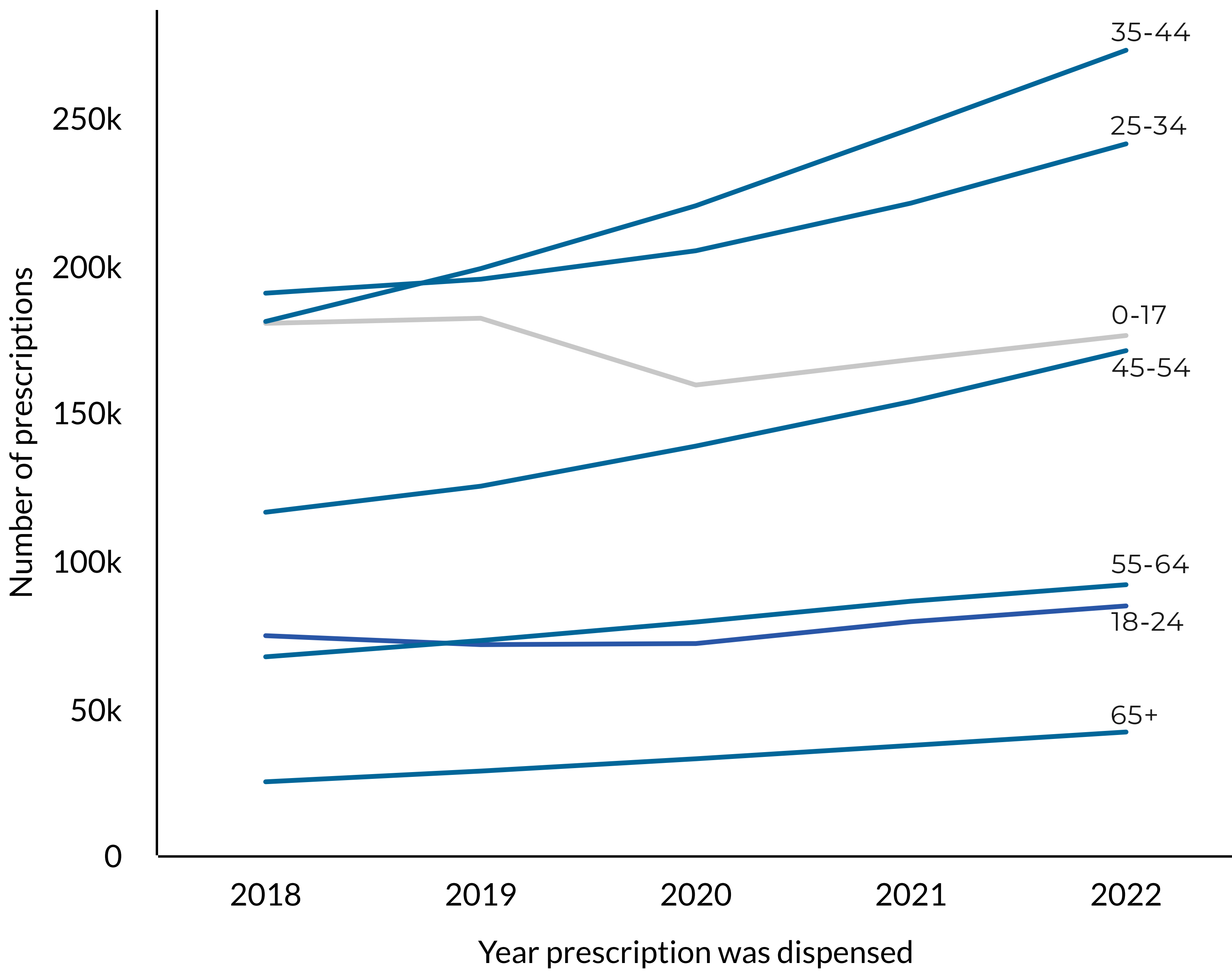
Figure 19. Number of dispensed dextroamphetamine/amphetamine prescriptions prescribed by SC prescribers over time, 2018 - 2022



6.2 Patient Demographics

In 2022, the average age of patients receiving prescriptions for dextroamphetamine/amphetamine from SC prescribers was 36 years of age. Patients 18 years of age and older were dispensed more dextroamphetamine/amphetamine prescriptions in 2022 compared to 2018 from SC prescribers (Figure 20). Patients 35 to 44 years of age were dispensed the most dextroamphetamine/amphetamine prescriptions compared to any other age group. Additionally, more females were dispensed dextroamphetamine/amphetamine prescriptions than males in 2022 (584,676 versus 445,252, respectively). Dextroamphetamine/amphetamine prescriptions increased by 35% for females and 19% for males from 2018 to 2022.

Figure 20. Number of dispensed dextroamphetamine/amphetamine prescriptions prescribed by SC prescribers by patient age¹, 2018 - 2022



¹ Age may be self-reported from the patient to the pharmacist. Please note that if age was unknown, it was not included in this analysis. The blue line indicates an increase in the number of prescriptions from 2018, while a gray line indicates a decrease.

6.3 Geographic Location (Prescriber County)

The rate of dispensed dextroamphetamine/amphetamine prescriptions prescribed by SC prescribers has increased from 164.0 per 1,000 people in 2018 to 207.7 per 1,000 people in 2022. The rate of dextroamphetamine/amphetamine prescriptions was higher than the SC rate in Bamberg and Oconee County in 2022, while this was not the case in 2018 (Figure 21 and 22). Additionally, from 2018 to 2022, the number of dextroamphetamine/amphetamine prescriptions increased more than 50% in Calhoun, Hampton, Bamberg, Williamsburg, Edgefield, and Oconee County. There were only 4 counties in SC that had a decrease in the number of prescriptions over time. In 2022, Charleston, Greenville, Florence, Greenwood, and Richland County had the highest rate of dispensed dextroamphetamine/amphetamine prescriptions.



Figure 21. Rate of dispensed dextroamphetamine/amphetamine prescriptions per 1,000 people by prescriber county for 2018

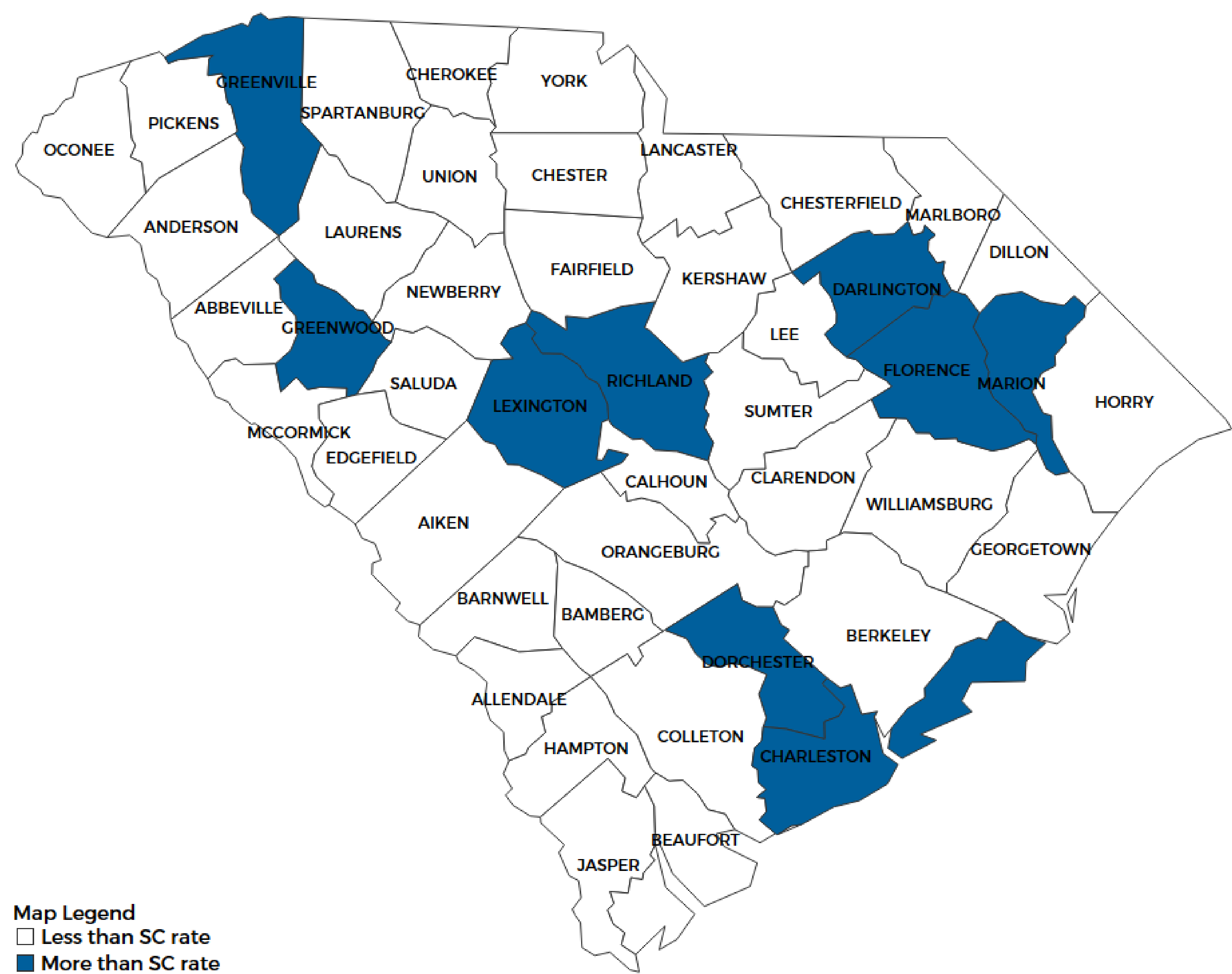
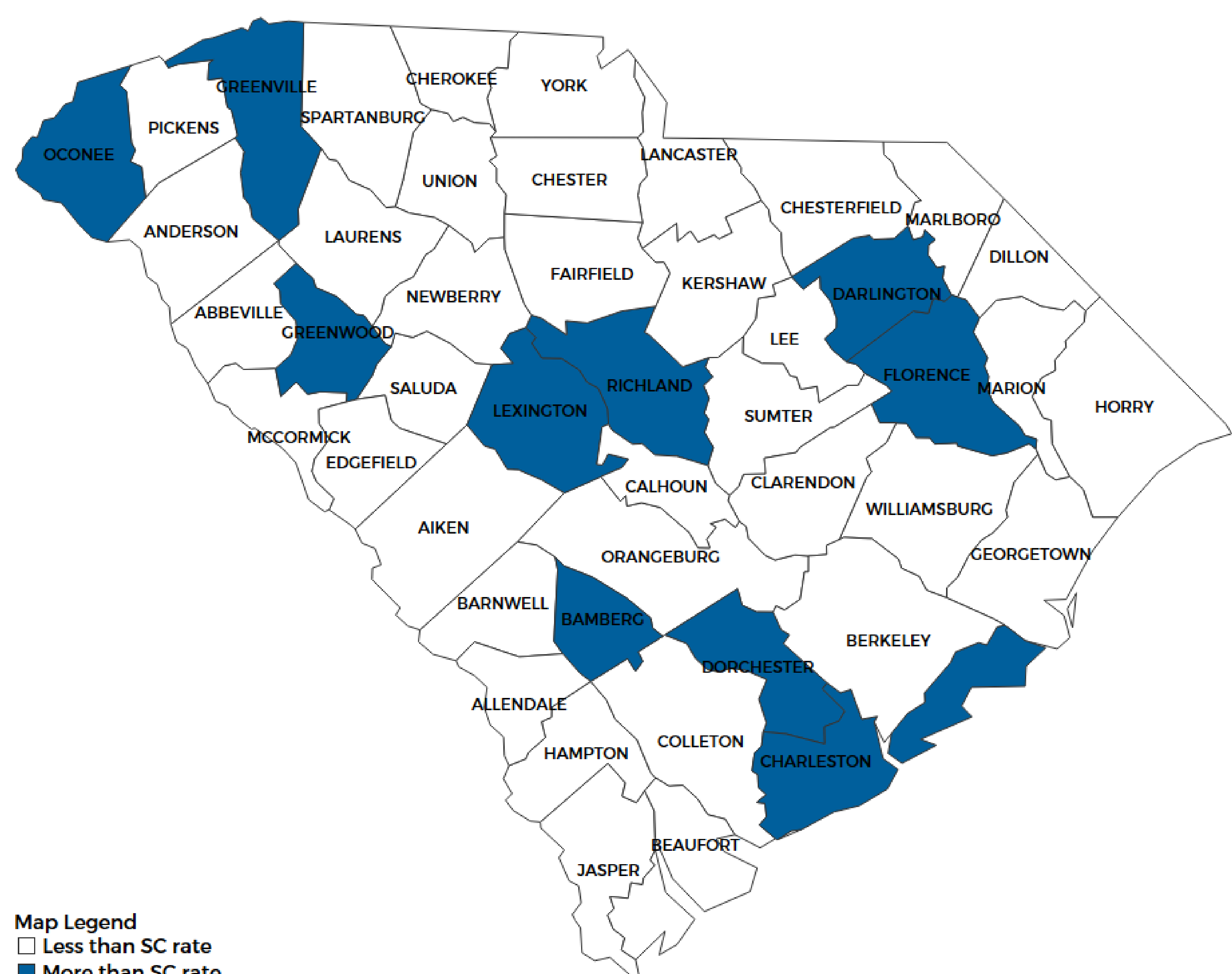


Figure 22. Rate of dispensed dextroamphetamine/amphetamine prescriptions per 1,000 people by prescriber county for 2022



VII. Summary

The PMP is rapidly developing as a clinical and public health surveillance tool. As hundreds of deaths are attributed to drug overdoses each year in SC, increasing the usage of the PMP to assist in making clinical decisions is critical in addressing this continuing opioid epidemic.(DAODAS, 2022) With SC being ranked 12th in the country for the highest rate of drug overdose deaths, our work at the PMP is more important now than ever to assist in reducing the curve.(Centers for Disease Control and Prevention, 2022) We will strive to work alongside other state agencies and assist in data dissemination and education efforts across the state. The impact of previous and on-going efforts by the SC PMP can be shown in yearly increases in PMP utilization and in the overall decreases in the total number of controlled substance prescriptions. The PMP staff look forward to advancing and expanding the program in 2023 and maintaining persistent positive data trends.

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