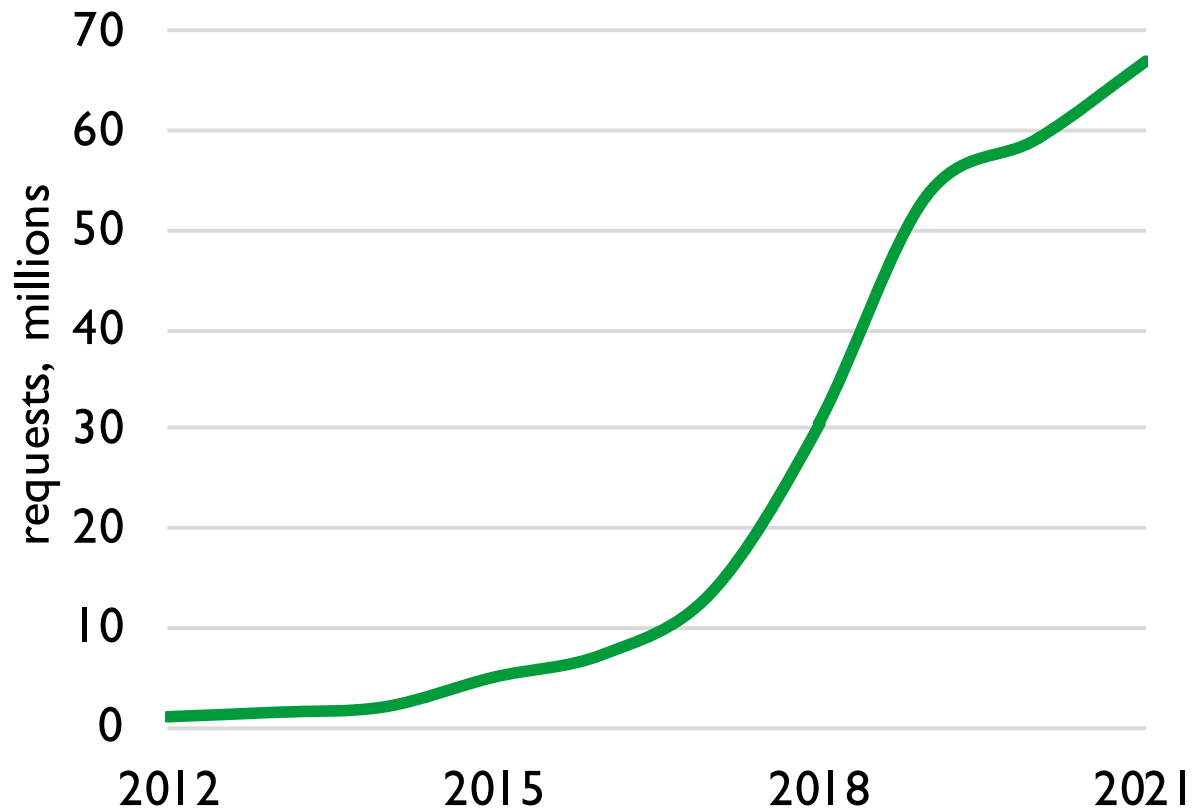


Quarterly Report
October 1-December 31, 2021
2021 Q4
Virginia Prescription Monitoring Program

Key Findings for the Fourth Quarter (2021 Q4)

- 91% of opioid prescriptions are transmitted electronically from prescriber to dispenser.
- Multiple provider episodes, defined as ≥ 5 prescribers and ≥ 5 pharmacies in a 6-month period, decreased from 5.5 (2020Q1) to 2.1 per 100,000 this quarter.
- Through this period, 27,659 prescribers wrote at least one prescription for an opioid medication dispensed by a Virginia-licensed pharmacy.
- Five percent of Virginians, or 404,390 residents, received an opioid prescription. This excludes individuals who received buprenorphine products.

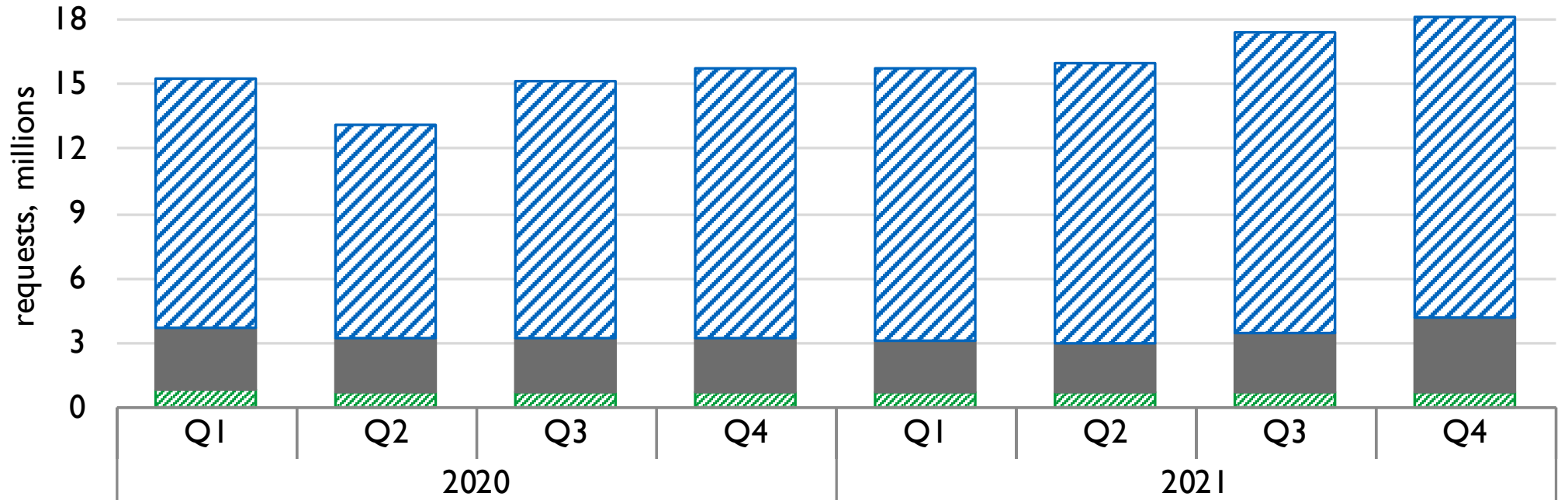
Increasing PMP utilization



- Requests for a patient's prescription history grow exponentially each year
- Rapid rise in utilization of the PMP is primarily the result of expansions in integration within the electronic health record and pharmacy software applications
 - 80% of total requests are through an integrated application

Increasing PMP utilization

Prescription history requests by type, 2020Q1-2021Q4



	2020				2021			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Gateway (in state)	11,535,729	9,795,466	11,848,186	12,456,142	12,561,178	12,962,173	13,957,233	13,977,948
PMPi	2,873,530	2,543,759	2,473,391	2,502,637	2,425,672	2,300,133	2,722,499	3,423,667
NarxCare	833,493	745,470	777,552	738,448	722,583	727,524	728,464	719,829

- Gateway: integrates PMP data within health record clinical workflow
- NarxCare (previously AWA Rx E): web-based application
- PMPi: interoperability among states' PMPs

Drug class

Percent change by drug class 2020Q1-2021Q4

Opioid* ↓ 12%

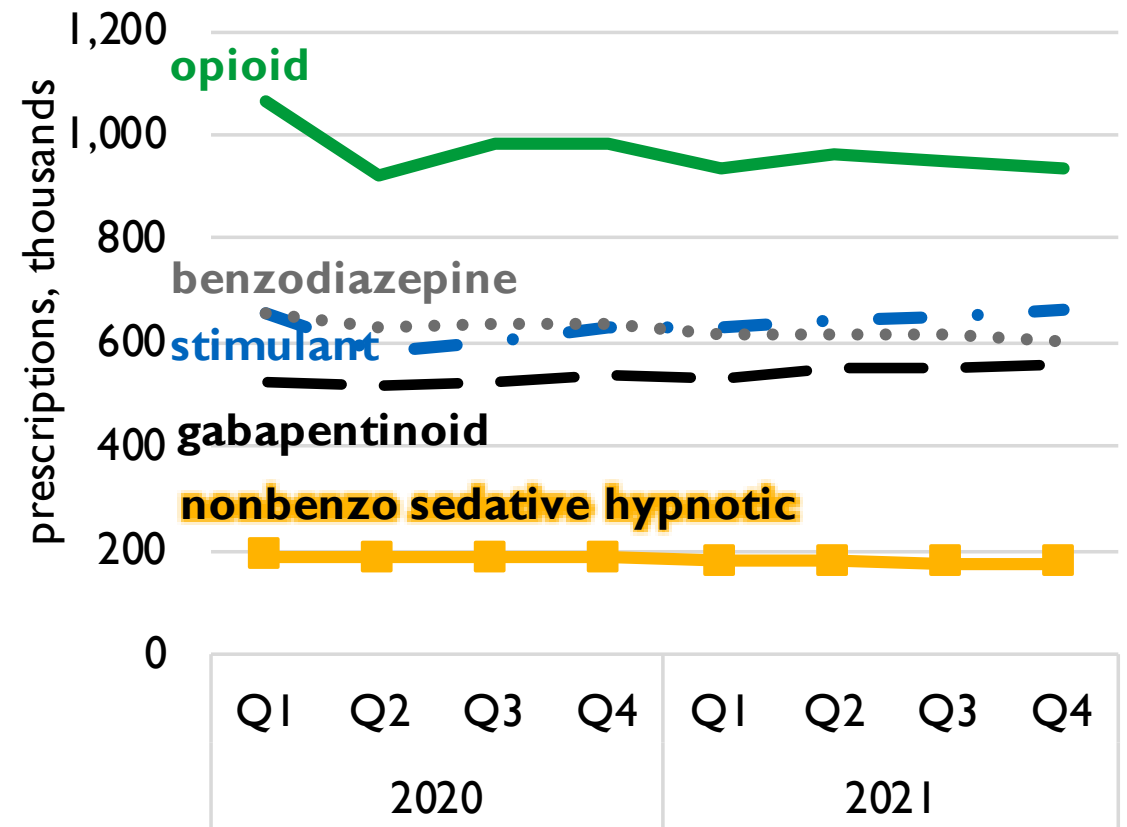
Benzodiazepine ↓ 8%

Stimulant ↑ 2%

Gabapentinoid ↓ 2%

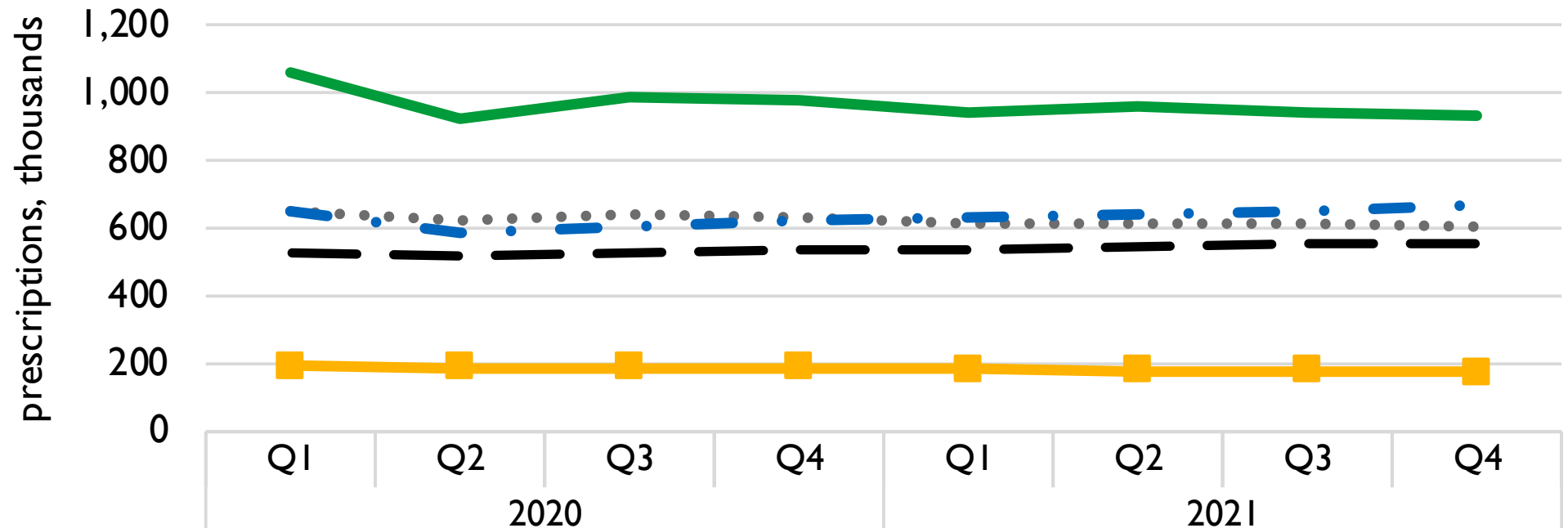
Nonbenzo sedative hypnotics ↓ 8%

Prescriptions dispensed by drug class, 2020Q1-2021Q4



*All opioids, including drugs not typically used in outpatient settings or otherwise not critical for calculating dosages in MME, such as cough and cold formulas including elixirs, and combination products containing antitussives, decongestants, antihistamines, and expectorants; opiate partial agonists (e.g., buprenorphine) is excluded

Prescriptions dispensed by drug class, 2020Q1-2021Q4



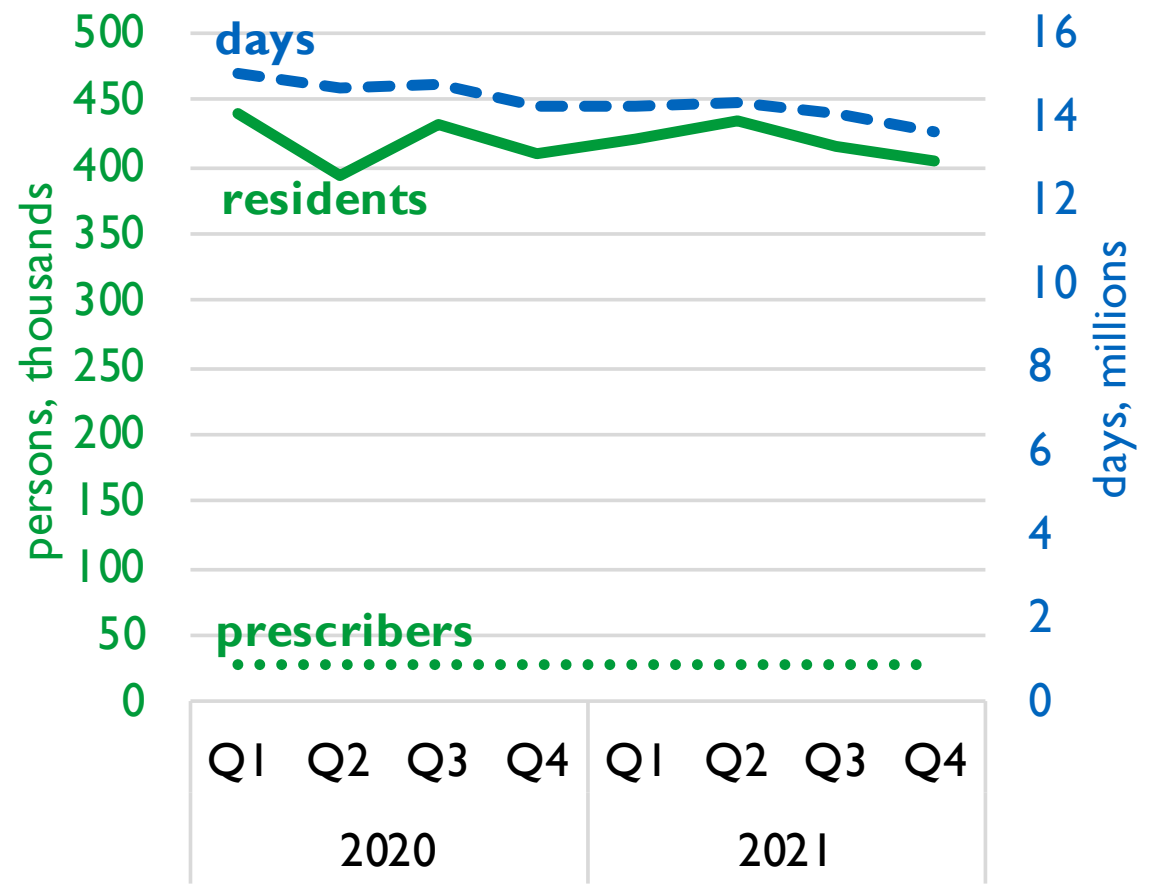
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	2020				2021			
opioid	1,065,206	923,984	985,155	981,355	938,804	961,488	946,676	934,875
benzodiazepine	654,955	626,449	638,793	634,728	617,959	615,087	614,047	601,015
stimulant	654,359	584,884	604,637	626,843	629,202	645,020	647,171	666,415
gabapentinoid	526,641	519,113	526,801	539,842	533,264	549,560	552,613	556,051
nonbenzo sedative hypnotic	189,704	184,901	186,404	185,384	180,375	178,033	176,662	175,214

*All opioids, including drugs not typically used in outpatient settings or otherwise not critical for calculating dosages in MME, such as cough and cold formulas including elixirs, and combination products containing antitussives, decongestants, antihistamines, and expectorants; opiate partial agonists (e.g., buprenorphine) is excluded

Opioid prescriptions

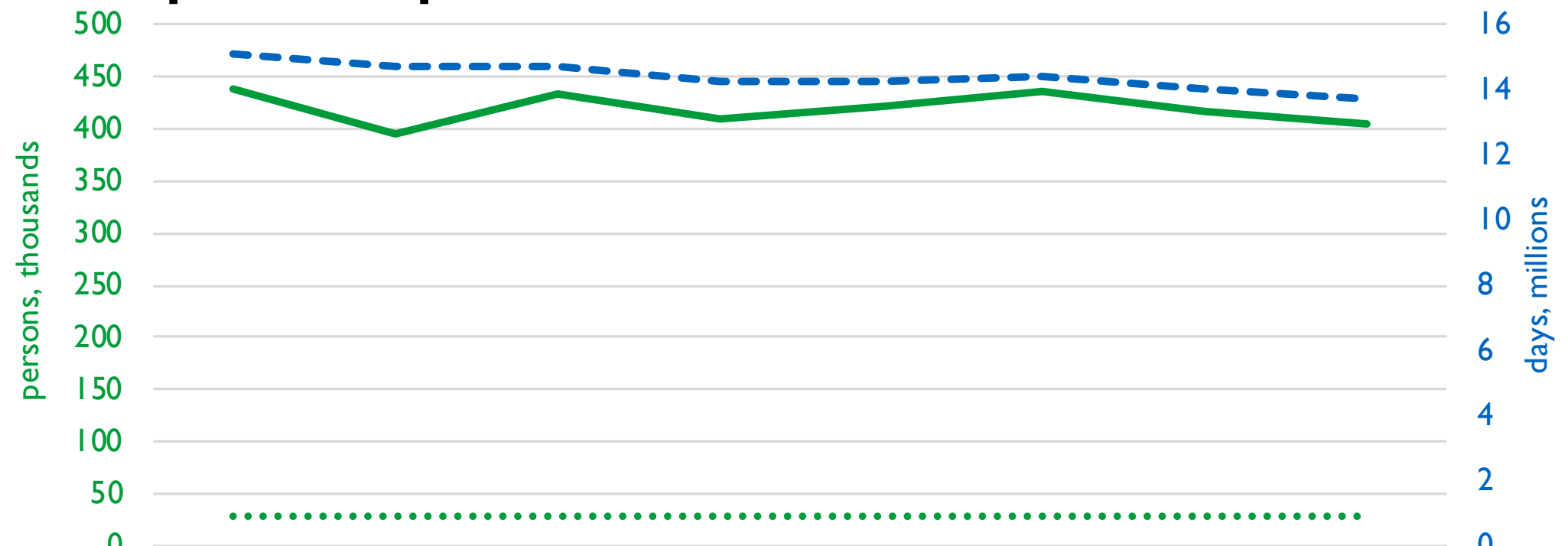
- 404,390 Virginia residents received an opioid prescription in 2021 Q4 from 27,659 unique prescribers
- 13,681,836 opioid prescription days for commonwealth residents during 2021 Q4
- Prescription days or days' supply refers to the number of days of medication prescribed

Opioid prescriptions for Virginia residents, 2020Q1-2021Q4



*CDC-defined opioids, excludes: 1) drugs not typically used in outpatient settings or otherwise not critical for calculating dosages in MME, such as cough and cold formulas including elixirs, and combination products containing antitussives, decongestants, antihistamines, and expectorants; 2) opiate partial agonists (e.g., buprenorphine)

Opioid prescriptions

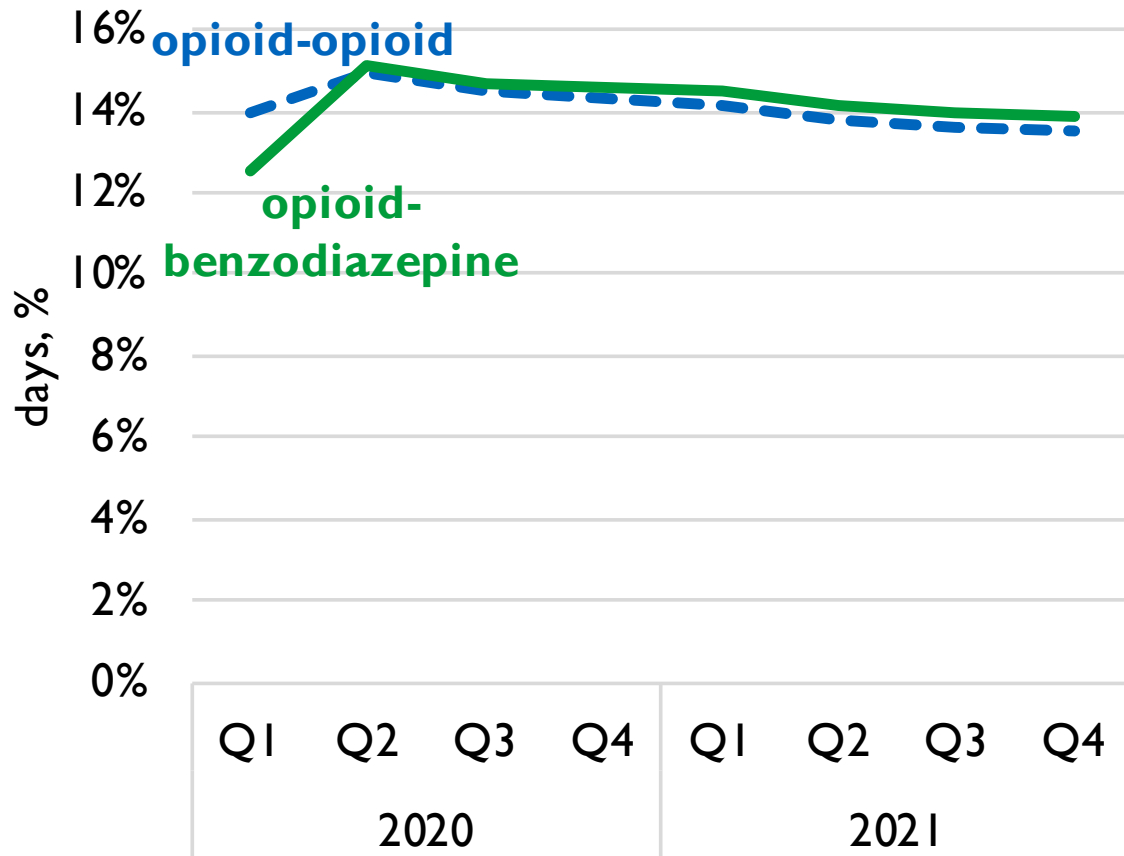


	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	2020				2021			
— residents	439,218	394,634	432,976	409,385	421,706	435,554	416,183	404,390
..... prescribers	29,438	27,649	28,471	27,862	27,757	28,384	28,204	27,659
- - - days	15,084,143	14,691,492	14,742,196	14,220,601	14,260,516	14,380,322	14,049,459	13,681,836

*CDC-defined opioids, excludes: 1) drugs not typically used in outpatient settings or otherwise not critical for calculating dosages in MME, such as cough and cold formulas including elixirs, and combination products containing antitussives, decongestants, antihistamines, and expectorants; 2) opiate partial agonists (e.g., buprenorphine)

Overlapping prescriptions

Overlapping opioid and opioid-benzodiazepine prescription days, 2020Q1-2021Q4



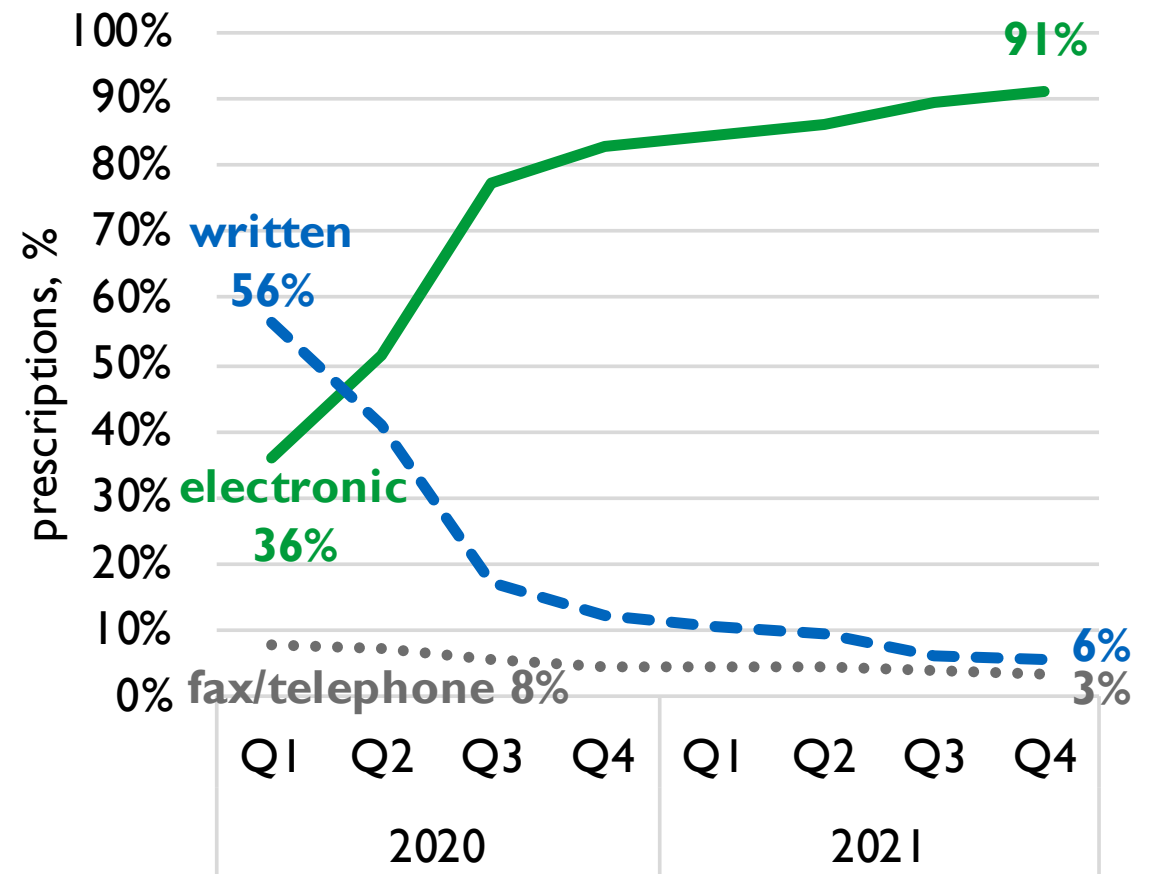
- Overlapping **opioid** prescriptions, which increase a patient's MME, and concurrent **opioid and benzodiazepine** prescribing increases the risk of overdose
- **Opioid-benzo** days appeared aberrant in 2020Q1 compared to prior and subsequent quarters
- **Opioid-opioid** days were comparable in 2021Q4 to 2020Q1 following a year of trending downward

*CDC-defined opioids, excludes: 1) drugs not typically used in outpatient settings or otherwise not critical for calculating dosages in MME, such as cough and cold formulas including elixirs, and combination products containing antitussives, decongestants, antihistamines, and expectorants; 2) opiate partial agonists (e.g., buprenorphine)

Electronic prescribing for opioids

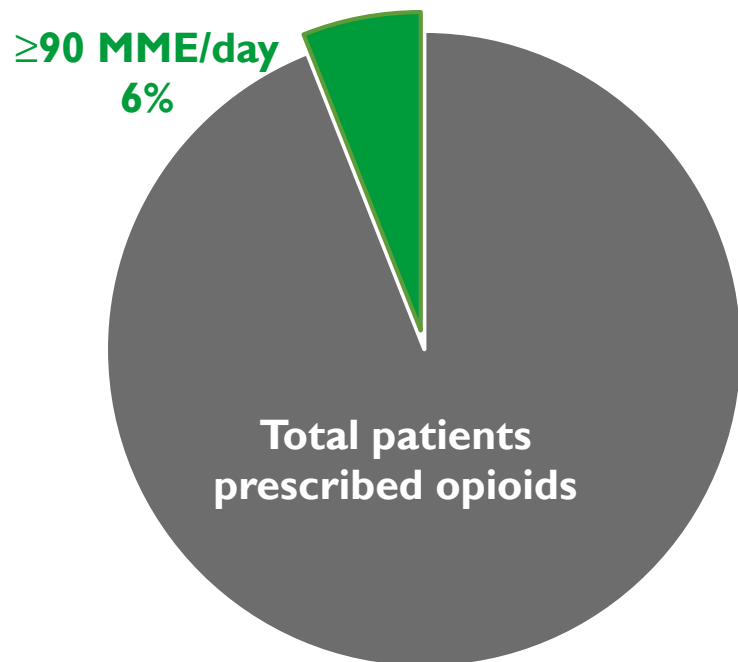
- Beginning July 1, 2020 any prescription containing an opioid must be transmitted electronically from the prescriber to the dispenser (*Code of Virginia* § 54.1-3408.02)
- 91% of opioid prescriptions were **electronic** in 2021Q4

Opioid prescriptions by transmission type, 2020Q1-2021Q4



Patients receiving ≥ 90 MME/day

Patients receiving ≥ 90 MME/day, 2021 Q4



- Morphine milligram equivalent (MME) allows comparison between the strength of different types of opioids
 - CDC guidelines specify dosages of ≥ 90 /day should be avoided due to risk for fatal overdose
- 6% of opioid prescription recipients had an average dose ≥ 90 MME/day (2021 Q4)

*CDC-defined opioids, excludes: 1) drugs not typically used in outpatient settings or otherwise not critical for calculating dosages in MME, such as cough and cold formulas including elixirs, and combination products containing antitussives, decongestants, antihistamines, and expectorants; 2) opiate partial agonists (e.g., buprenorphine)

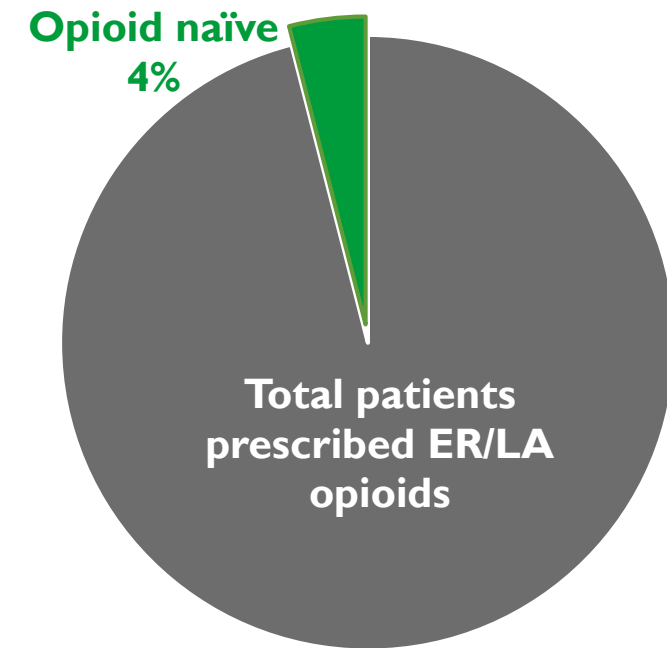
Reference: Dowell D, Haegerich TM, Chou R. CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016. MMWR Recomm Rep 2016;65(No. RR-1):1–49.

DOI: <http://dx.doi.org/10.15585/mmwr.rr6501e1>

Opioid naïve patients receiving ER/LA opioids

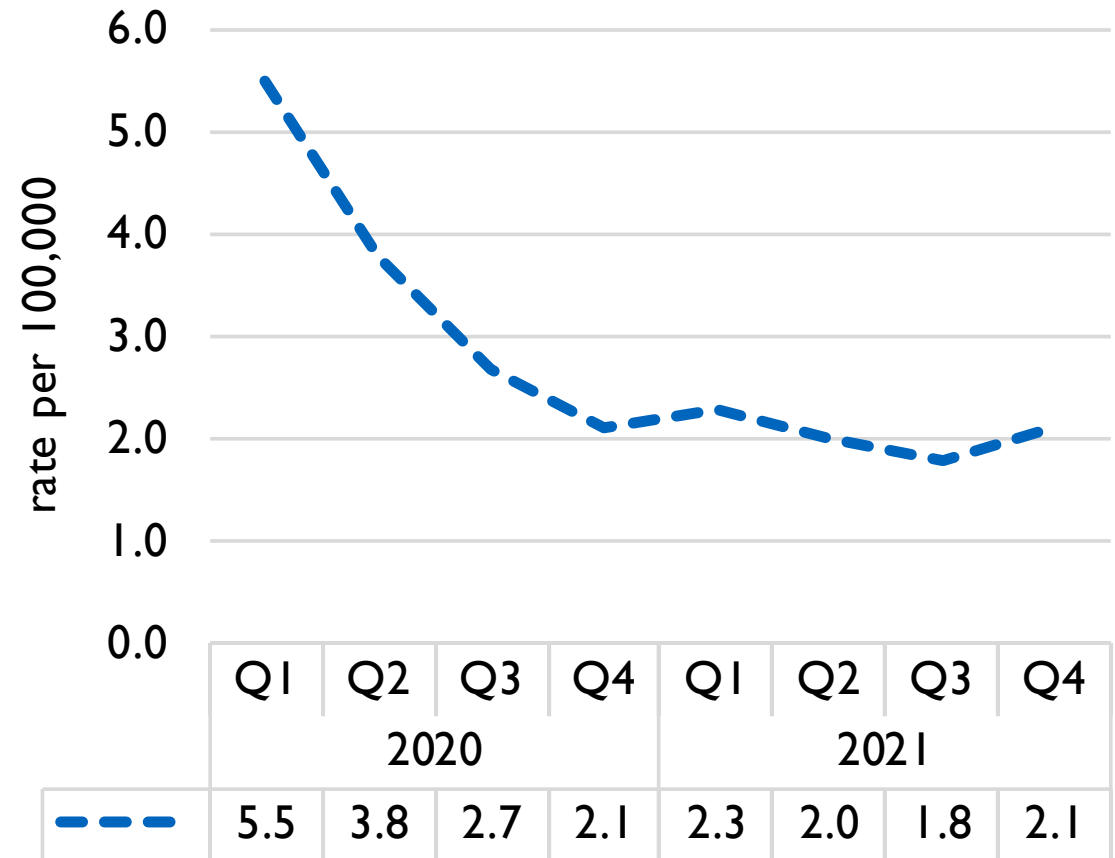
- Extended-release or long acting (ER/LA) opioids put patients at greater risk of respiratory depression and overdose compared to immediate-release (IR)
 - Opioid naïve patients are at particularly high risk of overdose from ER/LA opioids
- Opioid naïve refers to patients who have not taken an opioid medication within the previous 45 days

Opioid naïve patients receiving ER/LA opioids, 2021 Q4



Multiple provider episodes for opioids

- ≥ 5 prescribers and ≥ 5 pharmacies in a 6 month period
- Can be an indicator of doctor shopping and/or inadequate care coordination
- Between 2018Q1 and 2021Q4 dropped from 10.6 to 2.1 per 100,000



*CDC-defined opioids, excludes: 1) drugs not typically used in outpatient settings or otherwise not critical for calculating dosages in MME, such as cough and cold formulas including elixirs, and combination products containing antitussives, decongestants, antihistamines, and expectorants; 2) opiate partial agonists (e.g., buprenorphine)

Opioid prescriptions exceeding 120 MME/day

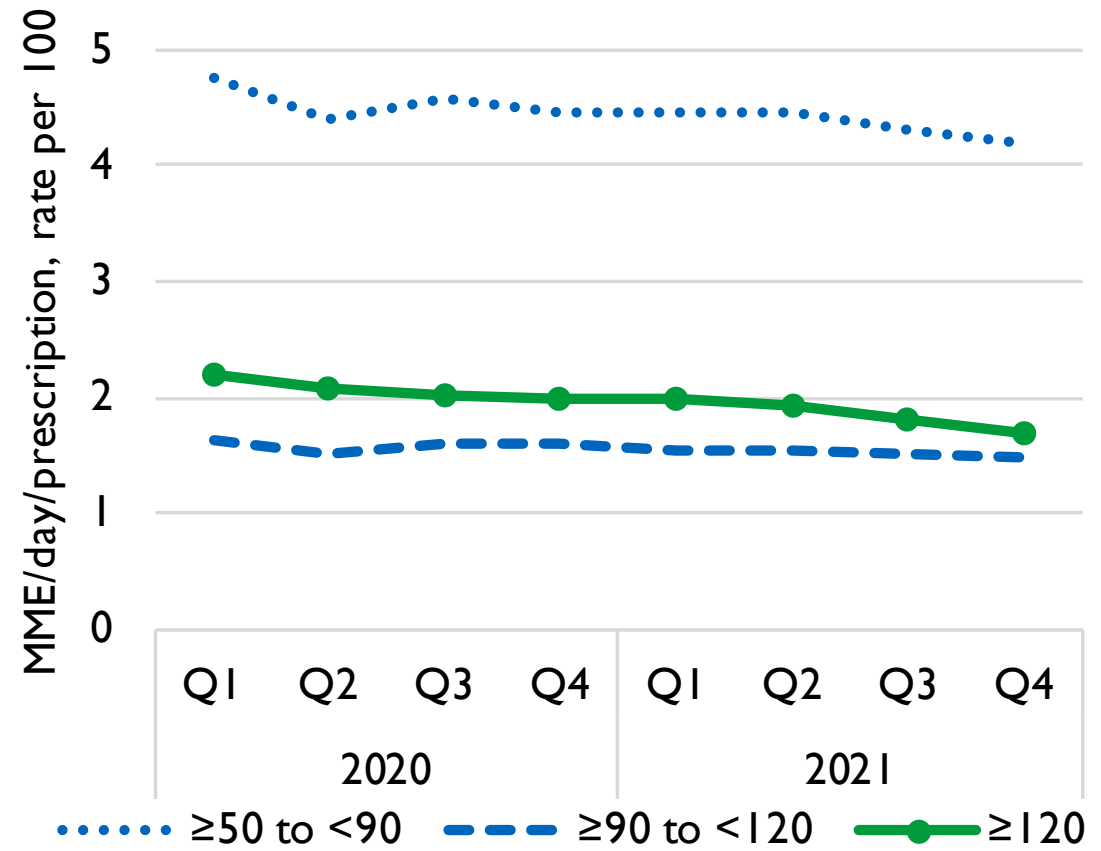
- *Regulations Governing Prescribing of Opioids and Buprenorphine (18VAC85-21-70)*

- Specific requirements of prescribers if exceeding 120 MME/d

- % change, 2020Q1-2021Q4

.....	≥50 to <90	-12%
----	≥90 to <120	-10%
—●—	≥120	-22%

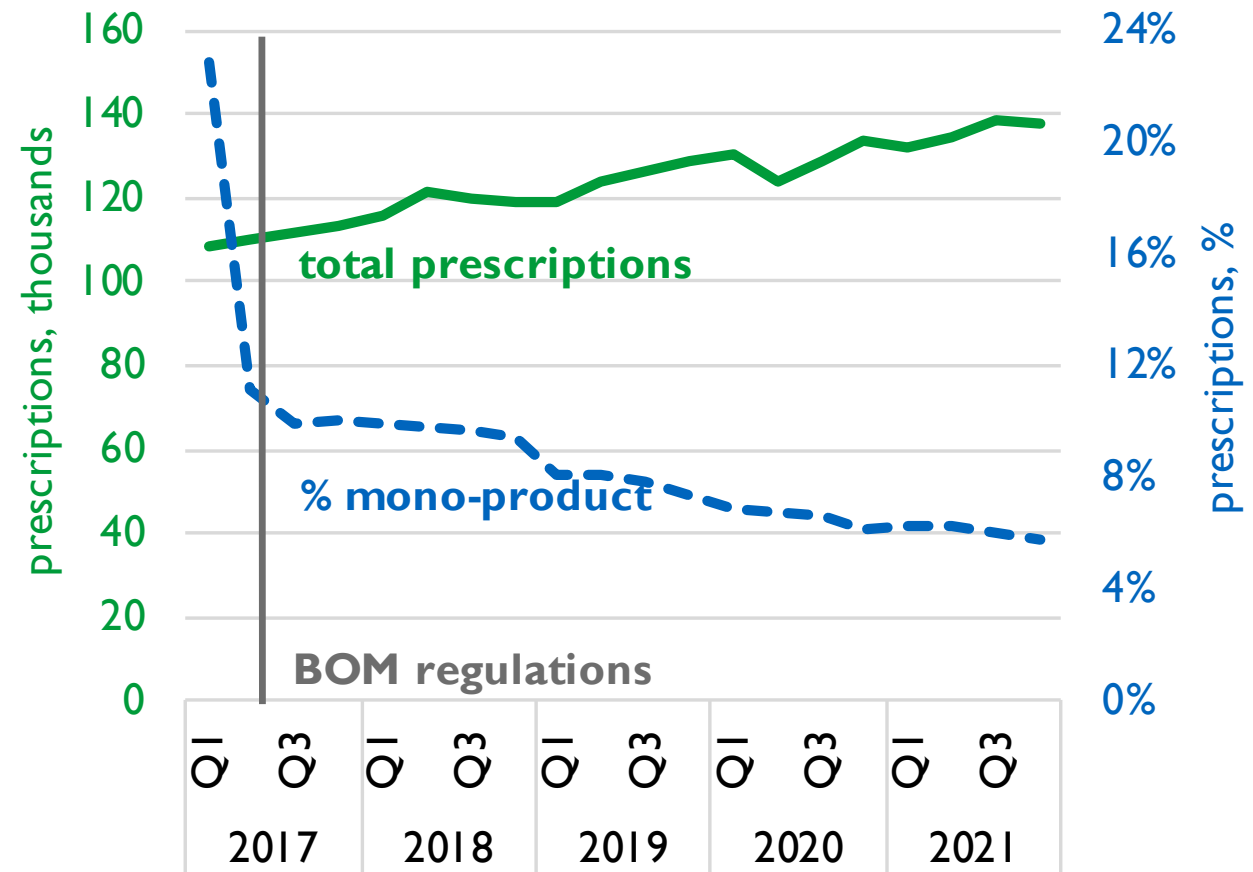
Opioid prescriptions by MME/day, 2020Q1-2021Q4



Buprenorphine

- *Regulations Governing Prescribing of Opioids and Buprenorphine (18VAC85-21-10, effective March 2017)*
 - Limited prescribing buprenorphine without naloxone (mono-product) for opioid use disorder (OUD)
- Buprenorphine is an opiate receptor partial agonist
- Immediate decline in mono-product prescriptions and continues to decrease marginally (6% in 2021 Q4)

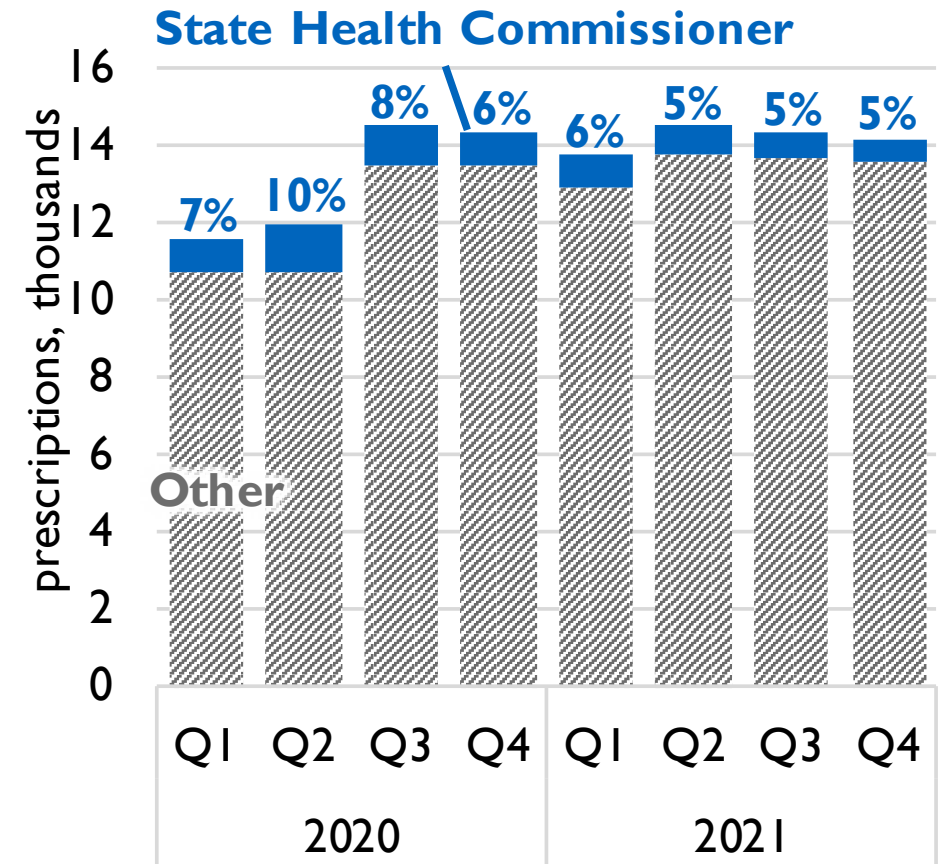
Buprenorphine prescribing for OUD, 2017Q1-2021Q4



Naloxone

- State Health Commissioner's standing order authorizes Virginia pharmacies to dispense naloxone without a prescription
- 5% of total dispensations in 2021 Q4 were dispensed using the standing order
- Naloxone became reportable to PMP as of July 1, 2018
 - Narcan[®] accounts for 99% of total naloxone dispensations

Naloxone prescriptions dispensed in pharmacies by prescriber, 2020Q1-2021Q4





Technical notes

- Covered substances
 - Schedule II-V medications, naloxone
 - Gabapentin is a Schedule V in Virginia
 - Cannabis oils from in state pharmaceutical processors
- PMP relies on pharmacies and other dispensers to submit accurate, timely information. Dispensers can correct or submit post-dated data at any time; therefore, PMP data is expected to change.
- Quarters referenced are based upon the calendar year.
- Buprenorphine is an opiate receptor partial agonist and is excluded from the opiate receptor full agonist analyses (i.e., “opioid”)
- Contact
 - Phone: 804.367.4514
 - Fax: 804.527.4470
 - Email: pmp@dhp.virginia.gov
 - PMP website:
https://www.dhp.virginia.gov/dhp_programs/pmp/
 - PMP database:
<https://virginia.pmpaware.net/login>