



# ANNUAL REPORT - 2015

## VERMONT PRESCRIPTION MONITORING SYSTEM

# What is the Vermont Prescription Monitoring System?

- In 2006, the Vermont Legislature passed Act 205 authorizing the Vermont Department of Health to establish and operate a Prescription Drug Monitoring Program (PDMP).
- Vermont's PDMP, known as the Vermont Prescription Monitoring System (VPMS), became operational in January of 2009.
- The VPMS is a statewide electronic database of controlled substance prescriptions dispensed from Vermont-licensed pharmacies.

# VPMS Data Collection

- Act 205 stipulates that Vermont-licensed pharmacies must upload data on all dispensed Schedule II, III, and IV controlled substances to VPMS.
  - ▣ Schedule II – Drugs with a high potential for abuse, use may potentially lead to severe psychological or physical dependence. These drugs are considered dangerous.
    - Examples include: oxycodone, fentanyl, amphetamine, and methylphenidate.
  - ▣ Schedule III – Drugs with a moderate to low potential for physical or psychological dependence.
    - Examples include: products containing not more than 90 mg of codeine per dosage unit, buprenorphine, and anabolic steroids.
  - ▣ Schedule IV – Drugs with a moderate to low potential for abuse and low risk of dependence.
    - Examples include: clonazepam, diazepam, and alprazolam.
- Controlled substance data collected from Vermont-licensed pharmacies includes information on the:
  - ▣ Prescribed drug
  - ▣ Recipient of the prescribed drug
  - ▣ Health care provider who wrote the prescription
  - ▣ Pharmacy that dispensed the prescription

**Note:** Irrespective of how drugs are scheduled relative to each other, all controlled substances have the potential for abuse and misuse.

# Data Limitations

- VPMS does not currently collect data on controlled substances dispensed from:
  - ▣ Emergency rooms
  - ▣ Veterinarian offices
  - ▣ Opioid treatment programs (OTPs) that dispense methadone and buprenorphine for opioid addiction
- Data submitted to VPMS by pharmacies can contain errors. Each data upload from a pharmacy is screened for errors and sent back to the pharmacy to be corrected if errors are discovered. However, not all errors are found or corrected.

# How is VPMS used?

- VPMS is a clinical tool that exists to promote the appropriate use of controlled substances for legitimate medical purposes, while deterring the misuse, abuse, and diversion of controlled substances.
- VPMS also serves as a surveillance tool that is used to monitor statewide trends in the prescribing, dispensing, and use of controlled substances.
- This report summarizes VPMS surveillance data for all Schedule II – IV prescriptions that were dispensed from Vermont-licensed pharmacies from 01/01/2010 to 12/31/2015.

# Total Number of Prescriptions and Recipients by Year

During the last six years, Vermont-licensed pharmacies dispensed more than 6.5 million prescriptions for Schedule II, III, and IV controlled substances.

The annual number of controlled substance prescriptions dispensed has increased slightly during this time while the number of unique recipients of at least one controlled substance prescription has decreased slightly.

## Total Number of Controlled Substance Prescriptions and Recipients by Year

	Total # of Prescriptions	Total # of Recipients	% of VT Residents
2010	1,070,854	193,035	29%
2011	1,072,062	190,009	28%
2012	1,081,730	186,926	28%
2013	1,083,612	182,885	27%
2014	1,111,471	184,402	29%
2015	1,188,227	176,355	28%

# Drug Type Definitions

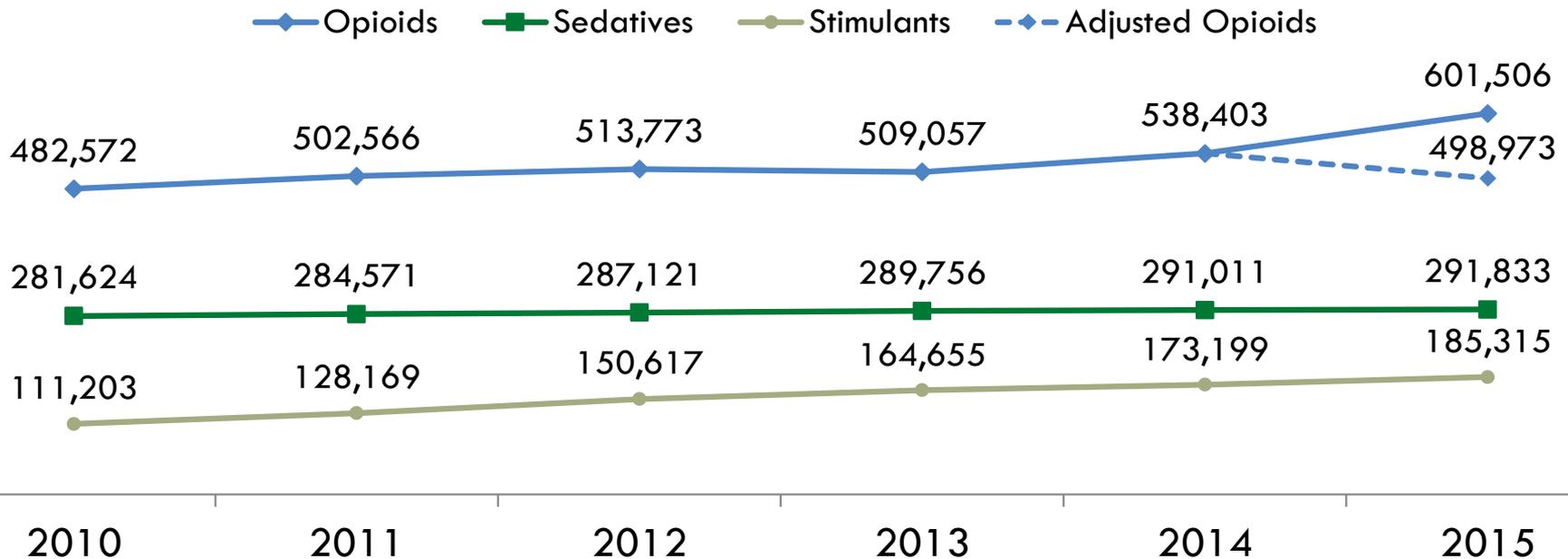
For the purposes of this report, the following drug types were defined using the U.S. Food and Drug Administration's established pharmacologic class (EPC).

- Opioids
  - EPCs: Opioid Agonist, Opioid Agonist/Antagonist, Opioid Antagonist, Partial Opioid Agonist, Partial Opioid Agonist/Antagonist
  - Examples: oxycodone, hydrocodone, fentanyl, morphine, buprenorphine, methadone
- Sedatives
  - EPCs: Barbiturate, Benzodiazepine, Central Nervous System Depressant, Muscle Relaxant
  - Examples: lorazepam, clonazepam, diazepam, carisoprodol, alprazolam
- Stimulants
  - EPCs: Central Nervous System Stimulant, Amphetamine Anorectic
  - Examples: methylphenidate, lisdexamfetamine, dextroamphetamine/amphetamine,
- Hormones
  - EPCs: Androgen, Estrogen
  - Examples: testosterone, esterified estrogens/methyltestosterone
- Cannabinoids
  - EPCs: Cannabinoid
  - Examples: tetrahydrocannabinol

# Number of Prescriptions by Drug Type and Year

- Opioids account for approximately 48% of the controlled substances dispensed in VT on an annual basis. Sedatives account for approximately 26%.
- The adjusted opioid prescription total indicates that fewer opioid prescriptions were dispensed in 2015. (See the note below for details.)

**Total Number of Controlled Substance Prescriptions by Drug Type and Year**

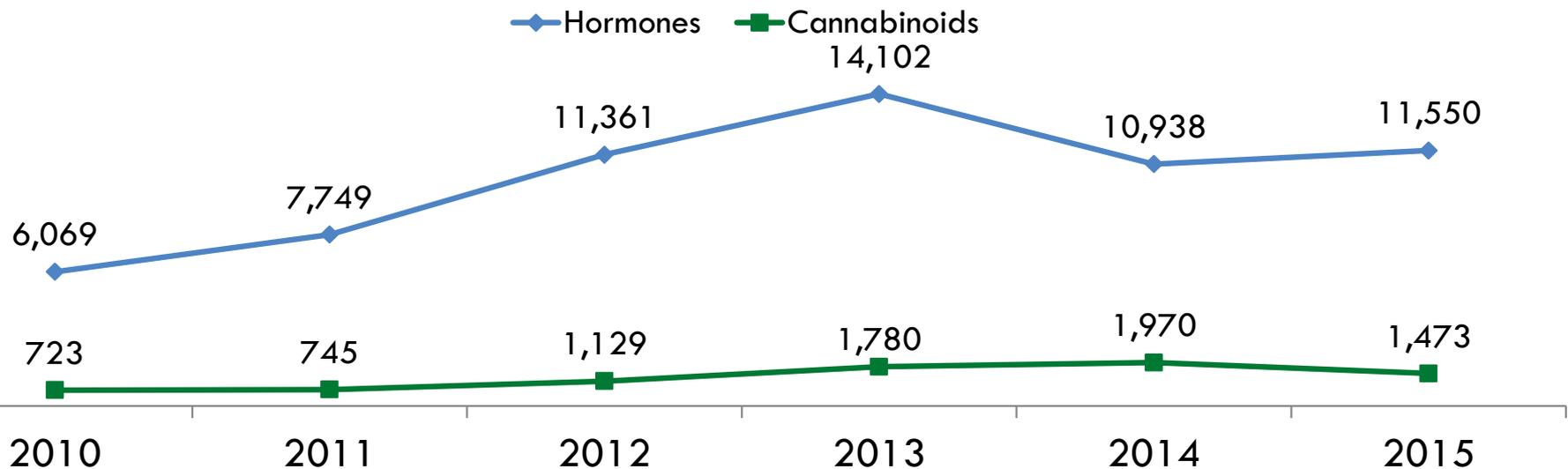


**Note:** The 2015 Annual Report reflects the first full year of VPMS data with tramadol reclassified from a Schedule V to a Schedule IV drug. Its inclusion in VPMS data due to this reclassification resulted in an increase of 82,992 opioid prescriptions being reported to VPMS 2015. Additionally, the White River Junction Veterans Affairs Medical Center began uploading to VPMS in March of 2015. It uploaded 19,541 opioid prescriptions in 2015. Had these two new data sources not been provided to VPMS in 2015, the number of opioid prescriptions would have decreased for the first time since 2010. (See the Adjusted Opioids trend line.)

# Number of Prescriptions by Drug Type and Year (cont.)

- While the number of dispensed prescriptions for hormones and cannabinoids is much lower than opioids, sedatives, or stimulants, the rate at which they are dispensed has seen a disproportionately greater increase over the last six years.

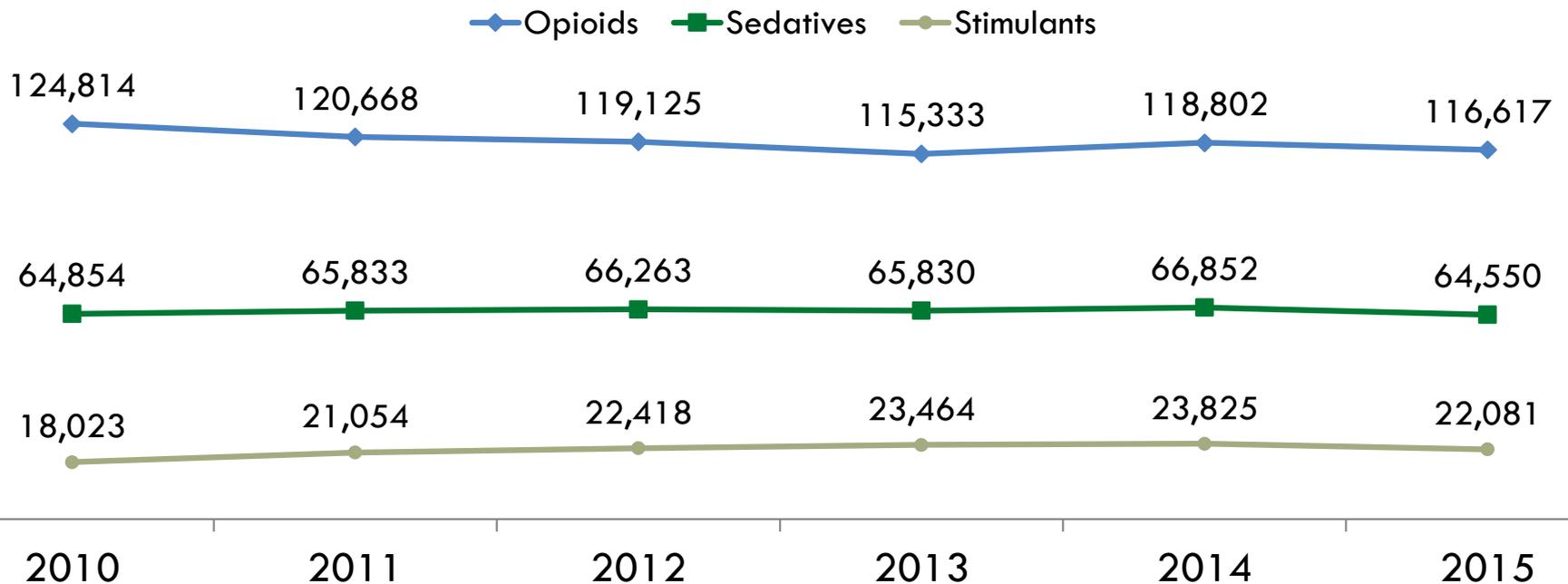
**Total Number of Controlled Substance Prescriptions by Drug Type and Year**



# Number of Recipients by Drug Type and Year

- Opioids were dispensed to more recipients than any other drug type, followed by sedatives and stimulants.

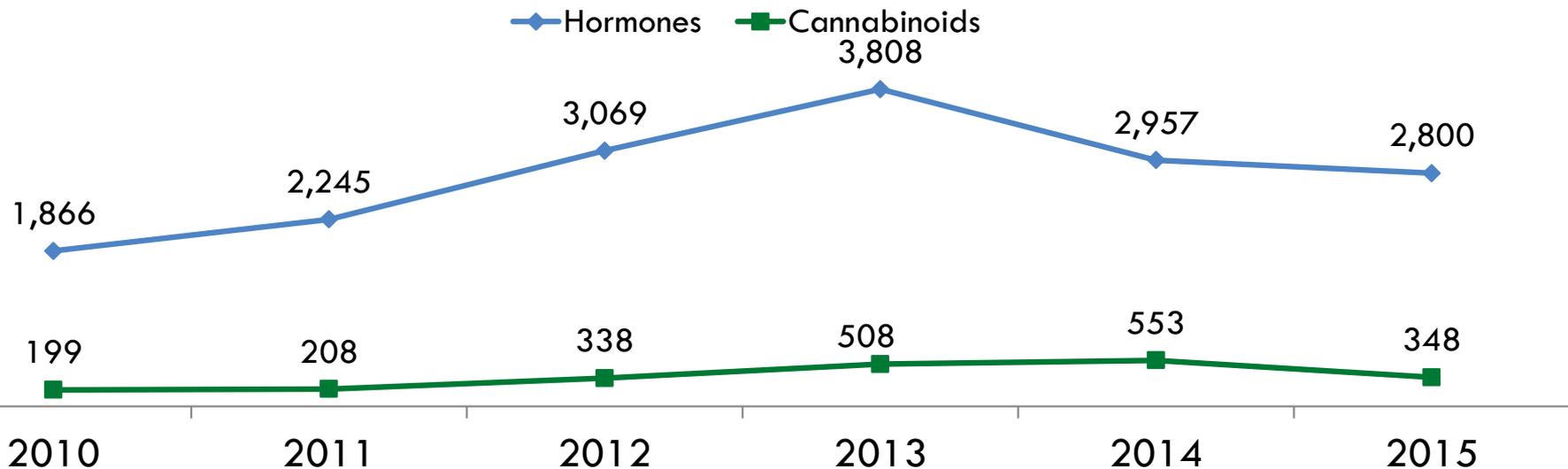
**Total Number of Controlled Substance Recipients by Drug Type and Year**



# Number of Recipients by Drug Type and Year (cont.)

- Hormones and cannabinoids were dispensed to far fewer recipients than other drug types. However, the number of recipients receiving these drug types has increased.

**Total Number of Controlled Substance Recipients by Drug Type and Year**



# Changes in Prescription and Recipient Totals by Drug Type

- There were fewer opioid and sedatives recipients in 2015 than 2010 despite the increase in prescriptions associated with these drug types during the same time.
- There were marked increases of both prescriptions and recipients in the stimulant, hormone, and cannabinoid drug types in 2015 than 2010.

## Changes in Prescription and Recipient Totals by Drug Type from 2010 to 2015

	% Change – Prescriptions	Change in # of Prescriptions	% Change - Recipients	Change in # of Recipients
<b>Opioids</b>	25%	118,934	-7%	-8,197
<b>Sedatives</b>	4%	10,209	0%	-304
<b>Stimulants</b>	67%	74,112	23%	4,058
<b>Hormones</b>	90%	5,481	50%	934
<b>Cannabinoids</b>	104%	750	75%	149

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# Opioid Prescription Total by Year and Clinical Application

- Opioid prescriptions can be broken down into two broad categories based on their clinical application:
  - ▣ Analgesics are prescribed to treat pain
  - ▣ Opioids used in medication-assisted treatment (MAT drugs) are prescribed to help treat opioid addiction

## Total Number of Opioid Prescriptions by Year and Clinical Application

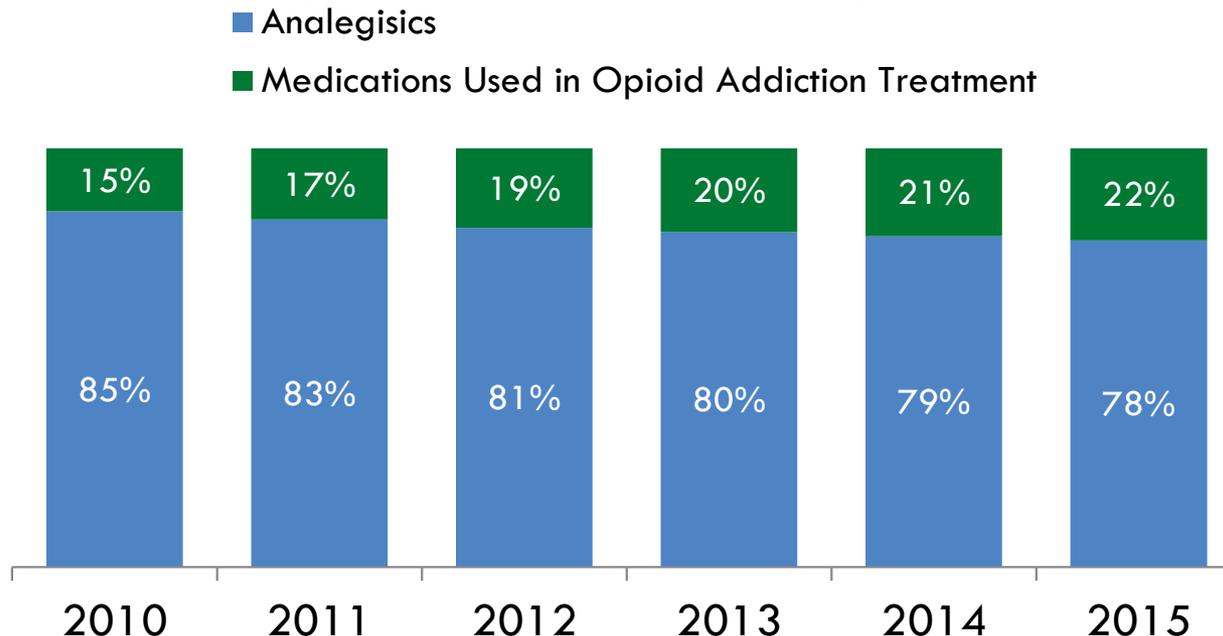
	All Opioids	Analgesics	MAT Drugs
2010	482,572	410,600	71,972
2011	502,566	415,846	86,720
2012	513,773	416,204	97,569
2013	509,057	405,953	103,104
2014	538,403	426,007	112,395
2015	601,506	470,008	131,494

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# Opioid Prescriptions by Clinical Application and Year

- Nearly 80% of opioid prescriptions dispensed in 2015 were analgesics.
- Despite the fact that analgesics and MAT drug prescription totals have both increased in the past six years, MAT drugs represent a growing proportion of all opioid prescriptions.

**Percent of Opioid Prescriptions by Clinical Application and Year**



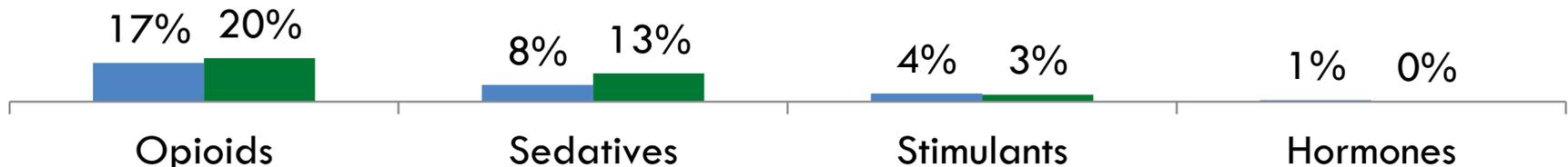
**Note:** The only medication used in opioid addiction treatment that is reported to VPMS is buprenorphine. Methadone is not represented in VPMS data because it is dispensed from opioid addiction treatment programs that are prohibited from reporting to VPMS.

# Recipients by Drug Type and Sex in 2015

- Women received more prescriptions for opioids and sedatives than men in 2015.
- Men received more prescriptions for stimulants and hormones than women in 2015.
- These differences remain when data are analyzed by the number of prescriptions instead of the number of recipients.
- Prescriptions for cannabinoids are not represented in the chart below because they were prescribed to less than 1% of Vermont's total population.

**Total Number of Recipients Represented as Percentage of Vermont Population  
by Drug Type and Sex in 2015**

■ Male ■ Female

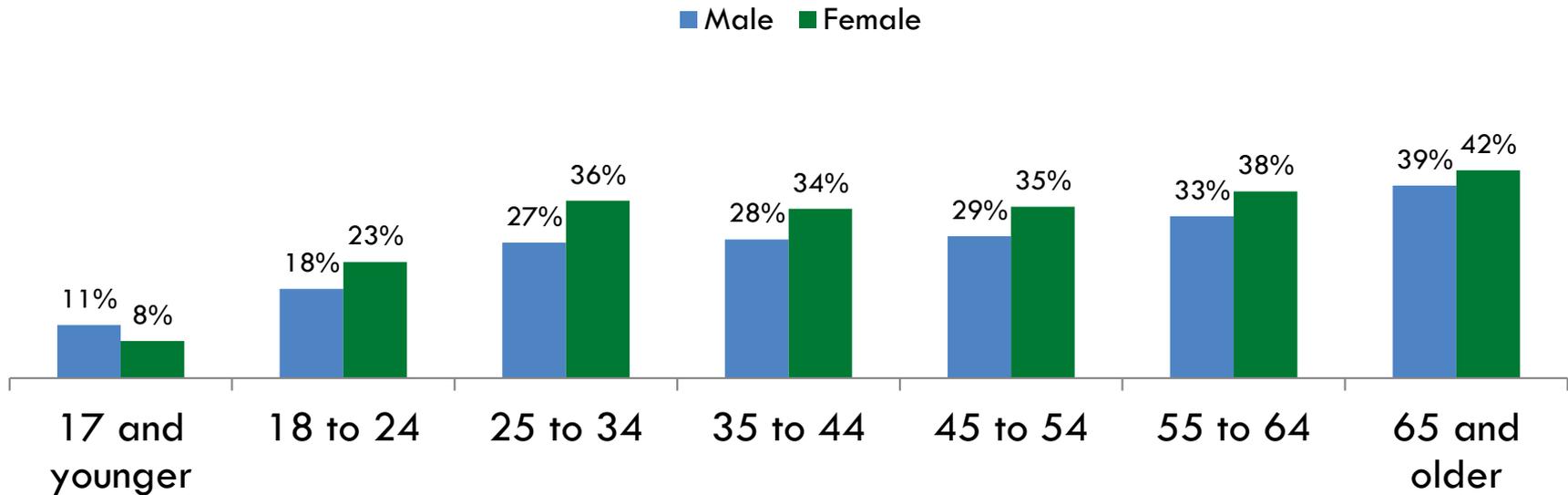


**Note:** Recipients are counted more than once if they received prescriptions from more than one drug type.

# Percent of Recipients by Age and Sex

- Women received more controlled substance prescriptions than men in all age groups except for the 17 and younger age group.

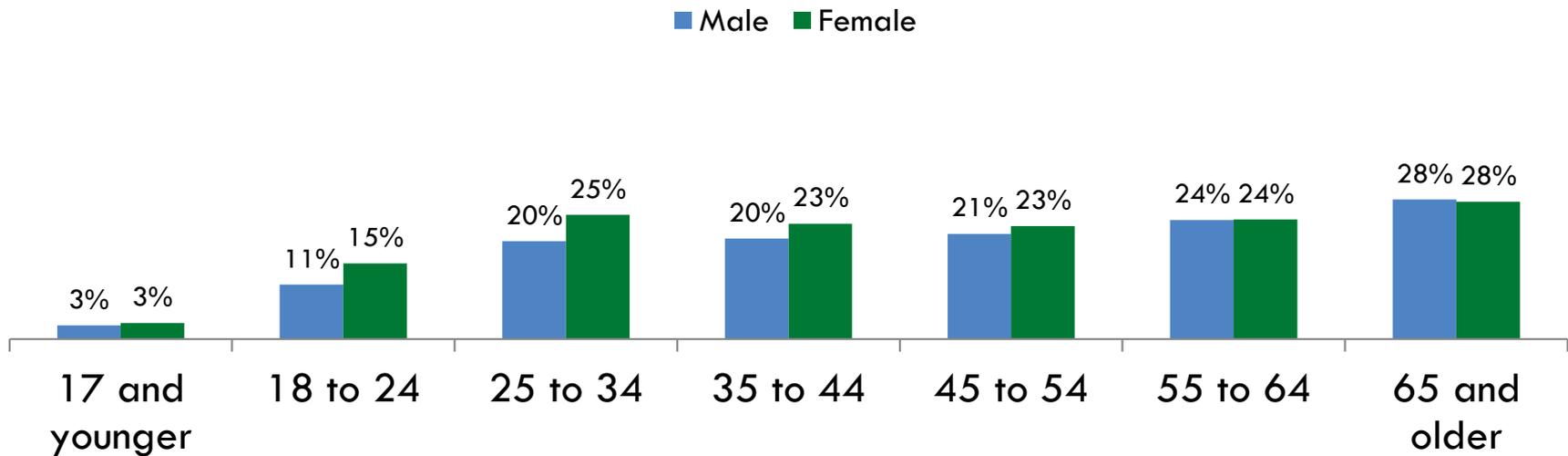
**Percentage of Vermont Population That Received At Least One Prescription for a Controlled Substance by Age and Sex in 2015**



# Percent of Opioid Recipients by Age and Sex

- Women received more opioid prescriptions than men in almost all age groups.

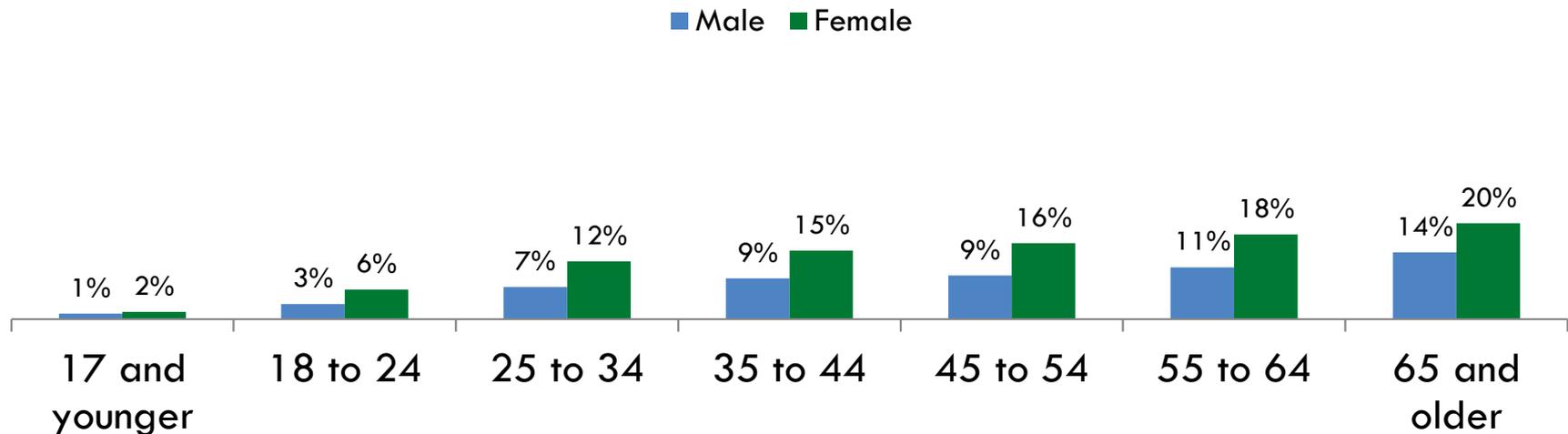
**Percentage of Vermont Population That Received At Least Once Prescription for an Opioid by Age and Sex in 2015**



# Percent of Sedative Recipients by Age and Sex

- Women received more sedative prescriptions than men in all age groups.
- In general, sedative use increases with age.

**Percentage of Vermont Population That Received At Least One Prescription for a Sedative by Age and Sex in 2015**

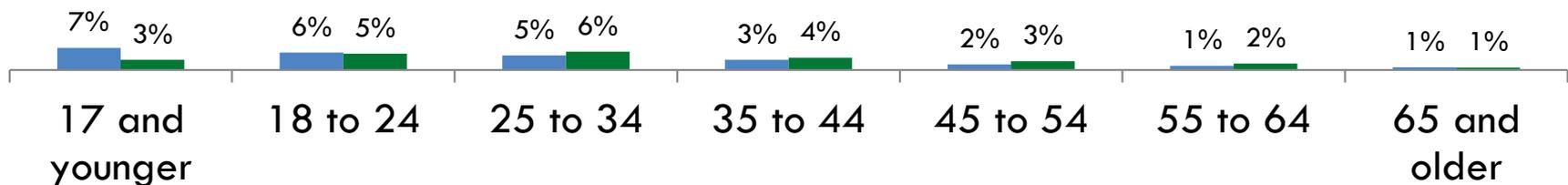


# Percent of Stimulant Recipients by Age and Sex

- Young males received more stimulant prescriptions than young females. Notably, 7% of Vermont males under 18 received a stimulant prescription.
- Males received over 70% of all stimulant prescriptions dispensed to recipients in the 17 and younger age group.

**Percentage of Vermont Population That Received At Least One Prescription for a Stimulant by Age and Sex in 2015**

■ Male ■ Female



# Percent of Vermonters Receiving At Least One Prescription by County

- In 2015, approximately 95% of all prescriptions for controlled substances that were dispensed by Vermont licensed pharmacies were dispensed to Vermont residents.
- One quarter (25%) of Vermont residents received at least one prescription for a controlled substance in 2015.
- The range among Vermont counties was quite wide. In Essex County, 15% of residents received a controlled substance, whereas in Bennington and Rutland counties 30% did.
- Note that county totals do not include recipients who filled their prescriptions out of state.

County	Recipients	% of Pop
Addison	9,053	24%
Bennington	10,918	30%
Caledonia	7,224	23%
Chittenden	39,138	24%
Essex	949	15%
Franklin	12,617	26%
Grand Isle	1,906	27%
Lamoille	7,111	28%
Orange	6,167	21%
Orleans	7,416	27%
Rutland	17,833	30%
Washington	15,539	26%
Windham	12,452	28%
Windsor	11,279	20%
All VT	159,602	25%

# Percent of Vermonters Receiving At Least One Opioid Prescription by County

- Approximately one in five (17%) Vermont residents received at least one prescription for an opioid in 2015.
- The percentage of residents having received an opioid prescription in 2015 ranged from 11% in Essex County to 21% in Rutland County.

County	Recipients	% of Pop
Addison	5,898	16%
Bennington	7,405	20%
Caledonia	5,055	16%
Chittenden	23,955	15%
Essex	674	11%
Franklin	9,206	19%
Grand Isle	1,329	19%
Lamoille	4,894	20%
Orange	3,999	14%
Orleans	5,095	19%
Rutland	12,731	21%
Washington	9,816	17%
Windham	8,105	19%
Windsor	7,719	14%
All VT	105,881	17%

# Percent of Vermonters Receiving At Least One Sedative Prescription by County

- One in ten (10%) Vermont residents received at least one prescription for a sedative in 2015.
- The percentage of residents having received a sedative prescription in 2015 ranged 5% in Essex County to 11% in five counties.

County	Recipients	% of Pop
Addison	3,420	9%
Bennington	4,105	11%
Caledonia	2,426	8%
Chittenden	15,169	9%
Essex	306	5%
Franklin	4,302	9%
Grand Isle	661	9%
Lamoille	2,707	11%
Orange	2,421	8%
Orleans	2,797	10%
Rutland	6,443	11%
Washington	6,383	11%
Windham	4,737	11%
Windsor	4,187	7%
All VT	60,064	10%

# Percent of Vermonters Receiving At Least One Stimulant Prescription by County

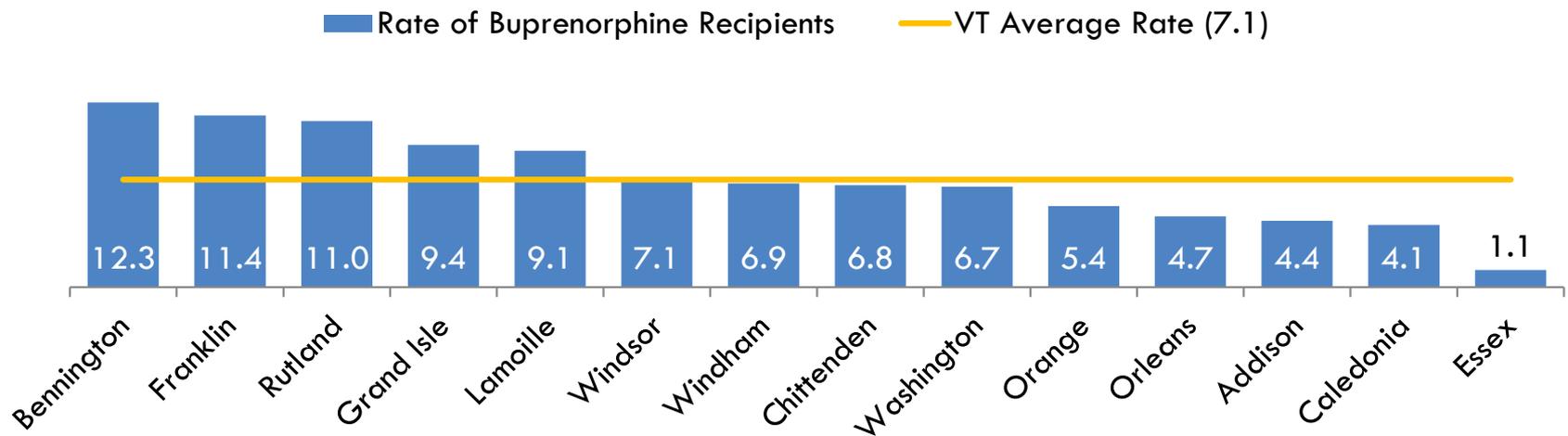
- Very few (3%) Vermont residents received at least one prescription for a stimulant in 2015.
- The percent of residents having received a stimulant prescription in 2015 ranged from 1% Essex County to 5% in Windham County.

County	Recipients	% of Pop
Addison	1,063	3%
Bennington	1,342	4%
Caledonia	914	3%
Chittenden	5,531	3%
Essex	91	1%
Franklin	1,089	2%
Grand Isle	182	3%
Lamoille	853	3%
Orange	744	3%
Orleans	752	3%
Rutland	1,727	3%
Washington	2,085	4%
Windham	2,239	5%
Windsor	1,186	2%
All VT	19,798	3%

# Rate of Vermonters Receiving at least one Buprenorphine Prescription per 1,000 Vermonters By County

- The rate of Buprenorphine recipients varies by county.
- Buprenorphine can be used for pain relief, but is primarily used to treat individuals with opioid dependence.
- VPMS cannot track medications used to treat opioid dependence that are dispensed from opioid addiction programs (OTPs) due to Federal Regulations (42 CFR Part 2).

## Rate per 1,000 Vermonters Receiving At Least One Buprenorphine Prescription



# VPMS & Proactive Reporting

VPMS proactively sends notifications to prescribers to alert them to patients who have visited multiple prescribers and/or pharmacists. These activities can indicate potential high-risk activity among their patients. (Examples of high-risk activities include doctor shopping, drug diverting, or receiving simultaneous prescriptions of potentially dangerous drug combinations.)

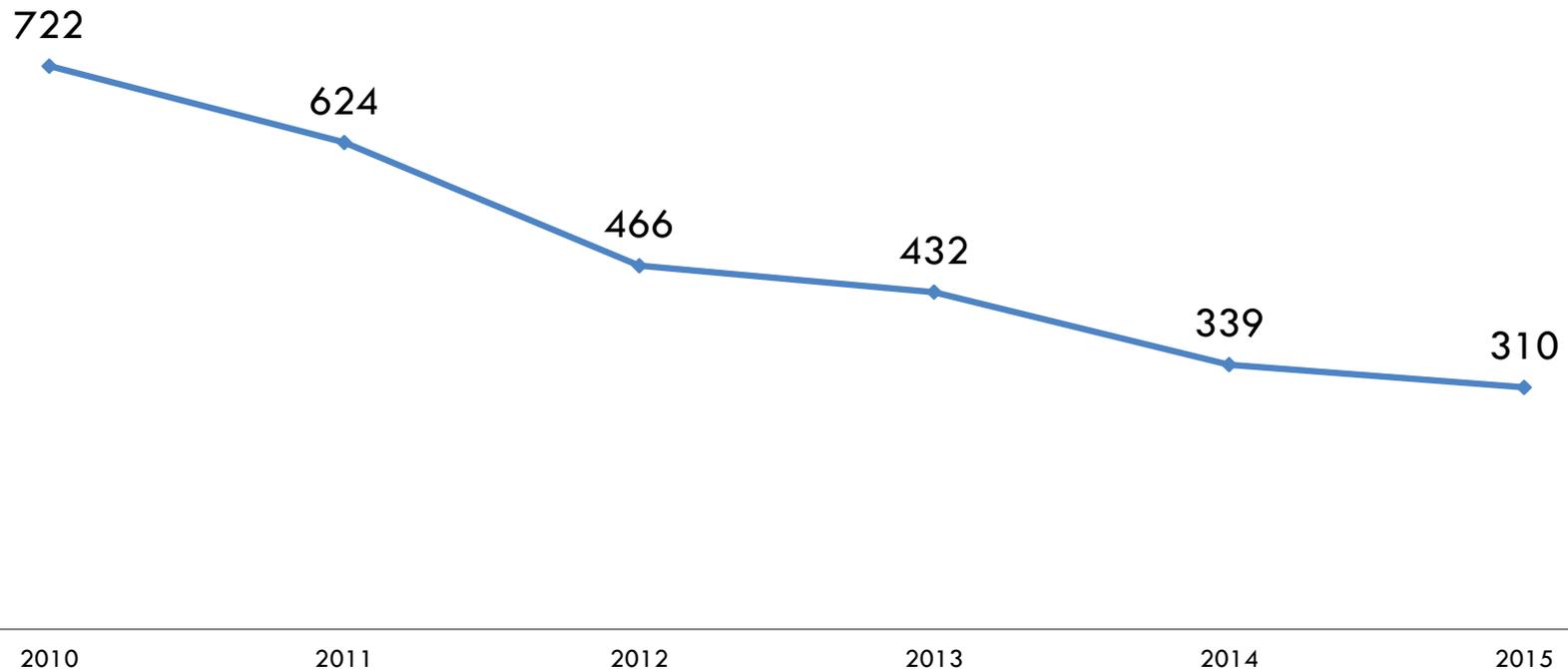
The goal of proactive reporting is to help prescribers make better decisions about prescribing controlled substances (particularly to high-risk patients), thus improving clinical care and promoting the appropriate use of controlled substances. These notifications can also inform prescribers about VPMS and its clinical value, thereby boosting awareness of VPMS in a manner that promotes an increased use of VPMS data and, consequently, better patient outcomes.

The number of these patient notifications have decreased over time, meaning that fewer patients are seeing multiple prescribers and/pharmacists, leading the program to conclude that they have had some effect on prescribing practices in Vermont.

# VPMS Proactive Reports: Trend Data

- Since 2010, the number of patients identified by VPMS as visiting multiple prescribers and/or pharmacists has declined steadily, indicating a decrease in prescribing to high-risk patients.

**Number of Patients Whose Prescribers Were Sent a Proactive Report by Year**



# VPMS & Zohydro Prescribing In Vermont

Zohydro was approved by the FDA in 2014 and is the brand name of the first pure hydrocodone product in the U.S.

Zohydro is an extended release opioid analgesic intended to treat severe chronic pain that requires long term around-the-clock opioid treatment and for which alternative treatment options have proven to be inadequate.

As a result of its extended release formulation, Zohydro is up to five times stronger than the highest strength normal release hydrocodone. Its unusual strength and its lack of abuse deterrents make Zohydro an opioid analgesic that is particularly prone to being misused, abused, or diverted.

As a result, VDH implemented its **Rule Governing the Prescription of Extended Release Hydrocodones Manufactured Without Abuse-Deterrent Formulation** in August of 2014 in order to ensure that Zohydro (and any similar extended release hydrocodone formulations) was prescribed responsibly and only after other medications were found to be ineffective.

VPMS data is screened weekly in order to identify new Zohydro prescriptions and track the drug's use in Vermont. Results of these efforts indicate that Zohydro sees very minimal use in Vermont and, when it is used, Zohydro is prescribed responsibly.

# Number of Zohydro Prescriptions and Recipients

Zohydro has been prescribed very infrequently in Vermont as compared to other states that monitored its use in 2015.

**Total Number of Zohydro Prescriptions and Number of Zohydro prescriptions per 1,000 State Residents in 2015**

	<b>Total # of Zohydro Prescriptions</b>	<b># of Zohydro Rx's per 1,000 State Residents</b>
<b>Vermont</b>	8	0.013
<b>Delaware</b>	41	0.044
<b>Florida</b>	2,936	0.148
<b>Idaho</b>	340	0.209
<b>Kentucky</b>	259	0.059
<b>Louisiana</b>	1,217	0.263
<b>Ohio</b>	1,012	0.087
<b>Texas</b>	3,679	0.137

# Contact VPMS

- This report and more information can be found on the VPMS website:  
<http://www.healthvermont.gov/adap/VPMS.aspx>
- If you have questions that can't be answered using this report, please contact the VPMS staff.
  - ▣ Programmatic questions can be directed to the program manager, Hannah Hauser at:  
[Hannah.Hauser@vermont.gov](mailto:Hannah.Hauser@vermont.gov)  
or  
(802) 652-4147
  - ▣ Data-related questions can be directed to the program analyst, David Horton at:  
[David.Horton@vermont.gov](mailto:David.Horton@vermont.gov)  
or  
(802) 863-6354