2017 Report of the Health and Criminal Justice Data Committee

Final Report
Submitted December 2017

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Report of the Health and Criminal Justice Data Committee

Authority: Recommendations of the Governor's Task Force on Prescription Drug and Heroin Abuse, Implementation Plan:

Data and Monitoring Workgroup Recommendation 8:

Create a Health and Criminal Justice Data Committee, comprised of data analysts from applicable agencies within the Secretariats of Public Safety & Homeland Security and Health & Human Resources, to study data for the purpose of better understanding the ways in which criminal justice and public health issues intersect, with the goal of improving government responses to crises, as well as identifying and responding to concerns before they become crises….

The Health and Criminal Justice Data Committee should provide an annual trends report to the Secretaries of Public Safety & Homeland Security and Health & Human Resources….

The Health and Criminal Justice Data Committee's initial focus should be on gathering and analyzing appropriate up-to-date data to mitigate harm from prescription drug and heroin abuse.

Background

In response to the crisis of prescription drug and heroin overdoses, through Executive Order 29, Governor McAuliffe established the Governor's Task Force on Prescription Drug and Heroin Abuse. One outcome of the Task Force was its recommendation for the creation of a Health and Criminal Justice Data Committee (HCJD Committee), composed of analysts from various agencies from the Secretariats of Public Safety & Homeland Security and Health & Human Resources. The Implementation Plan for the HCJD Committee calls for a report to be submitted annually in October to the Secretaries of Public Safety & Homeland Security and Health & Human Resources. The Committee's first annual report, submitted in October 2016, was recognized with the Doug Yearwood National Publication Award for Excellence in Research/Policy Analysis, by the Justice Research and Statistics Association. For 2017, a preliminary report was submitted in October, as some of the data the Committee needed were incomplete. This document, submitted December 2017, is the final 2017 report of the HCJD Committee.

Executive Summary

- Virginia has continued to see an increase in opioid overdose fatalities, driven primarily by the illicit drugs heroin and fentanyl (including fentanyl analogs).

- A growing number of prescription opioid fatalities also involve heroin and/or fentanyl. Overall, overdose fatalities involving prescription opioids increased 19% between CY2015 and 2016. However, when fatalities involving heroin and fentanyl are excluded, fatal overdoses involving prescription opioids actually dropped 7%.

- The number of fatal overdoses of fentanyl increased 176% between 2015 and 2016. The number of heroin overdose fatalities increased 31% for the same period. In 2016, the number of overdose fatalities involving fentanyl surpassed the number of fatalities involving heroin and the number of fatalities involving prescription opioids.

- Although there are fewer illicit fentanyl cases submitted to the Department of Forensic Science when compared with heroin and prescription opioids, there are more overdose fatalities involving fentanyl than there are fatalities involving either heroin or prescription opioids. The higher number of fatalities despite an apparently lower level of availability is consistent with the high level of lethality reported for fentanyl (25 to 40 times more potent than heroin, 80 to 100 times more potent than morphine).

- Demographic patterns for individuals with fatal prescription opioid overdoses are different from those with fatal overdoses of heroin or fentanyl. Individuals with fatal overdoses involving prescription opioids tend to be older and are more likely to be white and less likely to be male, when compared with individuals who died from overdoses of fentanyl or heroin. However, for all three drug types, the fatality rates for whites exceeded the rates for blacks, and the fatality rates for males exceeded the rates for females.

- Prescription opioid fatality rates continue to be highest in Southwest Virginia, though that is also the region where rates are dropping most quickly. For heroin and fentanyl, the fatality rates continue to be highest in Central Virginia, the Shenandoah Valley, Tidewater, and Northern Virginia.

- Cocaine and methamphetamine availability are increasing. Methamphetamine DFS cases are highest in areas where prescription opioid cases are also high. Cocaine cases are highest in areas with higher heroin and illicit fentanyl cases.

- The rise in heroin, fentanyl, cocaine, and methamphetamine availability has coincided with an increase in violent crime.

- There are signs that the rise in drug availability is impacting the correctional system. Pretrial jail commitments are up, particularly for drug felonies. Juvenile intake cases with a drug charge as the most serious offense are also up.

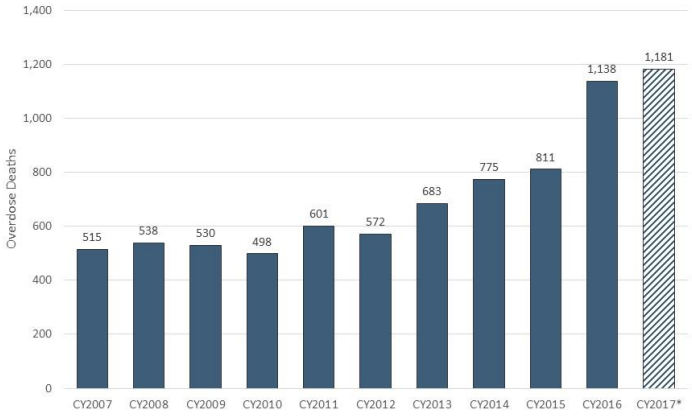
Opioid-Related Health & Criminal Justice Data Trends

For quick visual reference, a selection of the figures are included in the text below. Additional charts and maps can be found in Appendix A. The figure numbers on the charts in the text correspond to their ordering in Appendix A.

Opioid[1] overdoses continue to rise.

The combined health and criminal justice data trends indicate that Virginia has seen improvements in some trends related to the opioid crisis, but opioid overdose fatalities are nonetheless increasing. Total opioid overdose fatalities increased 40% between CY2015 and 2016 (Figure 1). This was the largest single-year increase in opioid overdose fatalities on record. Preliminary 2017 data indicates an increase in fatal overdoses, but a smaller increase than that seen between 2015 and 2016. The total number of opioid fatalities in the first two quarters of 2017 was 7% higher than for the same period in 2016.

Figure 1: Opioid Overdose Fatalities
Historical CY2007-2016 & Predicted 2017



Rise in fatalities is driven by illicit fentanyl and heroin.

Although prescription opioids are still responsible for a large number of overdose fatalities, they are not driving the increase. Figure 2 looks at select opioids individually. Fatal overdoses of fentanyl (including fentanyl analogs and derivatives) increased 176% between CY2015 and 2016. Heroin overdose fatalities increased 31%. The OCME estimates that over 94% of all fatal fentanyl overdoses in 2016 were due to illicitly produced versions of the drug. When prescription opioids are compared with illicit opioids, it is clear that the rise in fatalities is concentrated among illicit drugs (Figure 3).

Fatal overdoses of some prescription opioids did rise in 2016, but the level of increase was notably less than for heroin and fentanyl. Overdose fatalities involving oxycodone, the prescription opioid responsible for the largest number of prescription overdose fatalities, rose 13% in 2016.

[1] For purposes of this report, the term "opioid" includes opiates derived from opium poppy plant (e.g., heroin and morphine) and synthetic/semi-synthetic opioids manufactured chemically (e.g., fentanyl and methadone).

Figure 2: Overdose Fatalities For Specific Opioids
CY2010-2016

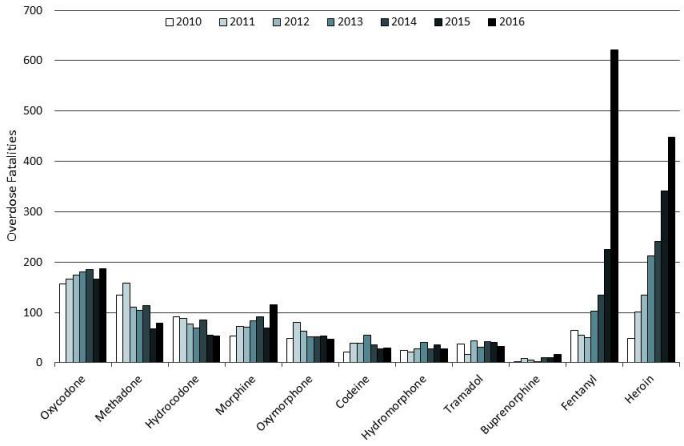
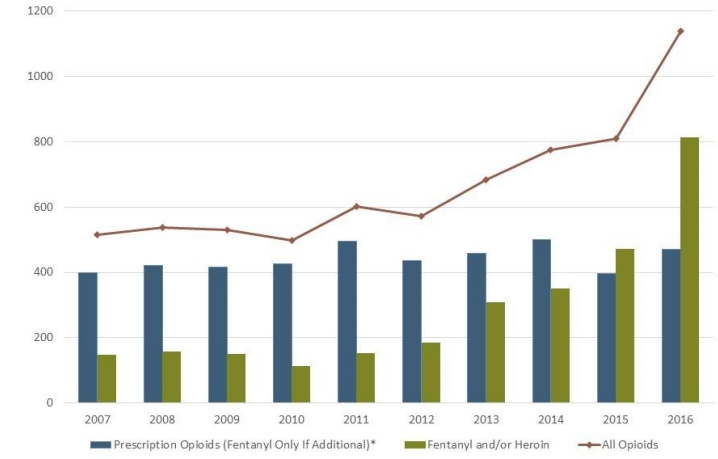


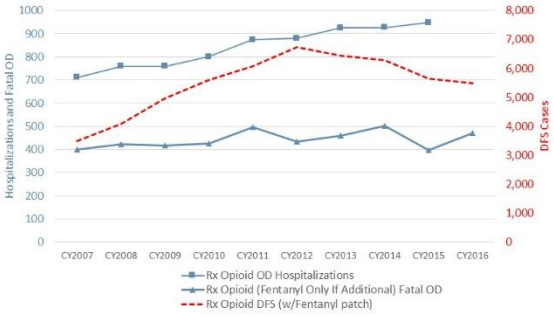
Figure 3: Changing Makeup of Opioid Overdose Fatalities
CY2007-2016



"Prescription Opioid (Fentanyl Only If Additional)" includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality. "Fentanyl" includes fentanyl and fentanyl analogs.

When data from the criminal justice and health spheres are compared, there is a clear difference in the trends for prescription opioids when compared with heroin and fentanyl. Figures 4, 5, and 6, together, demonstrate this difference. Unlike with prescription opioids, heroin DFS cases follow a very similar pattern as overdose fatalities and hospitalizations. With fentanyl, the difference is even more clearly demonstrated (though fentanyl cases cannot be distinguished in the hospitalization data).

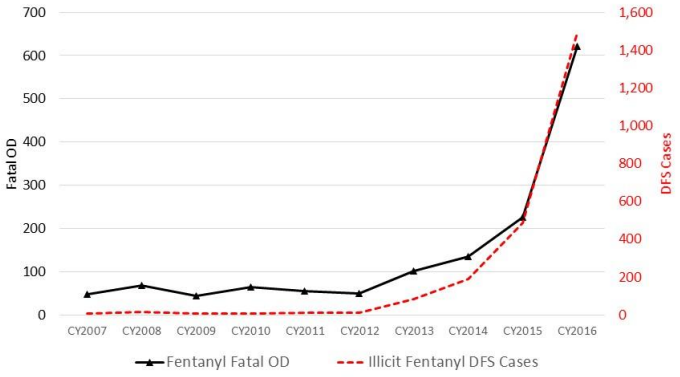
Figure 4: Virginia Prescription Opioid Data
Hospitalizations & Fatal Overdoses (Left Axis) and Cases Submitted to DFS (Right Axis) CY2007-2016



Hospitalization data cannot exclude fentanyl. Fatal overdose data only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality. DFS data only includes fentanyl if it was in the form of a transdermal patch. "Fentanyl" includes fentanyl and fentanyl analogs.

Figure 5: Virginia Heroin Data
Hospital Discharges & Fatal Overdoses (Left Axis) and Cases Submitted to DFS (Right Axis) CY2007-2016

Figure 6: Virginia Fentanyl Data
Fatal Overdoses (Left Axis) and Cases Submitted to DFS (Right Axis) CY2007-2016



"Fentanyl Fatal OD" includes fentanyl and fentanyl analogs. "Illicit Fentanyl DFS Cases" includes fentanyl cases in which it was not submitted in the form of a transdermal patch, and fentanyl analogs.

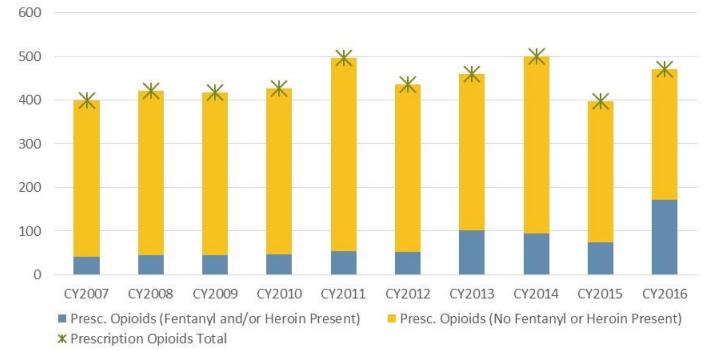
Prescription opioid fatalities, when no heroin or fentanyl are present, are down.

Overall, fatal overdoses of prescription opioids increased 19% in 2016, but that increase was driven by cases involving both a prescription opioid and either fentanyl, heroin, or both (Figure 7). In 2016, 37% of prescription opioid fatalities also involved either fentanyl or heroin, up from 19% in 2015.

Fatal overdoses of a prescription opioid, in which fentanyl and/or heroin contributed to the death, increased 132% between 2015 and 2016. Fatal overdoses of a prescription opioid in which neither fentanyl nor heroin was present actually decreased 7%. When looked at regardless of the presence of fentanyl and/or heroin, fatal overdoses of prescription opioids increased 19%.

Preliminary 2017 data indicates the trend is continuing. In the first half of 2017, 50% of prescription opioid overdose fatalities also involved fentanyl and/or heroin.

Figure 7: Prescription Opioid Fatalities
With and Without Presence of Fentanyl and/or Heroin, CY2007-2016



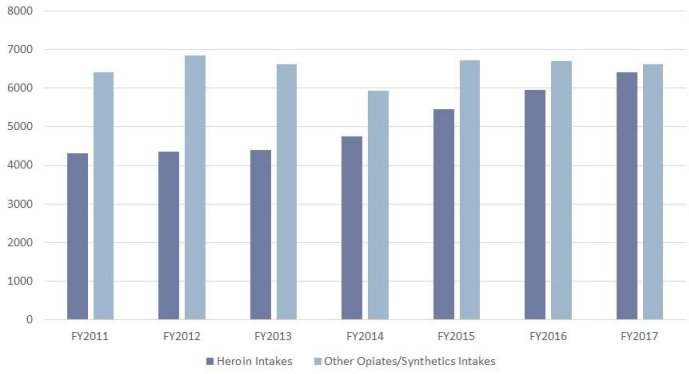
Between CY 2013 and 2016, prescription opioid overdose fatalities involving fentanyl and/or heroin increased 69%, while fatalities not involving fentanyl and/or heroin decreased 16%. Total prescription opioid fatalities increased 3%.

In 2016, 37% of prescription opioid fatalities also involved fentanyl and/or heroin.

Individuals who died due to a combination of prescription opioids and fentanyl might not have been aware they were using fentanyl. Fentanyl is often pressed into counterfeit pills that appear to be authentic prescription opioids, such as oxycodone. Also, fentanyl can be added to heroin, to produce a stronger product or to allow the dealer to "cut" the heroin more and thereby enhance profits (DEA, July 2016).

In recent years, Virginia's Community Services Boards have seen an increase in intakes for heroin abuse, while intakes for "other opiates/opioids" have leveled out (Figure 7). This is consistent with the rise in heroin overdose fatalities and DFS cases, and the drop or flattening of prescription opioid overdose fatalities and DFS cases. Because users are unlikely to know they are using fentanyl, and because fentanyl tends to be found in the same regions as heroin (see "Regional patterns vary for prescription opioid, heroin, and fentanyl fatalities" on page 10), there are likely individuals seeking treatment for heroin who have also been using fentanyl, unknowingly.

Figure 8: Community Services Board Intakes
Intakes into Substance Abuse Services Programs
FY2011-2017



Illicit fentanyl has greater lethality than heroin or prescription opioids.

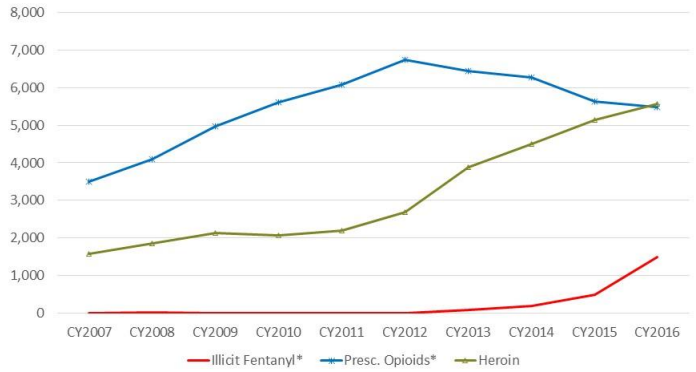
Fentanyl is a synthetic opioid with a potency estimated at 80 to 100 times that of morphine, and 25 to 40 times that of heroin. Fentanyl analogs have varying degrees of potency. Acetyl fentanyl is around 16 times more potent than morphine, while carfentanil (used for tranquilizing elephants and other large animals) is approximately 10,000 times more potent than morphine (DEA, July 2016). This high potency is perhaps better understood as a high lethality.

The high lethality of fentanyl shows in the comparison between DFS cases and overdose fatalities for fentanyl, heroin, and prescription opioids. The Illicit fentanyl cases submitted to the Department of Forensic Science increased more than 200% in 2016, while heroin cases increased 8% and prescription opioid cases dropped 3% (Figure 9). But the number of both prescription opioid and heroin cases were already at a much higher level than illicit fentanyl. Despite the sharp rise in fentanyl cases, they were still outnumbered by both heroin and prescription opioid cases by almost 4:1.

Preliminary 2017 data indicate that these trends are continuing. When compared to the first half of 2016, in the first half of 2017 illicit fentanyl cases increased 109%, while heroin cases dropped 5% and prescription opioid cases dropped 12%. In the first half of 2017, heroin and prescription opioid cases each outnumbered illicit fentanyl cases about 2:1.

The substantially lower number of illicit fentanyl cases suggests that, despite its sharp rise in recent years, there is still less illicit fentanyl in the community, relative to heroin and prescription opioids.

Figure 9: Fentanyl vs. Other Opioids – DFS Cases
Illicit Fentanyl & Derivatives vs Prescription Opioids vs Heroin, CY2007-2016



Although illicit fentanyl cases increased 207% between 2015 and 2016, there were almost four times as many heroin cases and four times as many prescription opioid cases that year.

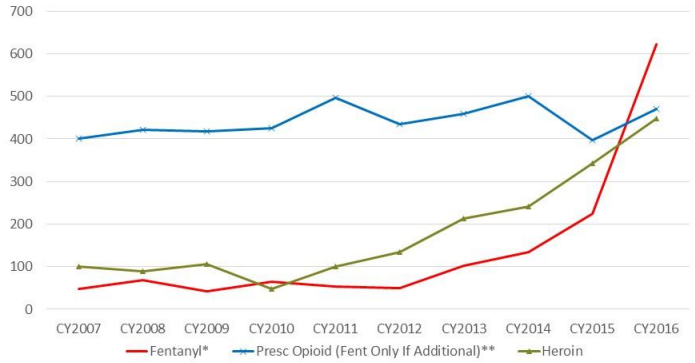
There was a similarly large increase, 176%, in the number of fatal overdoses of fentanyl in 2016 (Figure 10). There were also increases in fatal overdoses of heroin (31%) and prescription opioids (19%, though many cases also involved heroin or fentanyl).

Preliminary 2017 data indicate that these trends are continuing. When compared to the first half of 2016, in the first half of 2017 illicit fentanyl overdose fatalities increased 22%, while heroin cases increased 23% and prescription opioid cases increased 3%.

But in contrast to DFS cases, the number of fentanyl overdose fatalities were actually higher than fatalities for the other drugs. Fatal overdoses of fentanyl were 32% higher than fatal prescription opioid overdoses, and 39% higher than fatal heroin overdoses.

If it is correct that that there is less illicit fentanyl in the community relative to heroin and prescription opioids, as their lower number of DFS cases would suggest, then the larger number of fentanyl overdose fatalities suggests a much higher level of lethality.

Figure 10: Fentanyl vs. Other Opioids – Overdose Fatalities
Fentanyl* vs Prescription Opioids vs Heroin, CY2007-2016**



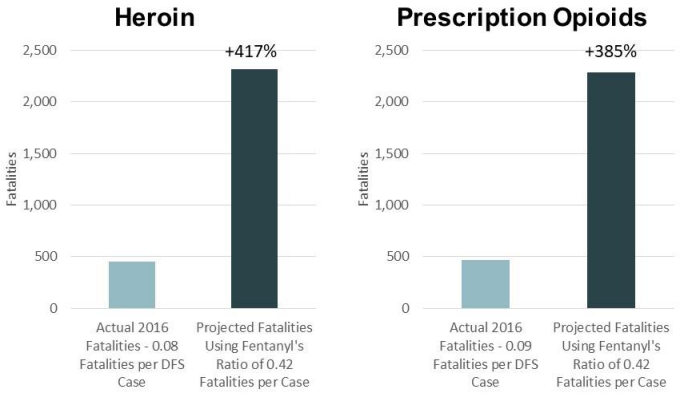
In contrast to DFS cases, fentanyl fatalities exceeded heroin fatalities and prescription opioid fatalities (separately) in 2016.

* "Fentanyl" includes fentanyl and fentanyl analogs.
** "Prescription Opioid (Fent Only If Additional)" includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality.

Although the relationship between the number of DFS cases and the number of overdose fatalities is inexact and undefined, comparisons between the two measures for the different drug types does help illuminate the lethality of illicit fentanyl. In 2016, for each illicit fentanyl DFS case, there were 0.42 fentanyl overdose fatalities. In the same year, for heroin and prescription opioids, there were 0.08 and 0.09 overdose fatalities, respectively, for each DFS case.

If heroin and prescription opioids had the same ratio of fatalities to DFS cases that fentanyl had in 2016, there would have been thousands more fatalities (Figure 13).

Figure 13: If Other Opioids Had Fentanyl's Fatality-to-DFS-Case Ratio
CY2016



* "Fentanyl" includes fentanyl and fentanyl analogs.
** "Prescription Opioids" includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality.

Demographic patterns vary for prescription opioid, heroin, and fentanyl fatalities.

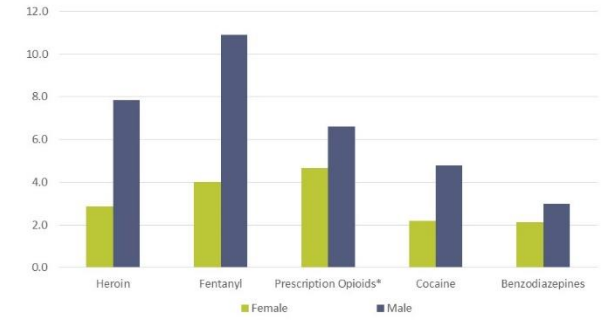
The fatality rate for prescription opioids also has a different demographic pattern that the rates for heroin, and fentanyl (Figures 15, 16, and 17, calendar year 2016 data). Individuals with fatal overdoses involving prescription opioids tend to be older and are more likely to be white and less likely to be male, when compared with individuals who died from overdoses of fentanyl or heroin.

For all three drug types the fatality rate was higher among males. However, for prescription opioids, the rate for males was only 1.4 times the rate for females, whereas for fentanyl and heroin the rate for males was 2.7 times the rate for females (the fatality rates for fentanyl were higher than heroin, but the ratio of males to females was the same).

For all three drug types, 95-96% of fatalities were identified as either white or black, and for all three the fatality rate was higher among whites than other races. But for prescription opioids, the rate among whites was 2.0 times as high as it was among blacks, whereas for fentanyl and heroin the rate among whites was 1.2 times high as it was among blacks (the fatality rates for fentanyl were higher than heroin, but the ratio of whites to blacks was the same).

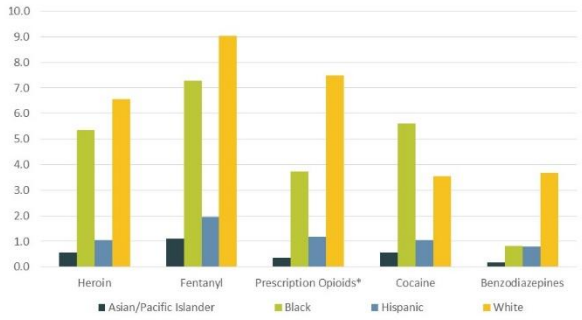
The differences are starker when looking at ages. For both heroin and fentanyl, the fatality rates were highest among individuals age 25-34, with the rate for that category being 2.5 times as high as the rate for all ages combined (the fatality rates for fentanyl were higher than heroin, but the ratio was the same). For prescription opioids, the highest fatality rate was among individuals age 35-54, about 1.7 times as high as the rate for all ages combined.

Figure 15: Fatality Rate by Sex, CY2016
Heroin, Fentanyl, Prescription Opioids*, Cocaine, and Benzodiazepines



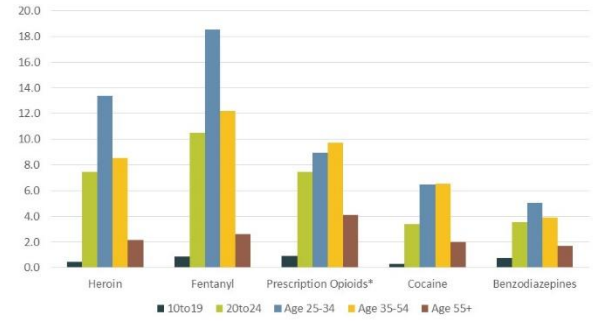
*Includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality..

Figure 16: Fatality Rate by Race/Ethnicity Distribution, CY2016
Heroin, Fentanyl, Prescription Opioids*, Cocaine, and Benzodiazepines



*Includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality..

Figure 17: Fatality Rate by Age Group, CY2016
Heroin, Fentanyl, Prescription Opioids*, Cocaine, and Benzodiazepines



*Includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality..

Figures 18 to 29, in Appendix A, present these demographic distributions for each of the seven Virginia State Police divisions.

The demographic patterns of individuals receiving substance abuse services through Virginia's Community Services Boards (CSBs) are somewhat different than the patterns for fatalities.

Regional patterns vary for prescription opioid, heroin, and fentanyl fatalities.

Prescription opioid DFS case submissions and overdose fatalities continue to be concentrated in Southwest Virginia (Figures 30 and 35). However, this same region has seen the greatest reduction in both measures in recent years. Between 2014 and 2016, Virginia State Police (VSP) Division 4 (Southwest Virginia) had a 23% drop in prescription opioid DFS cases and a 39% drop in prescription opioid overdose fatalities.

Another prescription drug category, benzodiazepines, is a concern with regard to opioids. Like opioids, benzodiazepines sedate users and suppress breathing. When the drugs are combined, users are at a particularly high risk. Benzodiazepine cases submitted to DFS increased 17% between 2015 and 2016. The rate of benzodiazepine submissions has consistently been highest in VSP Division 4, where prescription opioid cases are also highest (Figure 32).

The maps in Figure 35 show the rate of prescription opioid overdose fatalities in Virginia Health Districts. In 2016, the prescription opioid overdose fatality rate was highest in the Cumberland Plateau Health District (17.6), followed by the Lenowisco (14.9) and Eastern Shore (13.2) Health Districts.

Figure 30: Regional Prescription Opioid DFS Submissions
Rate Per 100,000 Population, CY2011-2016

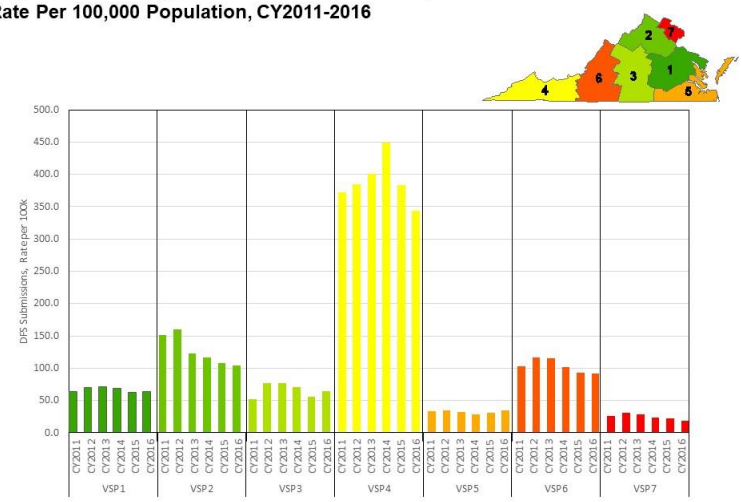


Figure 32: Regional Benzodiazepine DFS Submissions
Rate Per 100,000 Population, CY2011-2016

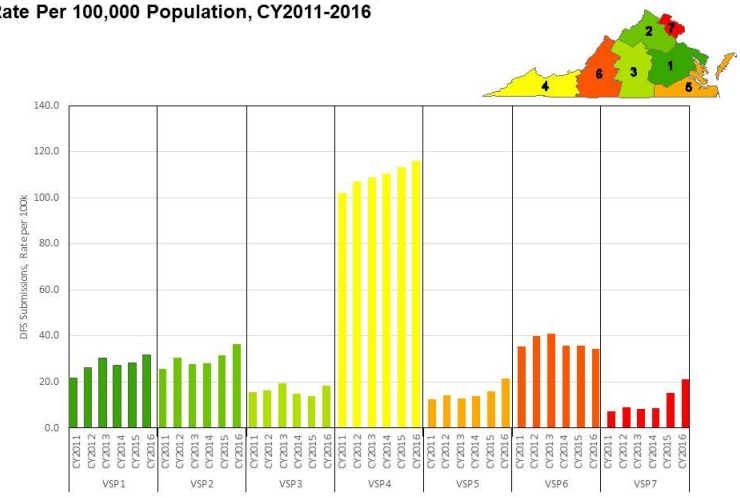
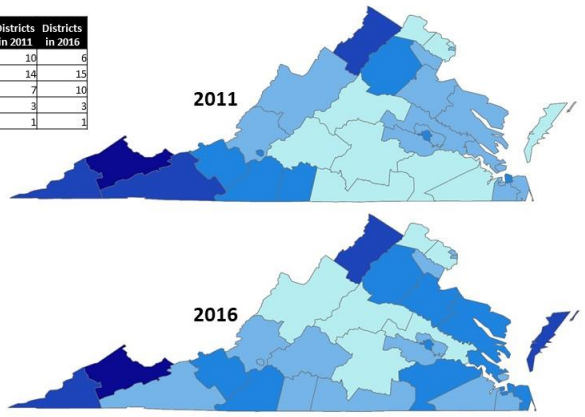


Figure 35: Prescription Opioid* Overdose Fatality Rate
Per 100,000 Population Virginia Health Districts, 2011 & 2016

Color	Value	Districts in 2011	Districts in 2016
	Up to 3.47 per 100k	10	6
	3.48 to 6.61 per 100k	14	15
	6.62 to 11.21 per 100k	7	10
	11.22 to 15.93 per 100k	3	3
	15.94 or more per 100k	1	1



*includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality..

Fentanyl (Figures 36 and 40) and heroin (Figures 41 and 45) DFS case submissions and overdose fatalities are highest in the Tidewater area, the Shenandoah Valley area, Central Virginia, and Northern Virginia.

By VSP Division, the highest rates of illicit fentanyl cases submitted to DFS were from Division 5 (Tidewater, 30.3), Division 2 (Shenandoah Valley, 28.0) and Division 1 (Central Virginia, 25.0).

The maps in Figure 40 show the rate of fentanyl overdose fatalities in Virginia Health Districts. The fentanyl overdose fatality rate in 2016 was highest in the Richmond Health District (24.0), followed by the Norfolk (22.6) and Portsmouth (19.9) Health Districts.

Figure 36: Regional Illicit Fentanyl DFS Submissions
Rate Per 100,000 Population, CY2011-2016

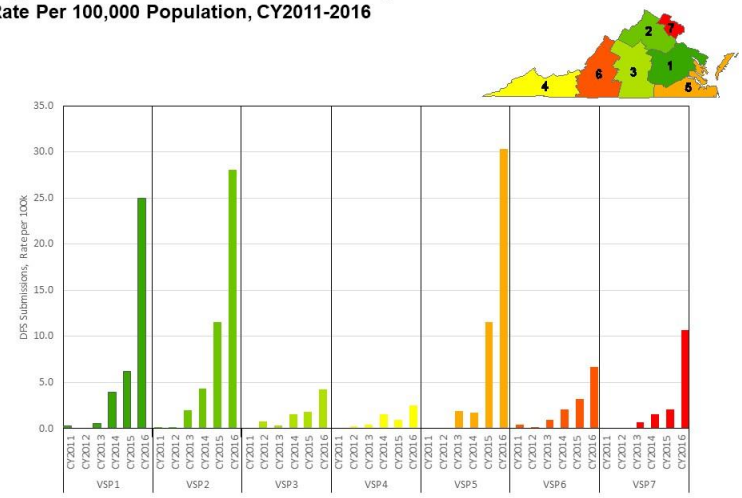
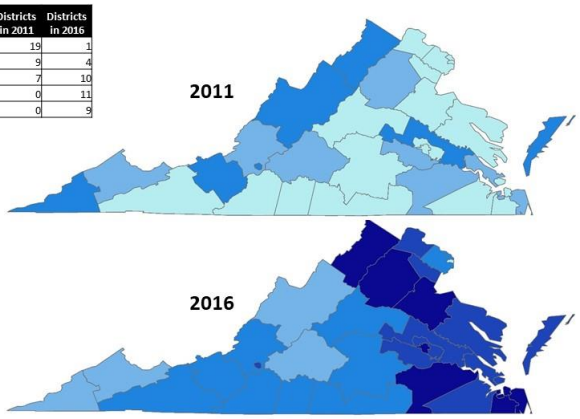


Figure 40: Fentanyl* Overdose Fatality Rate
Per 100,000 Population Virginia Health Districts, 2011 & 2016

Color	Value	Districts in 2011	Districts in 2016
	Up to 0.75 per 100k	19	1
	0.76 to 1.50 per 100k	9	4
	1.51 to 5.00 per 100k	7	10
	5.01 to 10.00 per 100k	0	11
	10.01 or more per 100k	0	9



*"Fentanyl" includes fentanyl and fentanyl analogs.

The patterns for heroin were similar. For heroin, the 2016 DFS submission rates were highest in VSP Division 2 (Shenandoah Valley, 126.3) and Division 1 (Central Virginia, 122.5). Division 5 (Tidewater) had the next highest rate (69.6), but it was considerably below Divsions 2 and 1.

The maps in Figure 45 show the rate of heroin overdose fatalities in Virginia Health Districts. The Richmond Health District had the highest heroin overdose fatality rate (21.5), followed by the Portsmouth (15.7) and Rappahannock-Rapidan (13.8) Health Districts.

Figure 41: Regional Heroin DFS Submissions
Rate Per 100,000 Population, CY2011-2016

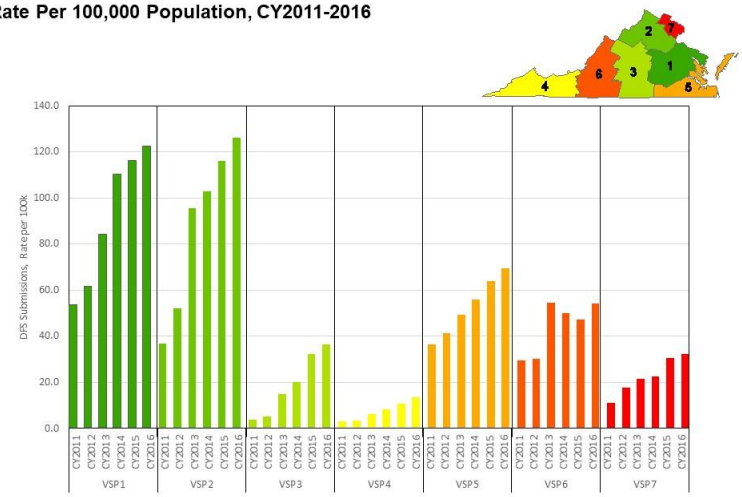
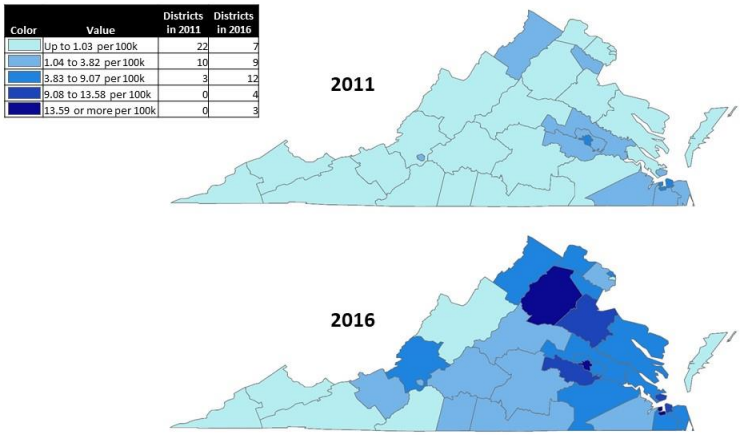
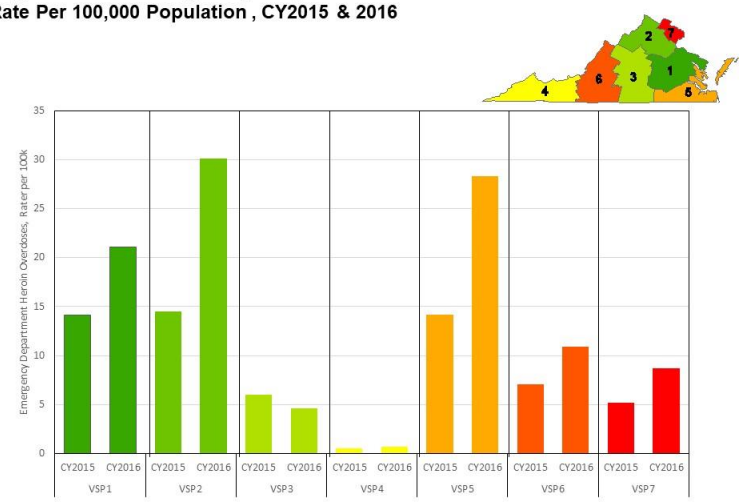


Figure 45: Heroin Overdose Fatality Rate
Per 100,000 Population Virginia Health Districts, 2011 & 2016



Emergency department visits for heroin overdoses follow a pattern similar to fatal heroin overdoses (Figure 46), with VSP Divisions 2 (Shenandoah Valley), 5 (Tidewater), and 1 (Central Virginia) having the highest rates.

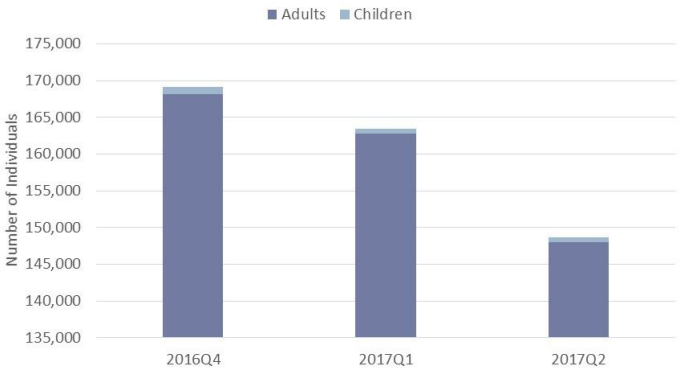
Figure 46: Emergency Department Visits for Heroin
Rate Per 100,000 Population , CY2015 & 2016



Prescription Monitoring Program Database indicates a reduction in opioid prescriptions.

The Virginia Prescription Monitoring Program (PMP) Database shows a reduction in the number of individuals who are prescribed more than 100 morphine milligram equivalents (MMEs) (Figure 48). MMEs are used to provide a standard measure across different opioids. Between the fourth quarter of 2016 and the second quarter of 2017, the number of adults receiving more than 100 MMEs per day decreased 12%. For children, the number decreased 33%. (Due to changes in the algorithms used to count individuals in the PMP Database, comparisons to periods prior to the fourth quarter of 2016 are not possible.)

Figure 48: Virginia Prescription Monitoring Program
Individuals Receiving Greater than 100 Mg Morphine Equivalent Daily
2016Q1 to 2017Q2



Daily morphine milligram equivalents (MMEs) is the daily dosage of morphine that would provide an equal amount of analgesia as the daily dosage of the opioid. Mean daily dosage is calculated for state residents in the PDMP that have an opioid prescription in a given quarter and refers to MMEs per day prescribed (total number of MMEs prescribed divided by the total number of prescription days).

Narcan administrations by emergency medical services rose 43% in 2016. Increases were greatest in areas where fentanyl and heroin are more common.

The emergency administration of Narcan can temporarily reverse the effects of an opioid overdose. There has been a substantial increase in the administration of Narcan in Virginia. Statewide, the rate of Narcan administrations by emergency medical services personnel increased 43% between 2015 and 2016 (Figure 49). The rate of Narcan administrations increased more in regions in which opioid fatalities are driven by fentanyl and heroin (compare Figure 50 with Figure 47). This is likely because these are the areas seeing the most growth in overdose fatalities.

Figure 49: Statewide Narcan Administrations by EMS
Rate Per 100,000 Population, CY2011-2016

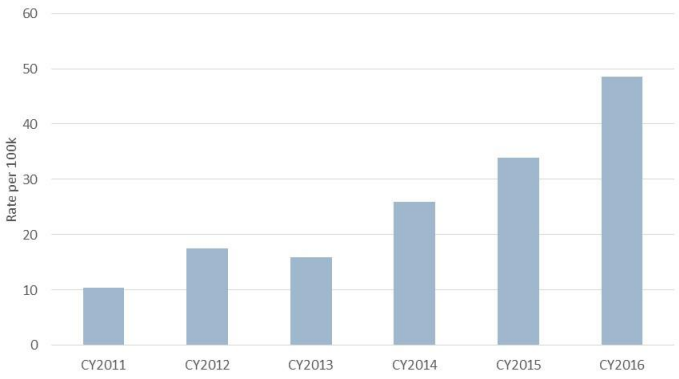


Figure 47: Combined Heroin & Fentanyl Overdose Fatalities
Rate Per 100,000 Population, CY2011-2016

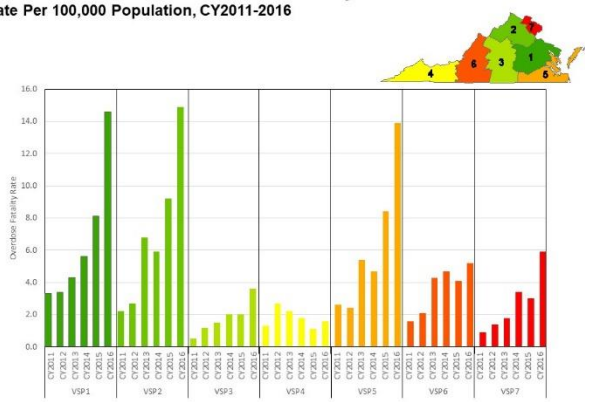
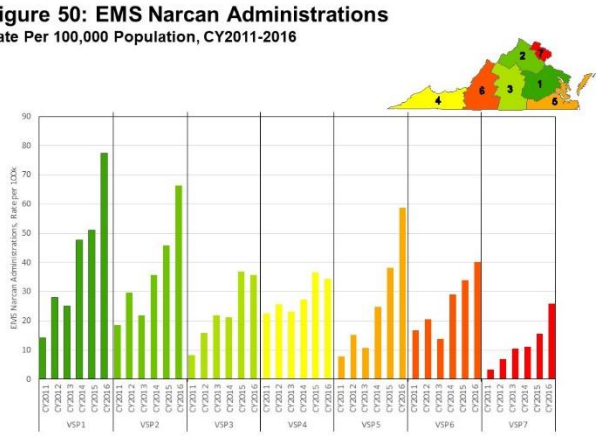


Figure 50: EMS Narcan Administrations
Rate Per 100,000 Population, CY2011-2016



Crimes associated with illegally obtaining prescription drugs are down.

Prescription opioid abuse can involve drugs obtained through theft or prescription fraud. The Incident-Based Reporting (IBR) data reported by the Virginia State Police in their annual Crime in Virginia reports identify the location of reported crimes, such as larceny and fraud. Crimes occurring at drug stores, doctor's offices, and hospitals often have the goal of illegally obtaining prescription drugs. Not all such crimes are drug-related, and drugs obtained illegally are not necessarily opioids, but nonetheless the trends could be useful information.

Reported forgery and fraud (combined) offenses occurring at a drug store, doctor's office, or hospital had been trending downward for several years, then rose 6% in 2015, and then dropped 3% in 2016 (Figure 52). Forgery is copying, altering, or imitating something with the intent to deceive others by presenting that item as genuine. Fraud is the intentional perversion of truth (other than forgery) for the purpose of gaining something of value.

Reported larcenies, burglaries, and robberies (combined) from a drug store, doctor's office, or hospital, have remained fairly level from 2012 to 2014, and then dropped 12% in 2015, and another 5% in 2016 (Figure 53). Larceny is the unlawful taking of property from the possession of another person. Robbery is the taking of something of value in confrontational circumstances, through force or threat of force. Burglary is unlawful entry into a building with the intent to commit theft.

Figure 52: Virginia Reported Crimes
Forgery and Fraud Incidents at a Drug Store, Doctor's Office, or Hospital
CY2009-2016

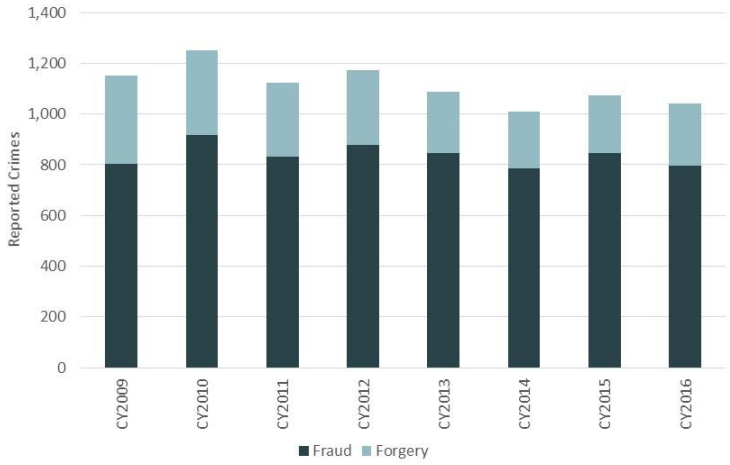
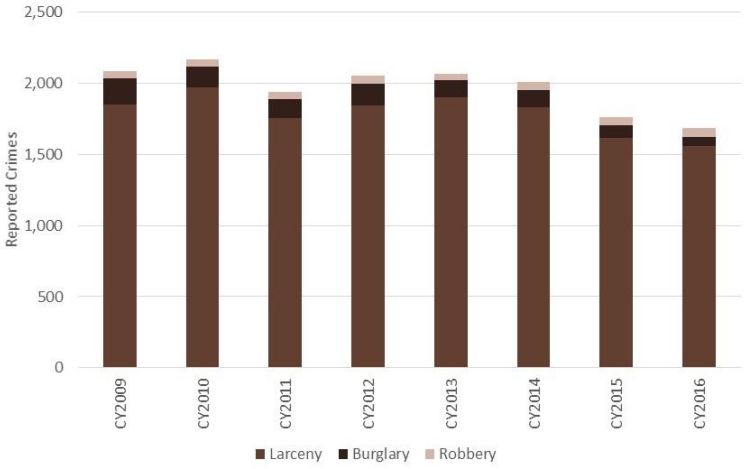


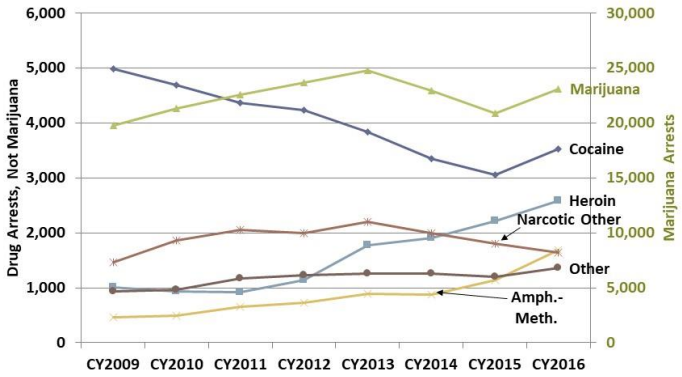
Figure 53: Virginia Reported Crimes
Larceny, Burglary, and Robbery from a Drug Store, Doctor's Office, or Hospital
CY2009-2016



Drug arrests are increasing for most drug categories (Figure 54). Arrests for heroin offenses increased 17% between 2015 and 2016, while arrests for "other narcotics" (which would include prescription opioids) decreased 9%. Fentanyl is not specifically identified in arrest data.

Arrests for stimulants also increased in 2016. Cocaine arrests increased 16%, and arrests for amphetamine/methamphetamine increased 48%.

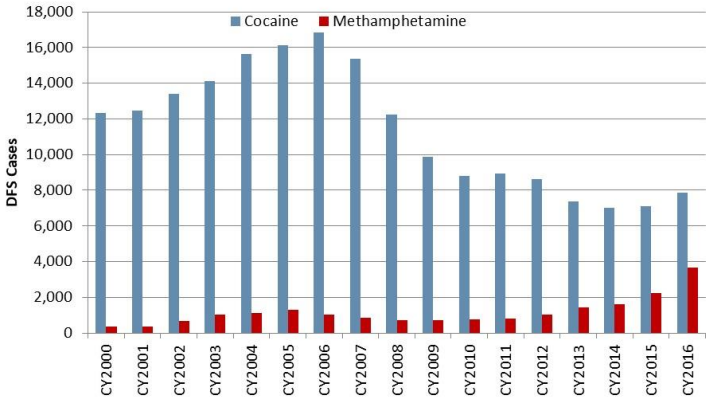
Figure 54: Virginia Drug Arrests
By Drug Type, CY2009-2016



Cocaine and methamphetamine availability are on the rise.

Cocaine and methamphetamine DFS cases both increased between CY2015 and 2016 (Figure 55). Cocaine cases increased 10% and methamphetamine cases increased 63%. Cocaine cases still outnumber methamphetamine more than 2:1, but that is down from almost 12:1 in 2010. Preliminary data from 2017 indicates that the trend is continuing. Cocaine DFS cases are up 14%, and methamphetamine DFS cases are up 38%, in the first half of 2017, compared to the same period of 2016.

Figure 55: DFS Cocaine & Methamphetamine Submissions
Cases submitted to DFS, CY2000-2016



As with opiates, the distribution of stimulant drugs varies greatly across the state. Methamphetamine tends to be found in areas that also see a high rate of prescription opioid cases (compare Figure 56 with Figure 30). The rate of methamphetamine submissions in the Southwestern region (Virginia State Police Division 4) is more than twice the rate of any other region. However, the rate of submissions from the West-Central and Tidewater regions (VSP Divisions 3 and 5) saw the greatest increase in the past year.

Figure 30: Regional Prescription Opioid DFS Submissions
Rate Per 100,000 Population, CY2011-2016

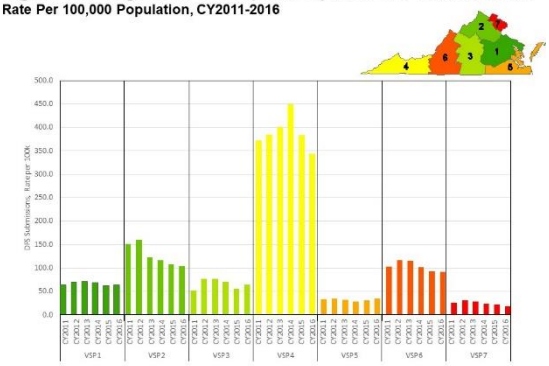
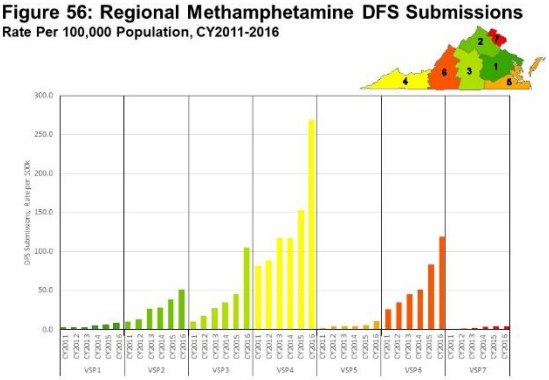


Figure 56: Regional Methamphetamine DFS Submissions
Rate Per 100,000 Population, CY2011-2016



In contrast, the rate of cocaine submissions are higher in areas with higher heroin and fentanyl cases (compare Figure 58 with Figure 41). These are not identical trends (in particular note that VSP Division 2 has a higher rate of heroin cases and Division 3 has a higher rate of cocaine cases, relative to other Divisions).

Figure 41: Regional Heroin DFS Submissions
Rate Per 100,000 Population, CY2011-2016

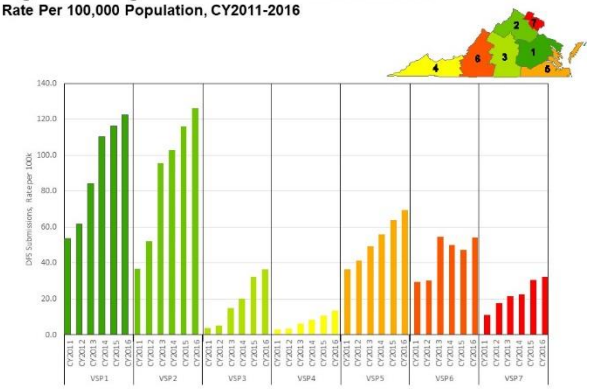
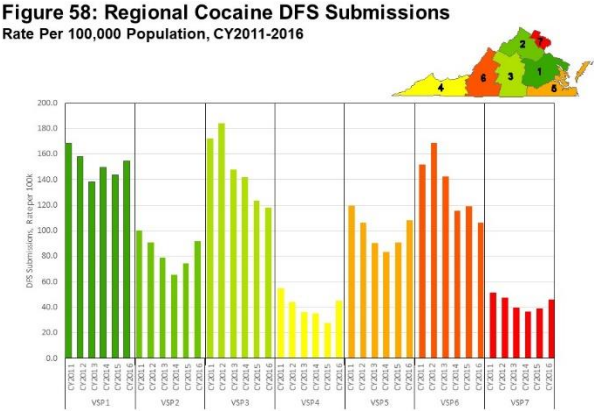
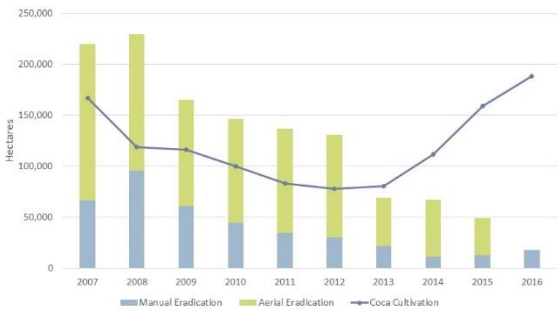


Figure 58: Regional Cocaine DFS Submissions
Rate Per 100,000 Population, CY2011-2016



The rise in cocaine availability and fatalities is likely driven by the increased production of cocaine in Colombia, the source of 90% of cocaine in the United States (Figure 63). Due in large part to improved aerial crop eradication techniques, the area in Colombia dedicated to cultivation of the coca bush dropped more than 50% between 2007 and 2012. In recent years, use of aerial eradication was greatly reduced, ending in October 2015. Coca cultivation has rebounded, increasing 141% between 2012 and 2016 (DEA, August 2017).

Figure 63: Cocaine Eradication & Production in Colombia
Drug Enforcement Administration, 2007-2016



Cocaine also saw a 68% increase in overdose fatalities between 2015 and 2016 (Figure 64). However, the increase in fatalities is largely driven by cases that also involved fentanyl or heroin. In 2016, 68% of cocaine overdose fatalities also involved fentanyl and/or heroin, up from 43% in 2015. Preliminary 2017 data indicates the trend is continuing. In the first half of 2017, 69% of cocaine overdose fatalities also involved either fentanyl or heroin.

Cocaine overdose fatalities in which fentanyl and/or heroin also contributed to the death increased 277% in 2016. In contrast, cocaine overdose fatalities in which neither fentanyl nor heroin were present only increased 10% (Figure 65). This is consistent with national data (Figure 66).

Figure 64: Cocaine Overdose Fatalities
CY2007-2016

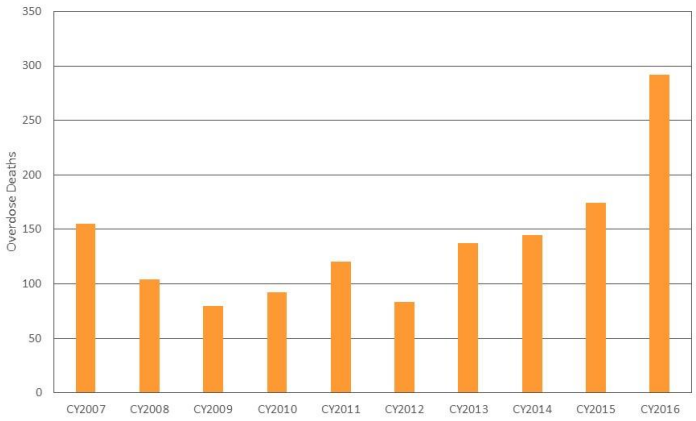
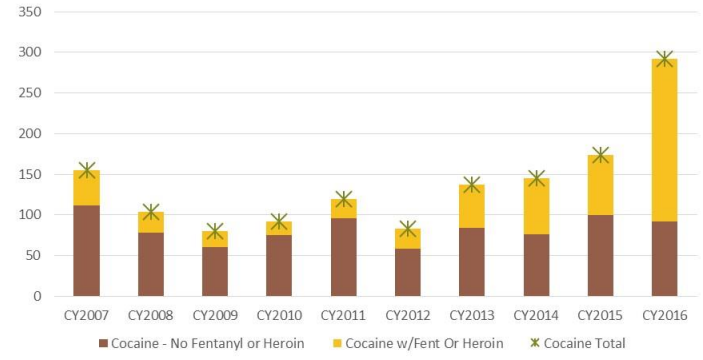


Figure 65: Cocaine Fatalities Involving Fentanyl and/or Heroin
Virginia, CY2007-2016

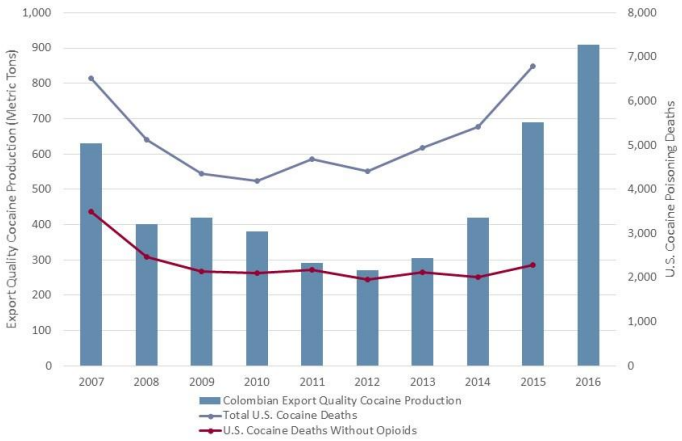


Between CY 2013 and 2016, cocaine overdose fatalities involving fentanyl and/or heroin increased 277%, while fatalities not involving fentanyl and/or heroin increased 10%

In 2016, 68% of cocaine fatalities also involved fentanyl and/or heroin.

"Fentanyl" includes fentanyl and fentanyl analogs.

Figure 66: Opioids & National Cocaine Overdose Fatalities
Drug Enforcement Administration, 2007-2016



Although fentanyl poses the greater health risk, cocaine use is also a concern due to its association with other criminal activity, particularly violent crime. In 2016, the rate of violent offenses reported to Virginia police increased 10% over 2015 (Figure 67). That increase was seen across the seven VSP Divisions (Figure 68). The largest increase was in VSP Division 3 (Charlottesville-Lynchburg, 14.2%) and the smallest was in Division 2 (Shenandoah Valley, 5.9%).

Figure 67: Violent Index Offense Rate
Includes murder/non-negligent manslaughter, forcible rape, robbery and aggravated assault, CY2007-2016

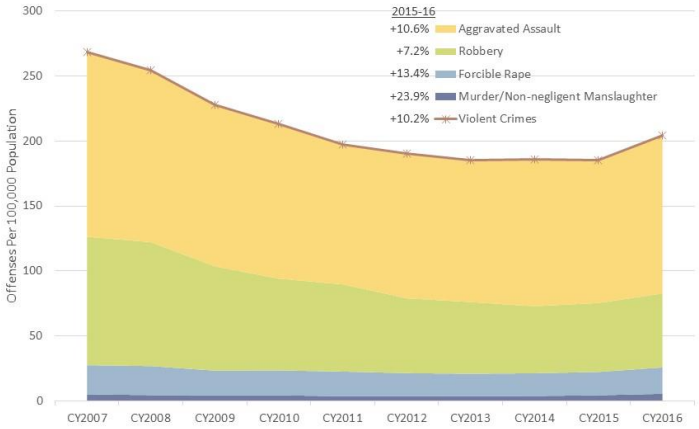
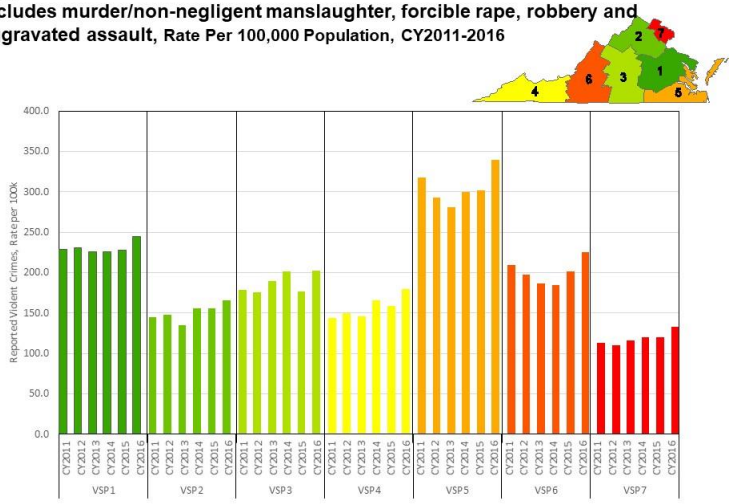


Figure 68: Violent Index Offense Rate
Includes murder/non-negligent manslaughter, forcible rape, robbery and aggravated assault, Rate Per 100,000 Population, CY2011-2016



There are indications that the rise in drug offenses is impacting the corrections system.

Historically, drug offending can have a substantial impact on the corrections system. In Virginia, the rise in cocaine cases submitted to DFS between CY2001 and 2016 was associated with a similar rise in the local responsible jail population (Figure 71).

Both cocaine submissions to DFS and the local-responsible jail population increased in 2016. The rise in jail population in 2016 was due in part to a 12% increase in individuals placed in pretrial confinement for drug felonies (Figure 72).

Figure 71: DFS Cocaine Submissions & the Jail Population
CY2011-2016

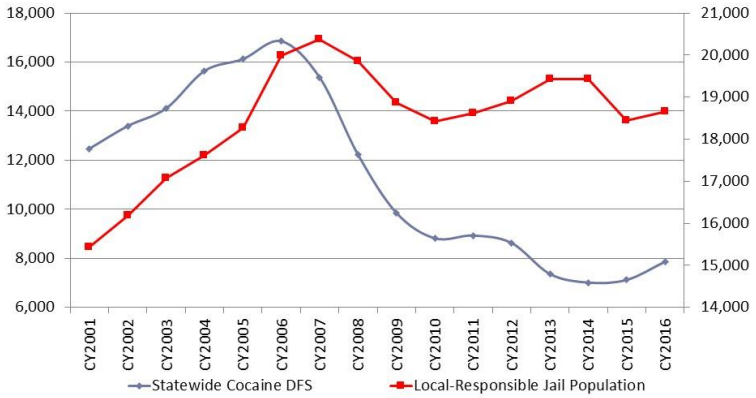
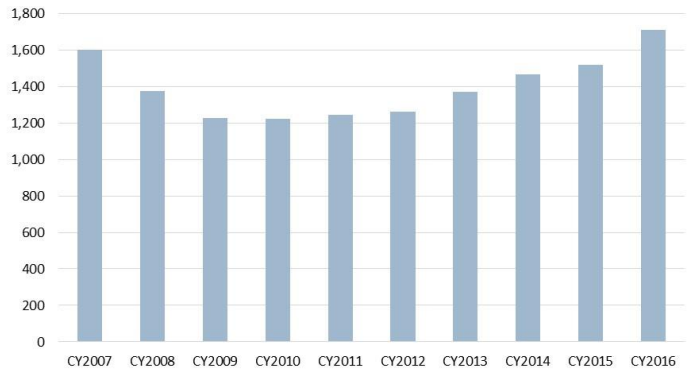


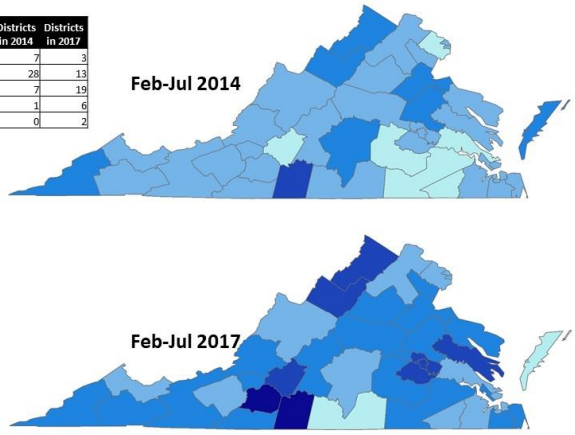
Figure 72: Pretrial Jail Commitments for Drug Felonies
Monthly Average, Most Serious Committing Offense is Drug Felony, CY2007-2016



The Department of Corrections has seen an increase in the proportion of offenders under community supervision who received a major violation report that cited drug use within the past six months (Figure 73).

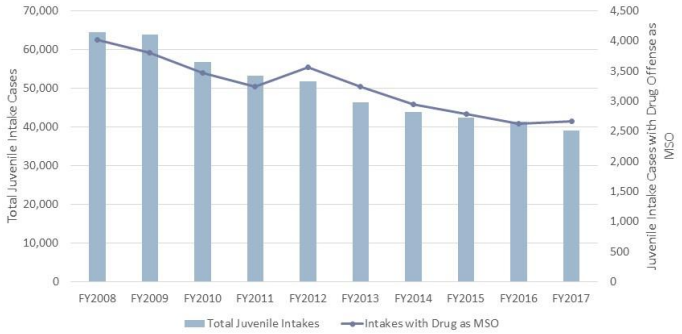
Figure 73: DOC Community Corrections
Percent of Offenders with Major Violation Reports Citing Drug Use
By Probation and Parole District, Feb-Jul 2014 & 2017

Color	Value	Districts in 2014	Districts in 2017
	Less than 3.0%	7	3
	3.0% - 5.9%	28	13
	6.0% - 8.9%	7	19
	9.0% - 11.9%	1	6
	12.0% or More	0	2



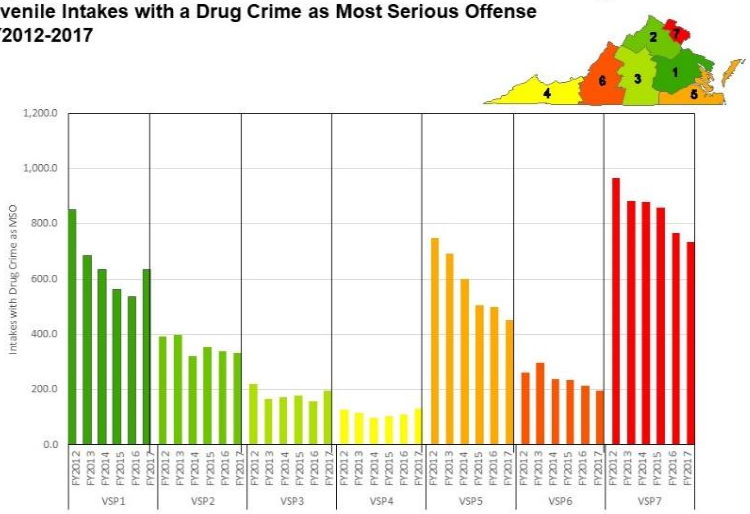
The Department of Juvenile Justice has seen an increase in the number of juvenile intake cases in which the most serious offense (MSO) was a drug crime (Figure 76). In FY2017, although total juvenile intake cases dropped 5.5%, the number of intake cases in which the MSO was a drug crime increased 1.9%. This was the first increase since FY2012. The increase was concentrated in VSP Divisions 3 (Charlottesville-Lynchburg, 25.0%), 4 (Southwest Virginia, 19.1%), and 1 (Central Virginia, 18.3%) (Figure 77).

Figure 76: Juvenile Intake Cases
Total Cases vs Cases with Drug Crime as Most Serious Offense (MSO), FY2008-2017



Overall, total juvenile intakes dropped 5.5% in FY2017. However, after declining 26.5% between FY2012 and 2016, juvenile intakes with a drug crime as the most serious offense increased 1.9% in FY2017.

Figure 77: Regional Distribution of Intakes for Drug Offenses
Juvenile Intakes with a Drug Crime as Most Serious Offense
FY2012-2017



Summary

In summary, the various health and criminal justice data trends indicate improvement with regard to prescription opioid overdoses, but an increase in fatalities and availability of heroin and illicit fentanyl. In particular, illicit fentanyl appears to be much more lethal than either heroin or prescription opioids. At the same time, cocaine availability in Virginia is also increasing. There are some indications that the rising trends in heroin, illicit fentanyl, and cocaine are impacting other parts of the criminal justice system, such as jails and community corrections.

About the Data

Fatality data from the OCME – Data analyzed in the report is obtained from the Virginia Medical Examiner Database System (VMEDS). VMEDS is an internal agency database which contains detailed information on all deaths reported to the OCME, regardless of whether the OCME accepted the case or not. Data presented in this report is based upon accepted cases of either full autopsy or external exams. All manners of fatal drug overdoses (accident, homicide, suicide, and undermined) are included in this report. Due to the nature of law enforcement and OCME death investigation, all deaths presented in this report are based upon locality of occurrence and not residential status of the decedent. This report compiles data on drugs causing or contributing to death in fatal drug overdose cases. This report does not include data on drugs detected, but not contributing or causing death. Often, drug-related deaths have more than one drug causing or contributing to death. Therefore, deaths in which multiple categories of drugs caused or contributed to death will be represented once within each drug category, but multiple times within the entire report. Example: a fatal cocaine, heroin, and Alprazolam overdose death will be counted in the cocaine summary, the heroin summary, and the benzodiazepine summary.

Opioid overdose hospitalization data from the Office of Family Health Services – Hospitalizations attributable to prescription opiate overdose/poisoning indicator includes all cases where 1) first-listed ICD 9 CM diagnosis code was 965.00, 965.02 or 965.09 and first-listed E-code was not in range of E930-E949, OR 2) first-listed E-code is E850.1 or E850.2. Includes all cases where primary diagnosis is consistent with prescription opiate overdose that was not due to "Drugs, medicinal and biological substances causing adverse effects in therapeutic use", or where primary E-code was consistent with prescription opiate overdose.

Heroin overdose hospitalization data from the OFHS – Hospitalizations attributable to heroin overdose/poisoning indicator includes all cases where 1) first-listed ICD 9 CM diagnosis codes is 965.01 and first-listed E-code is not in range E930-E949, OR 2) first-listed E-code is E850.0. This includes all cases where primary diagnosis was consistent with heroin overdose not attributable to "drugs, medicinal and biological substances causing adverse effects in therapeutic use" or where primary E-code was consistent with heroin overdose.

Drug submission data from DFS – Drug submission data for this report were provided by DFS, using information collected for the National Forensic Laboratory Information System. When multiple drug samples of the same type of drug were submitted as part of the same case, they were only counted a single time, as one case. When multiple samples of different drug types were submitted as part of the same case, they were counted as a single case for each included drug type.

Arrest data from VSP – Statewide crime and arrest data were taken from the annual Crime in Virginia reports prepared by the Virginia State Police, http://www.vsp.state.va.us/Crime_in_Virginia.shtm. Regional crime and arrest data are pulled from the Incident-Based Reporting data that the VSP provides to the FBI, and shares with DCJS.

Prescription data from the Virginia PMP – The Prescription Monitoring Program collects information on prescriptions for controlled substance, to promote the appropriate use of controlled substances for legitimate medical purposes, while deterring the misuse, abuse, and diversion of controlled substances.

National Data on Cocaine Trends – Data were drawn from the August 2017 publication by the DEA, *Colombian Cocaine Production Expansion Contributes to Rise in Supply in the United States.* https://www.dea.gov/docs/DIB-014-17%20Colombian%20Cocaine%20Production%20Expansion.pdf

DOC Community Corrections – Data were provided by the Department of Corrections, in response to a data request.

DJJ Juvenile Intakes – Data were provided by the Department of Juvenile Justice, in response to a data request.

CSB Substance Abuse Services Intakes – Data on intakes into substances abuse services programs via Community Services Boards were provided by the Department of Behavioral Health and Developmental Services, in response to a data request.

References

Drug Enforcement Administration (July 2016). *Counterfeit Prescription Pills Containing Fentanyls: A Global Threat*. DEA Intelligence Brief.

Drug Enforcement Administration (August 2017). *Colombian Cocaine Production Expansion Contributes to Rise in Supply in the United States*. DEA Intelligence Brief.

For Further Information

There are numerous other sources of data related to the issues discussed in this report. Some of these are listed below:

Crime in Virginia, Virginia State Police - http://www.vsp.state.va.us/Crime_in_Virginia.shtm

Criminal Justice and Social Indicators Data, Virginia Department of Criminal Justice Services - https://www.dcjs.virginia.gov/research-center/criminal-justice-and-social-indicators-data

Data Resource Guide, Virginia Department of Juvenile Justice - http://www.djj.virginia.gov/pages/about-djj/drg.htm

Drug Cases Submitted to the Virginia Department of Forensic Science, Virginia Department of Forensic Science - http://www.dfs.virginia.gov/documentation-publications/

Drug Overdose Surveillance, Virginia Department of Health- http://www.vdh.virginia.gov/surveillance-and-investigation/syndromic-surveillance/drug-overdose-surveillance/

Fatal Drug Overdose Quarterly Report, Virginia Office of the Chief Medical Examiner - http://www.vdh.virginia.gov/medical-examiner/forensic-epidemiology/

Jail Average Daily Population Information, Compensation Board - http://www.scb.virginia.gov/Tuesdaytotal.cfm

Offender Population Trends, Virginia Department of Corrections - https://vadoc.virginia.gov/about/facts/default.shtm

Virginia Opioid Addiction Indicators, Virginia Department of Health - http://www.vdh.virginia.gov/data/opioid-overdose/

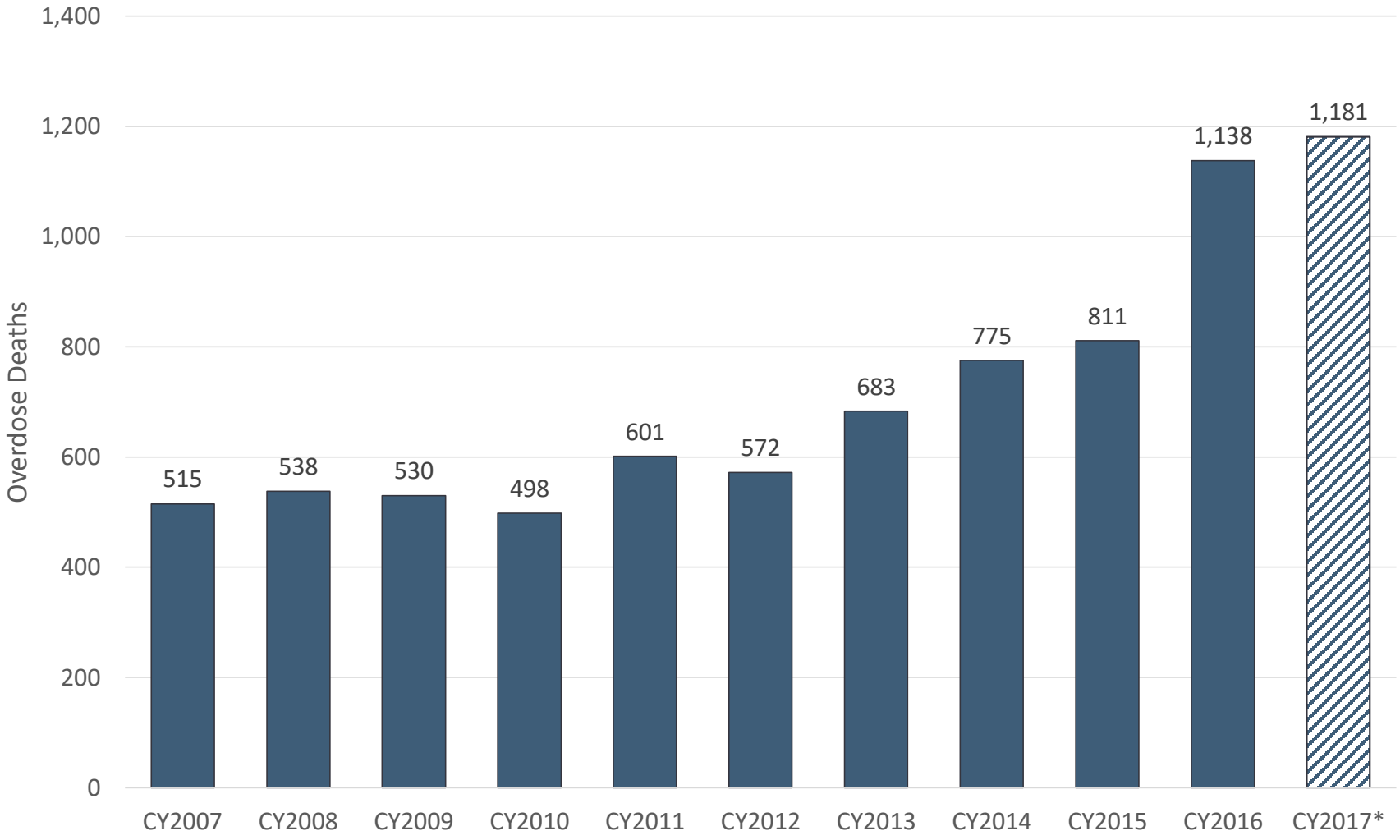
Virginia Social Indicator Dashboard, Virginia Department of Behavioral Health and Developmental Services & OMNI Institute - https://vasisdashboard.omni.org/rdPage.aspx?rdReport=Home

Appendix A

Figures 1-77

Figure 1: Opioid Overdose Fatalities

Historical CY2007-2016 & Predicted 2017

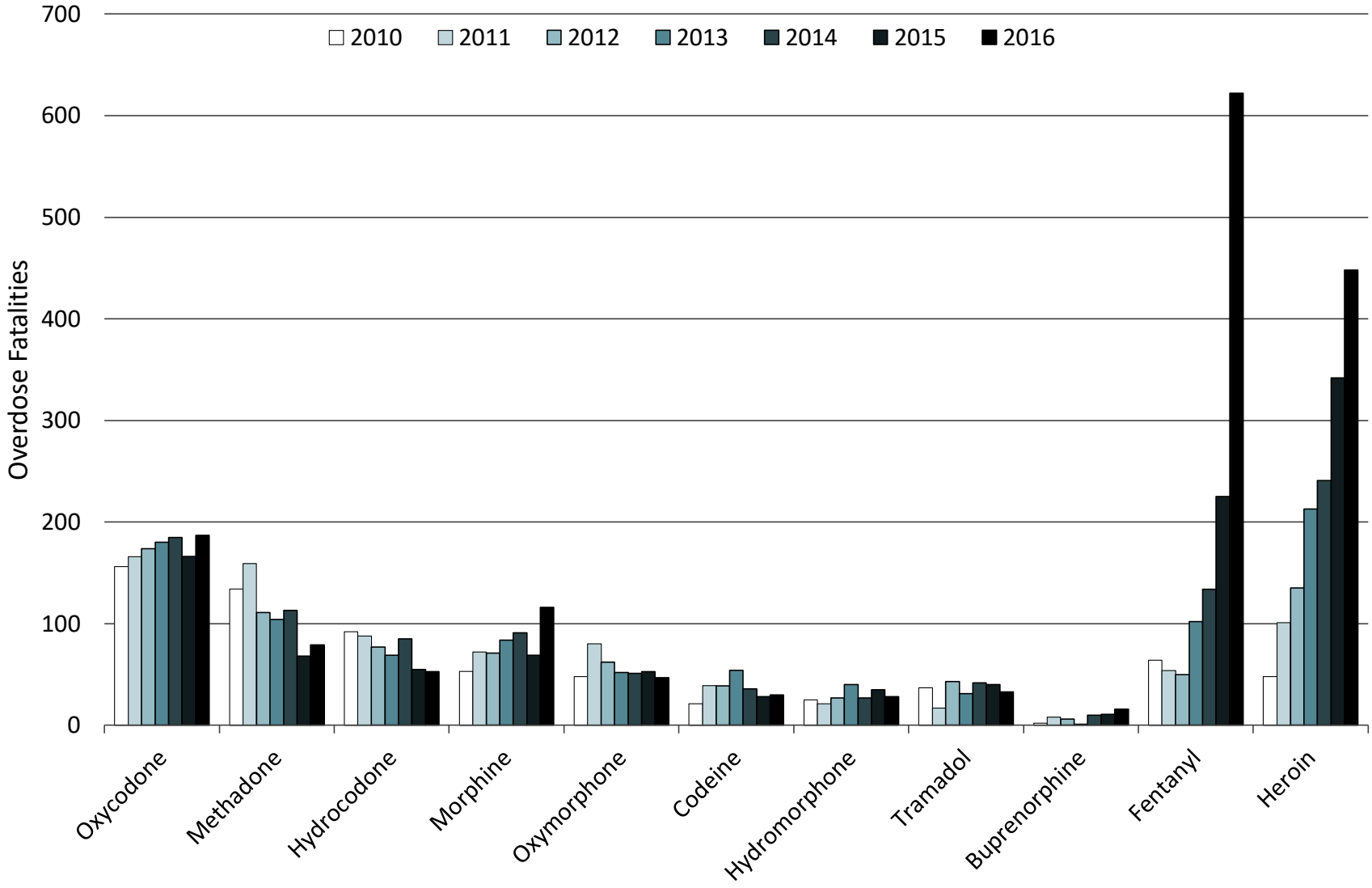


*Data for 2017 is a predicted total for the year.

Includes heroin, prescription opioids, and unspecified opioids. Unspecified opioids represent less than 2% of all opioid overdose deaths, and are not examined in detail here.

Data Source: OCME Fata Drug Overdose Quarterly Report http://www.vdh.virginia.gov/medExam/ForensicEpidemiology.htm

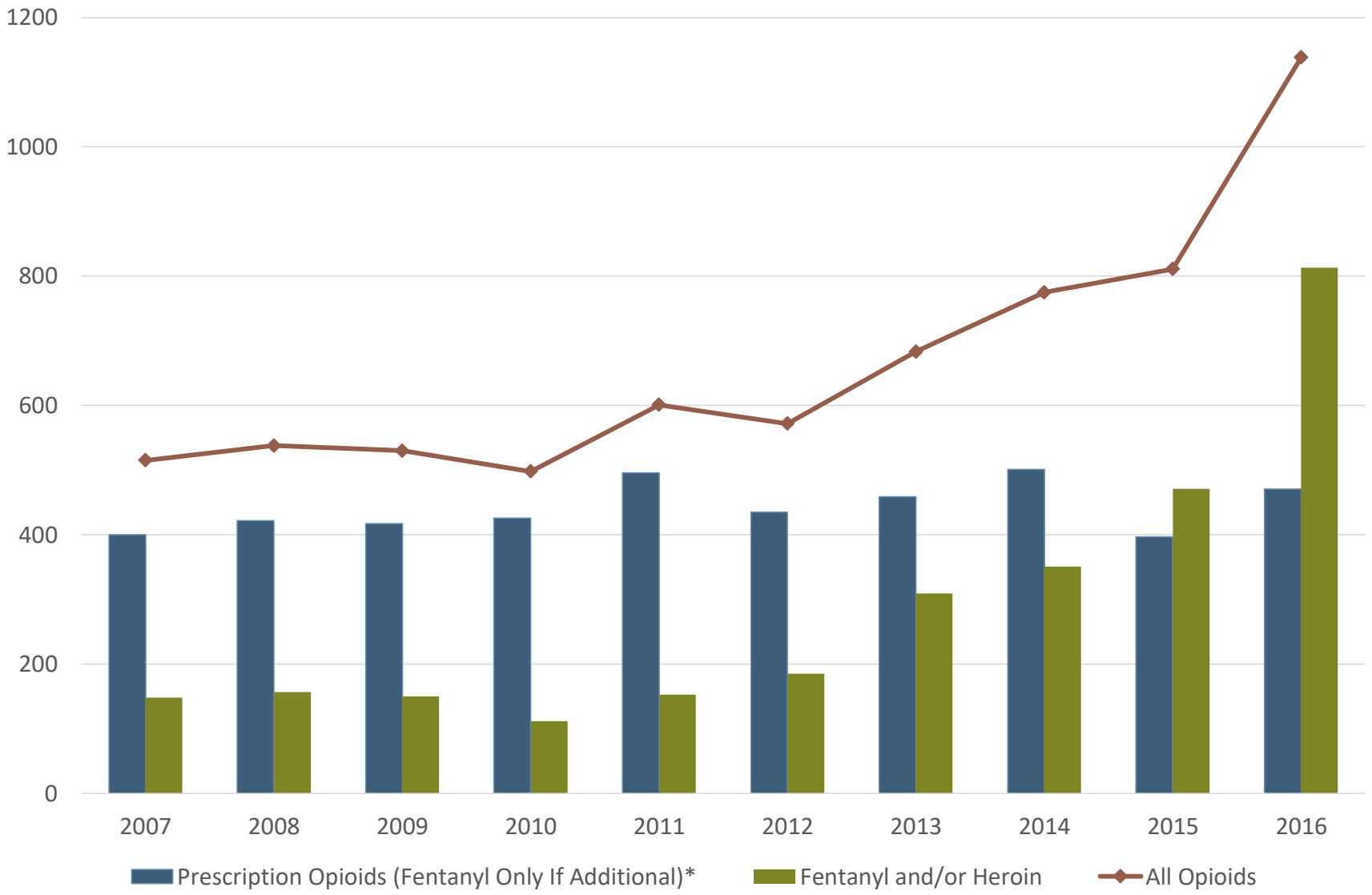
Figure 2: Overdose Fatalities For Specific Opioids
CY2010-2016



"Fentanyl" includes fentanyl and fentanyl analogs.

Data Source: OCME Fata Drug Overdose Quarterly Report http://www.vdh.virginia.gov/medExam/ForensicEpidemiology.htm

Figure 3: Changing Makeup of Opioid Overdose Fatalities
CY2007-2016

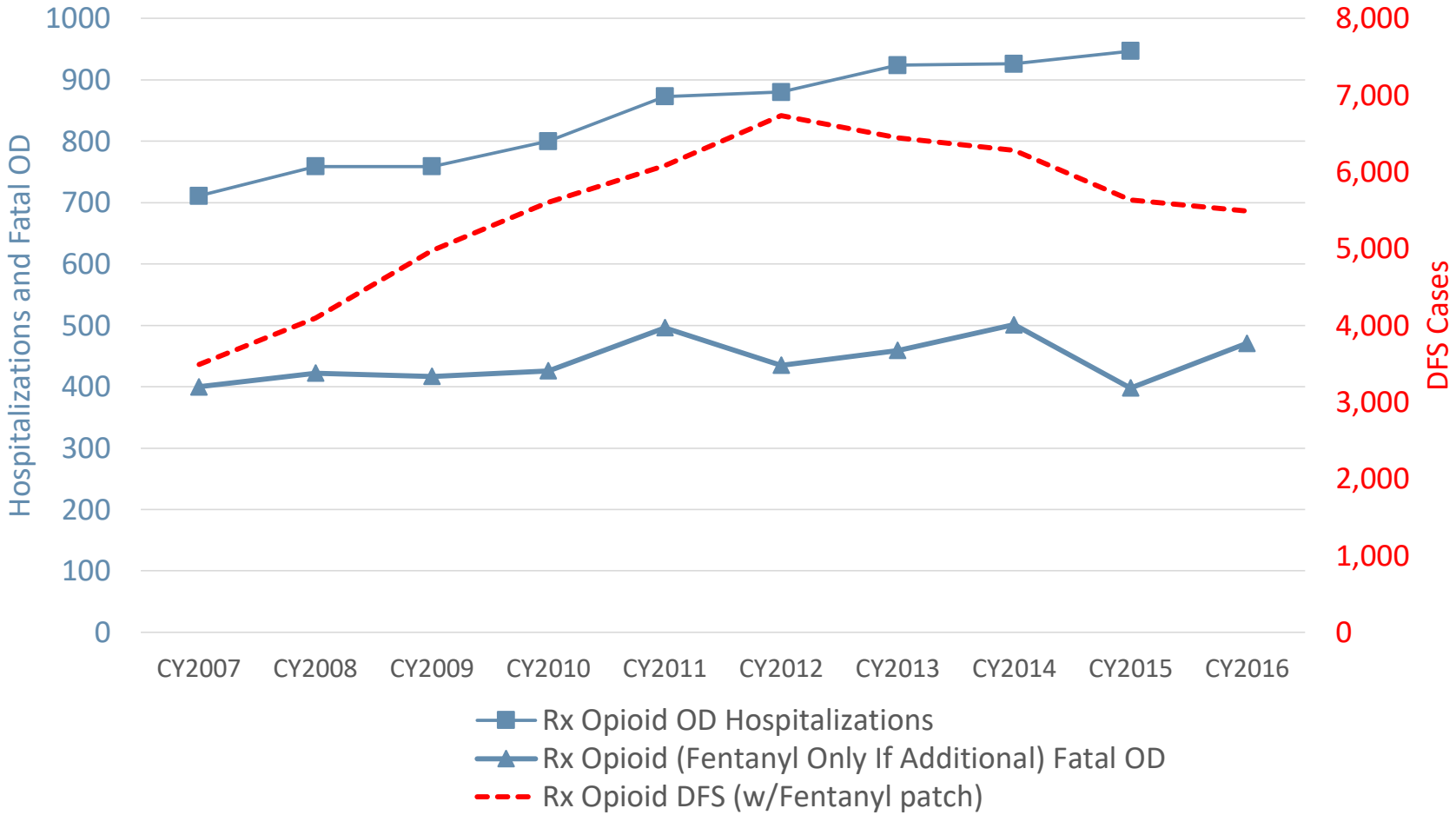


"Prescription Opioid (Fentanyl Only If Additional)" includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality. "Fentanyl" includes fentanyl and fentanyl analogs.

Data Source: OCME Fata Drug Overdose Quarterly Report http://www.vdh.virginia.gov/medExam/ForensicEpidemiology.htm

Figure 4: Virginia Prescription Opioid Data

Hospitalizations & Fatal Overdoses (Left Axis) and Cases Submitted to DFS (Right Axis) CY2007-2016

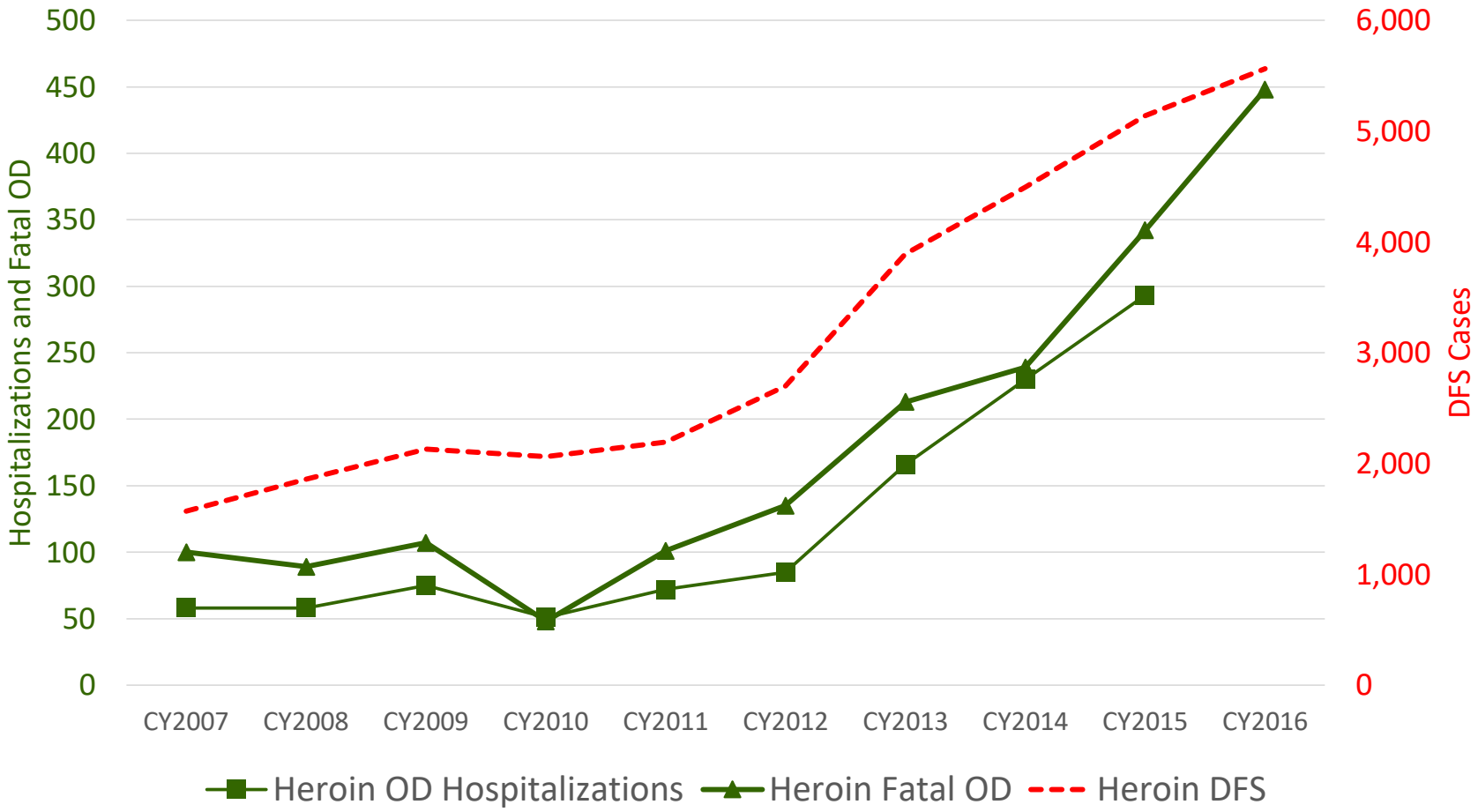


Hospitalization data cannot exclude fentanyl. Fatal overdose data only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality. DFS data only includes fentanyl if it was in the form of a transdermal patch. "Fentanyl" includes fentanyl and fentanyl analogs.

Data Sources: OFHS response to data request; OCME Fatal Drug Overdose Quarterly Report (2015 data are projected, preliminary figures); DFS monthly submission to NFLIS

Figure 5: Virginia Heroin Data

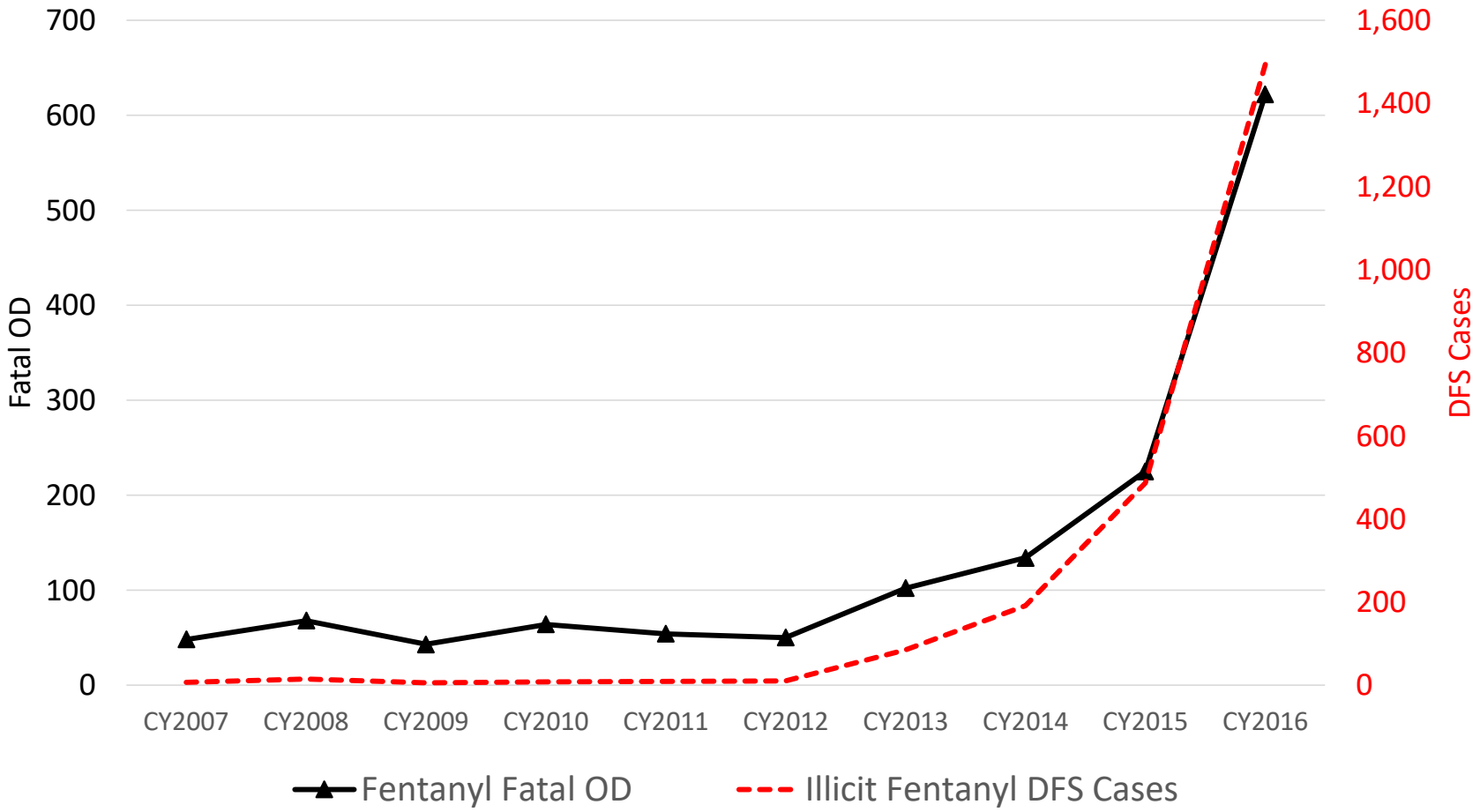
Hospital Discharges & Fatal Overdoses (Left Axis) and Cases Submitted to DFS (Right Axis) CY2007-2016



Data Sources: OFHS response to data request; OCME Fatal Drug Overdose Quarterly Report (2015 data are projected, preliminary figures); DFS monthly submission to NFLIS

Figure 6: Virginia Fentanyl Data

Fatal Overdoses (Left Axis) and Cases Submitted to DFS (Right Axis) CY2007-2016

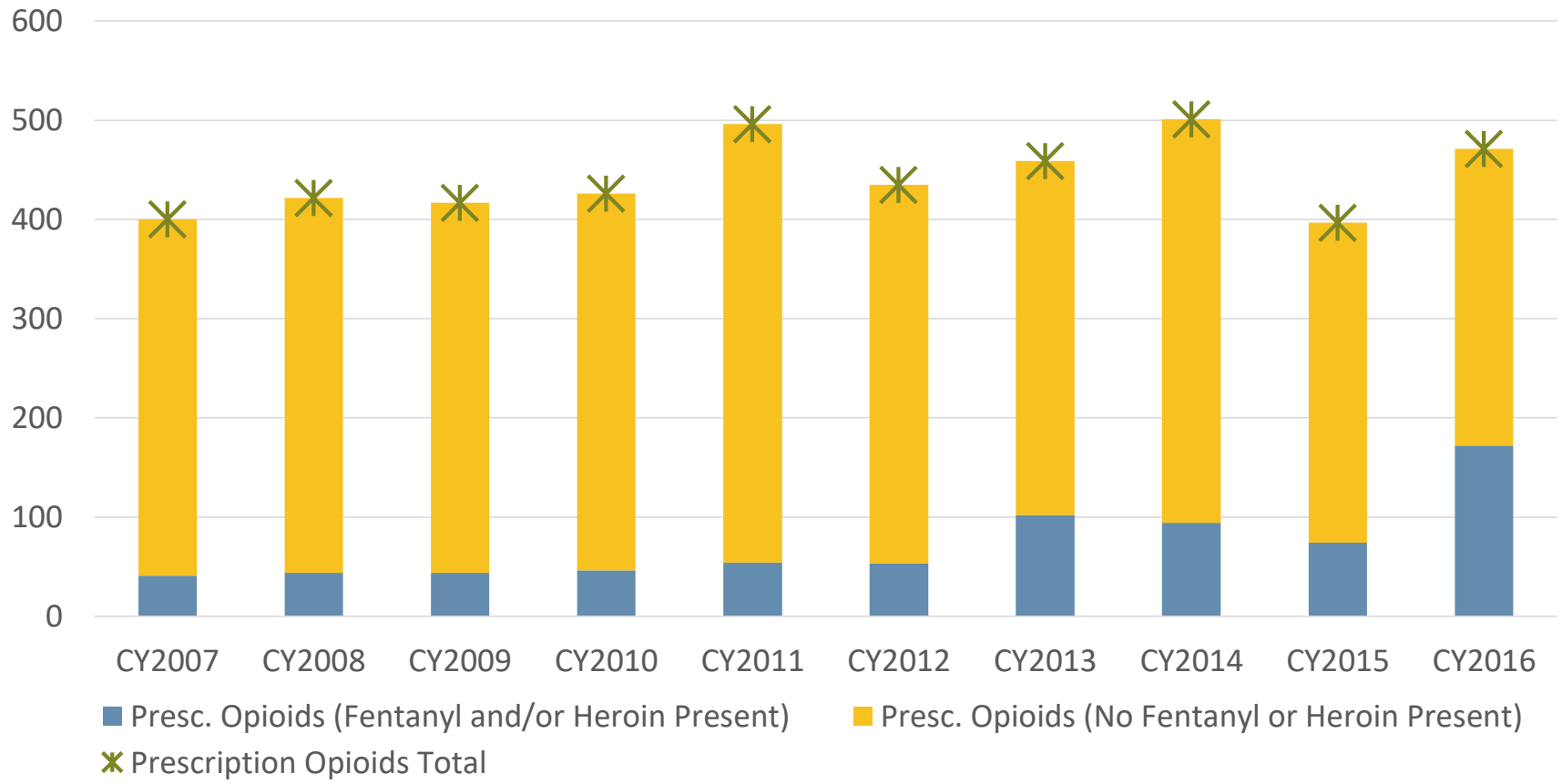


"Fentanyl Fatal OD" includes fentanyl and fentanyl analogs. "Illicit Fentanyl DFS Cases" includes fentanyl cases in which it was not submitted in the form of a transdermal patch, and fentanyl analogs.

Data Sources: OCME Fatal Drug Overdose Quarterly Report (2015 data are projected, preliminary figures); DFS monthly submission to NFLIS

Figure 7: Prescription Opioid Fatalities

With and Without Presence of Fentanyl and/or Heroin, CY2007-2016



Between CY 2013 and 2016, prescription opioid overdose fatalities involving fentanyl and/or heroin increased 69%, while fatalities not involving fentanyl and/or heroin decreased 16%. Total prescription opioid fatalities increased 3%.

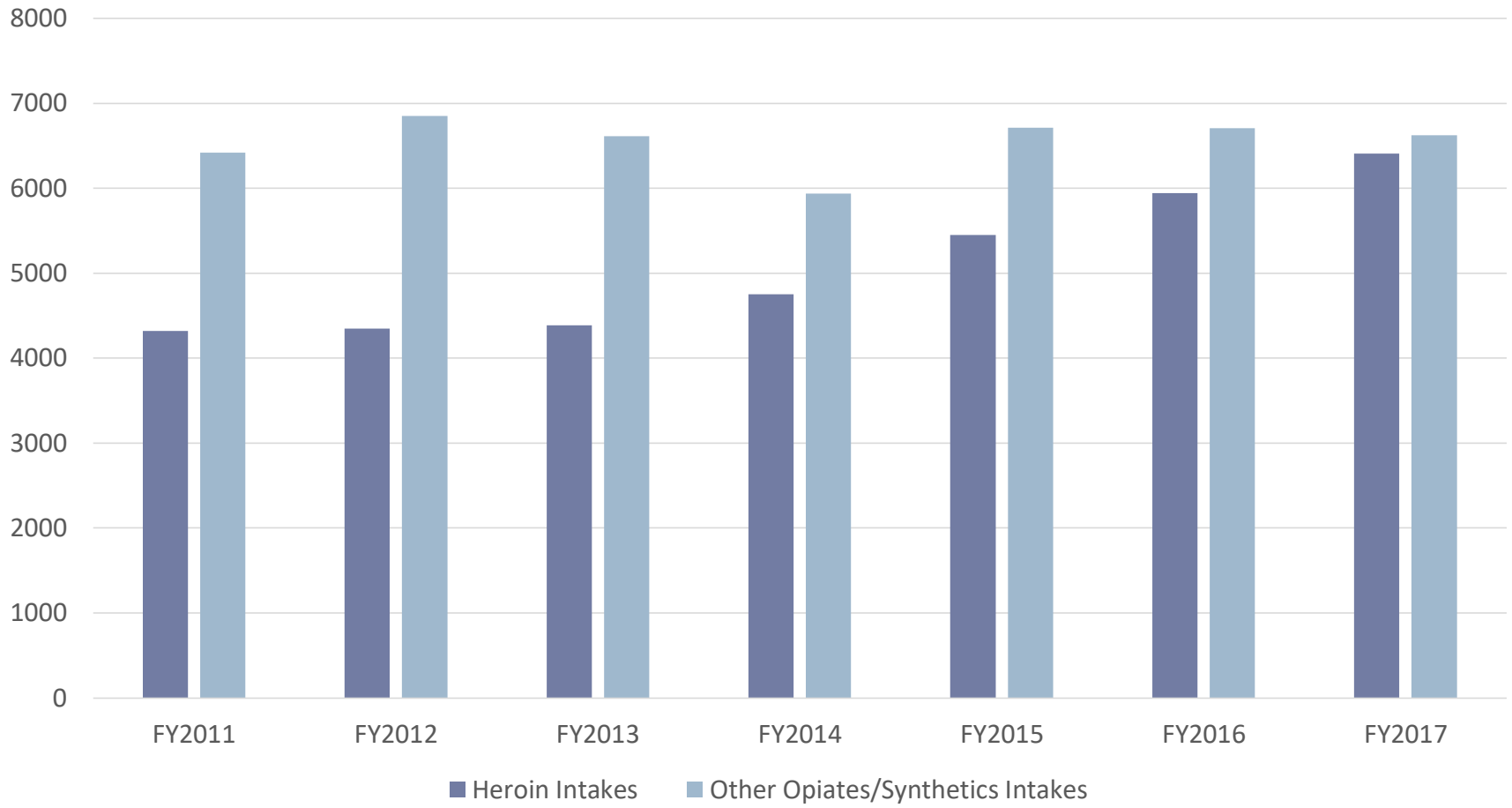
In 2016, 37% of prescription opioid fatalities also involved fentanyl and/or heroin.

"Fentanyl" includes fentanyl and fentanyl analogs.

Data Source: OCME. Response to data request October 11, 2016

Figure 8: Community Services Board Intakes

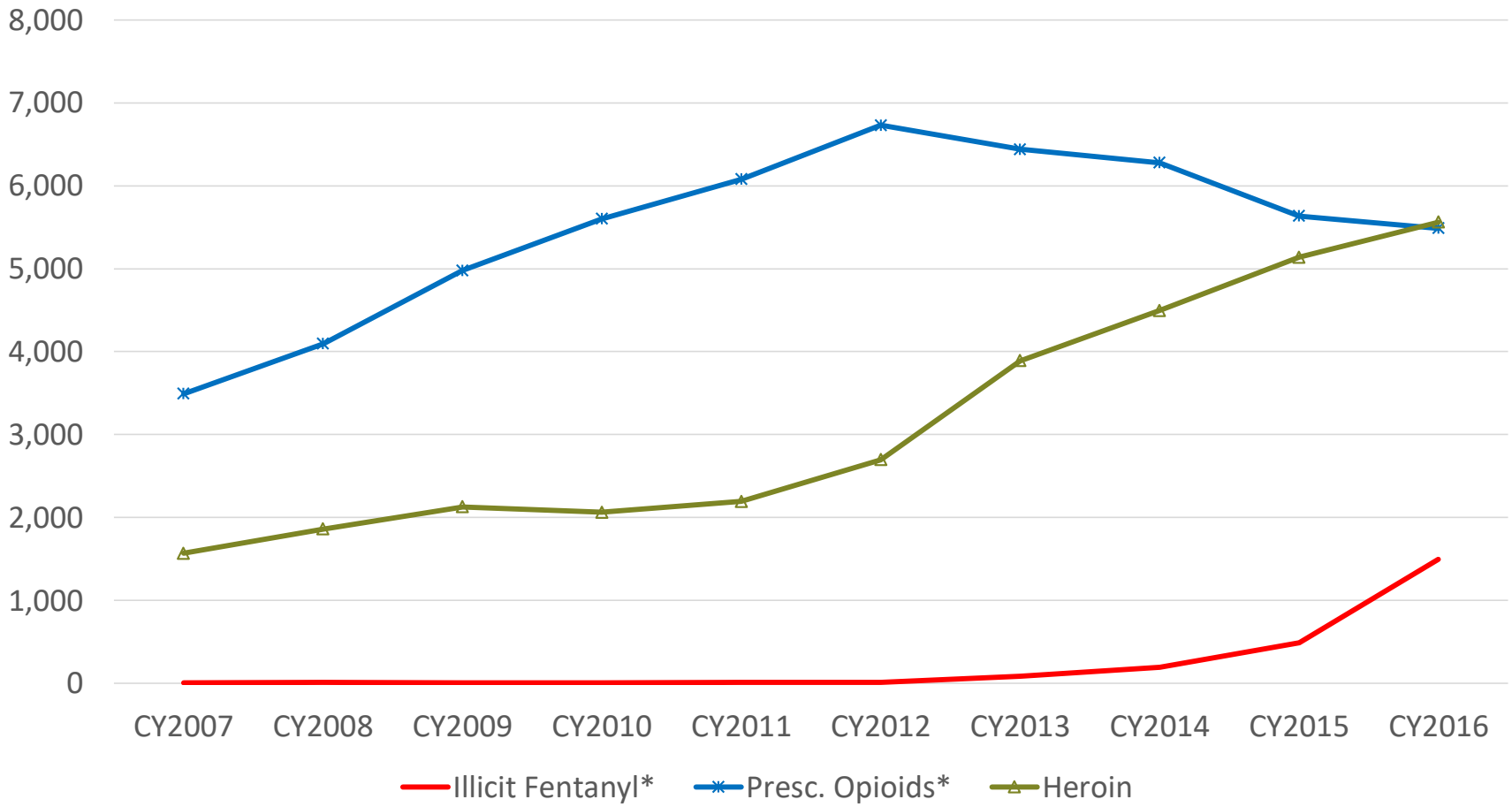
Intakes into Substance Abuse Services Programs
FY2011-2017



Data Sources: DBHDS response to data request, November 2017

Figure 9: Fentanyl vs. Other Opioids – DFS Cases

Illicit Fentanyl & Derivatives vs Prescription Opioids vs Heroin, CY2007-2016



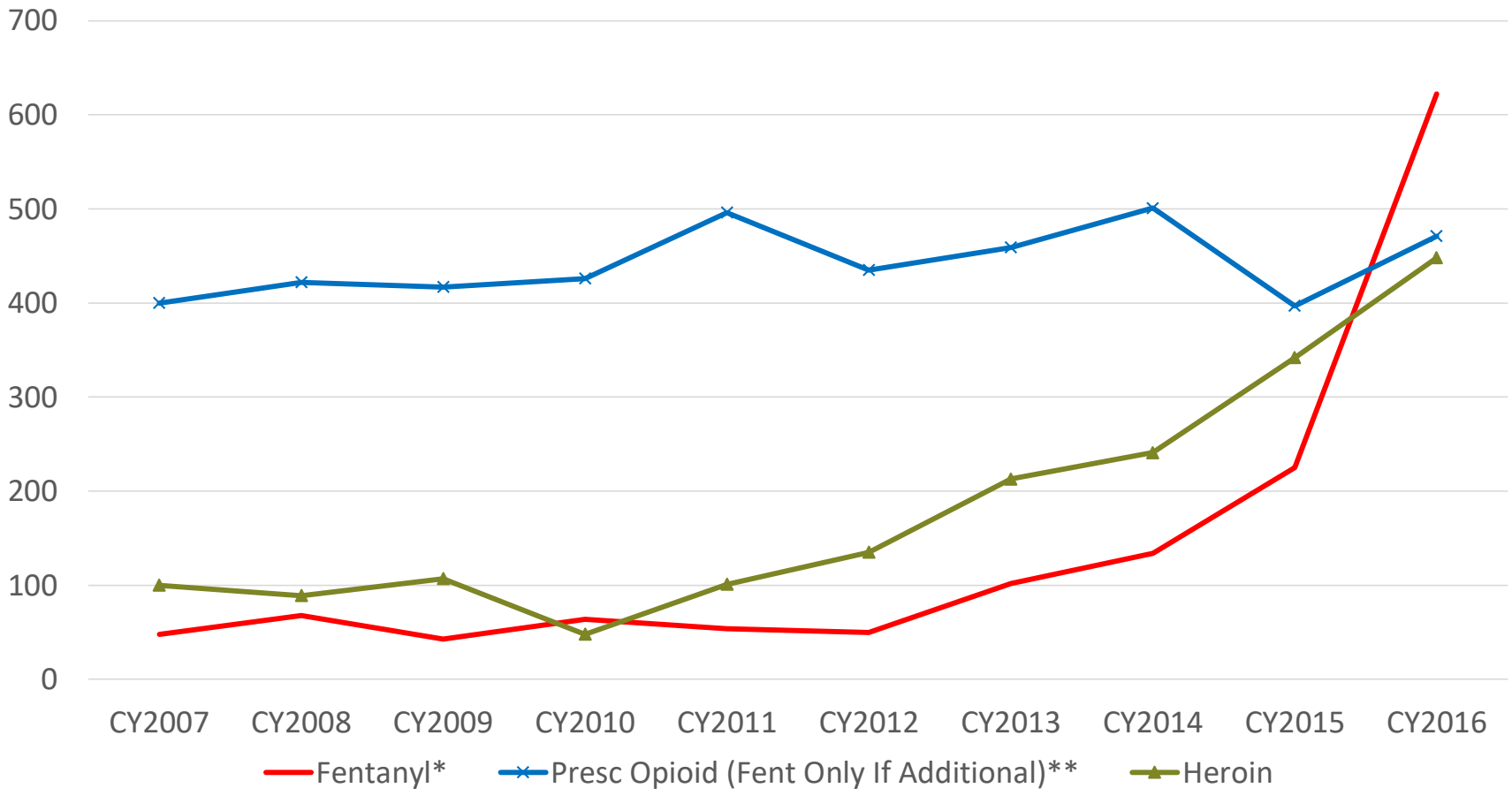
Although illicit fentanyl cases increased 207% between 2015 and 2016, there were almost four times as many heroin cases and four times as many prescription opioid cases that year.

"Illicit Fentanyl & Derivatives" includes illicitly produced fentanyl and fentanyl analogs.

Data Source: DFS monthly submission to NFLIS.

Figure 10: Fentanyl vs. Other Opioids – Overdose Fatalities

Fentanyl* vs Prescription Opioids** vs Heroin, CY2007-2016



In contrast to DFS cases, fentanyl fatalities exceeded heroin fatalities and prescription opioid fatalities (separately) in 2016.

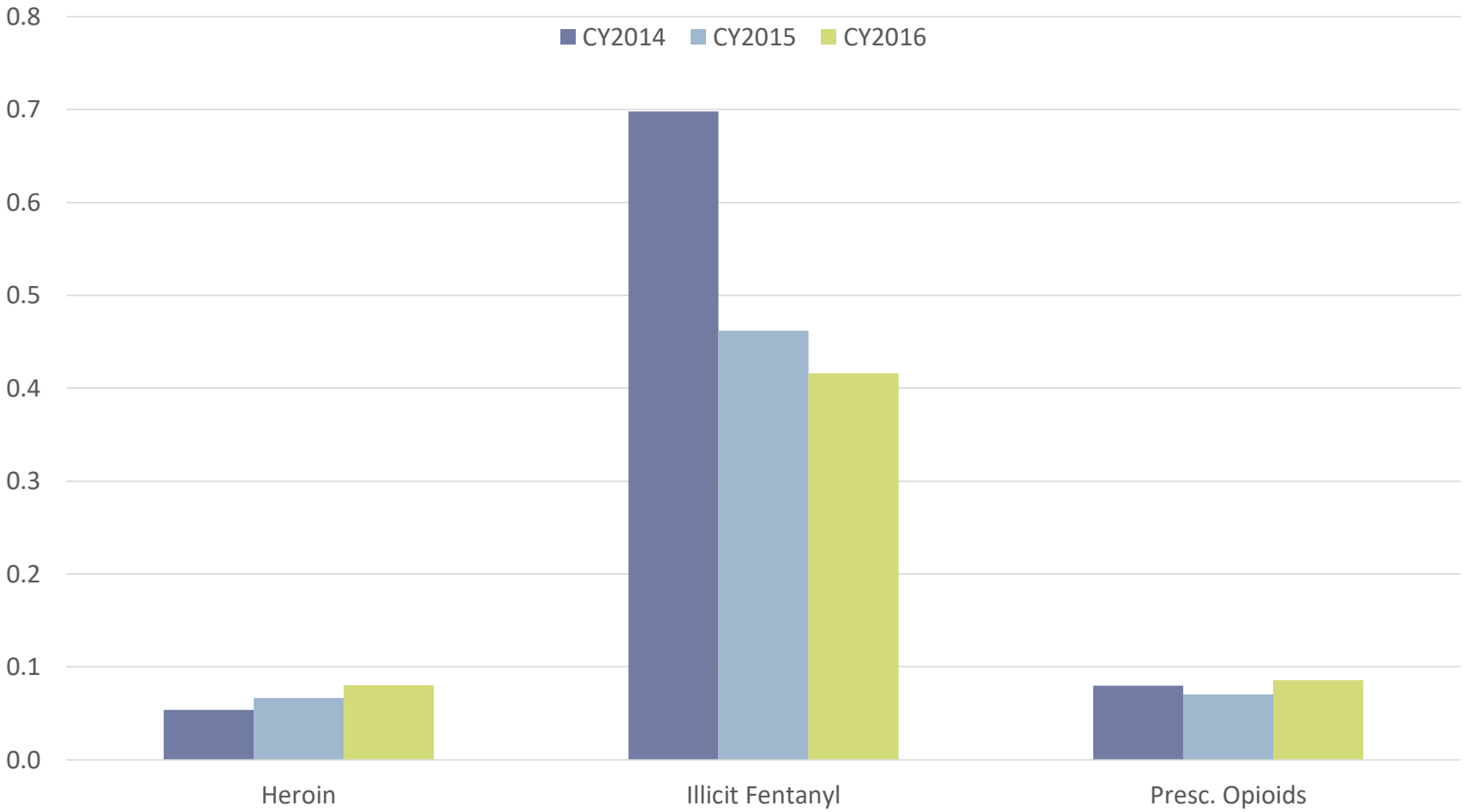
* "Fentanyl" includes fentanyl and fentanyl analogs.

** "Prescription Opioid (Fent Only If Additional)" includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality.

Data Source: OCME Fata Drug Overdose Quarterly Report http://www.vdh.virginia.gov/medExam/ForensicEpidemiology.htm;.

Figure 11: Ratio of Overdose Fatalities to DFS Cases

Number of Overdose Fatalities per DFS Case, CY2014-16



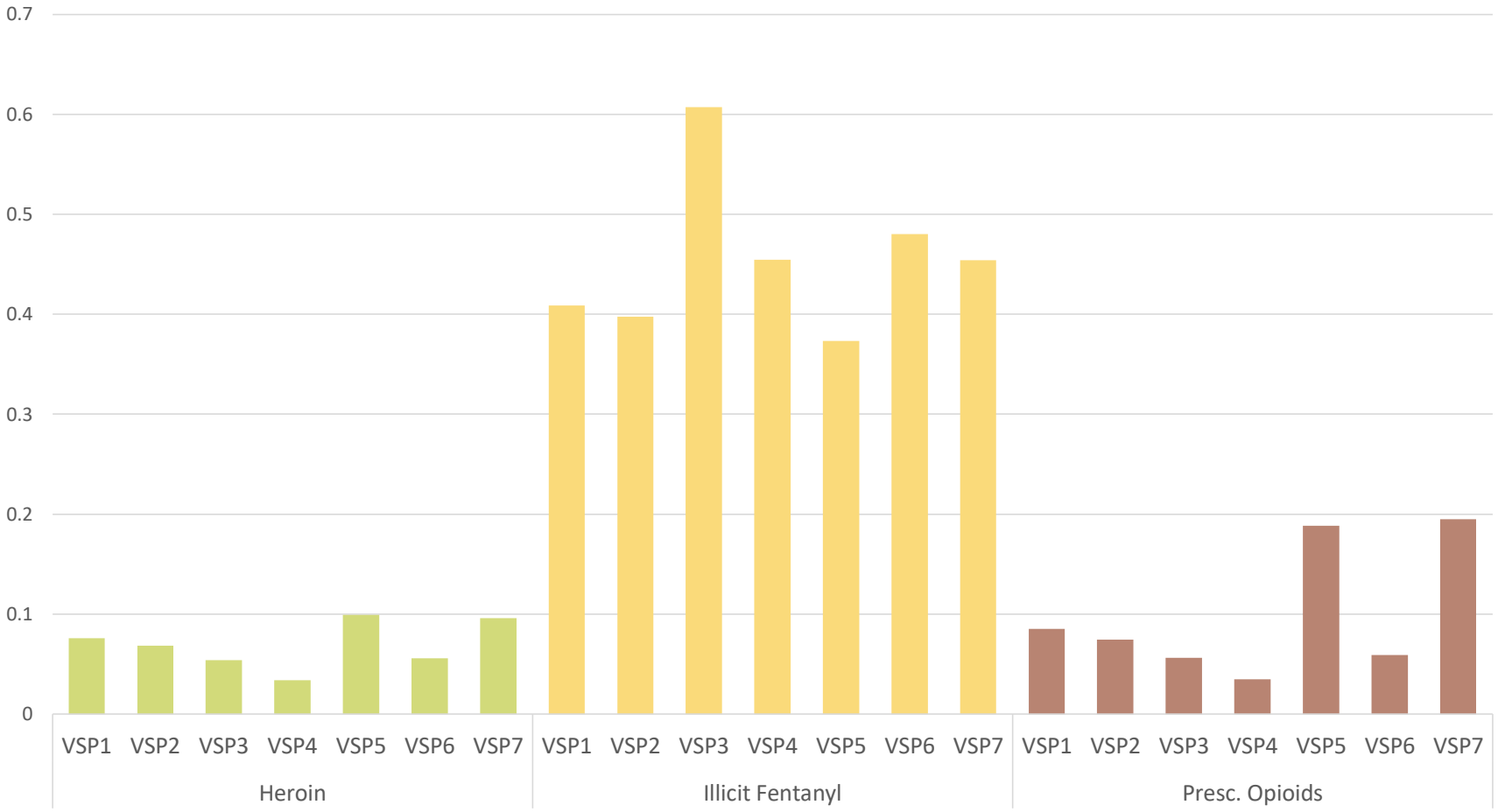
* "Fentanyl" includes fentanyl and fentanyl analogs.

** "Prescription Opioid (Fent Only If Additional)" includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality. .

Data Source: OCME Fata Drug Overdose Quarterly Report http://www.vdh.virginia.gov/medExam/ForensicEpidemiology.htm; DFS monthly submission to NFLIS.

Figure 12: Ratio of Overdose Fatalities to DFS Cases

Number of Overdose Fatalities per DFS Case, By VSP Division, CY2016



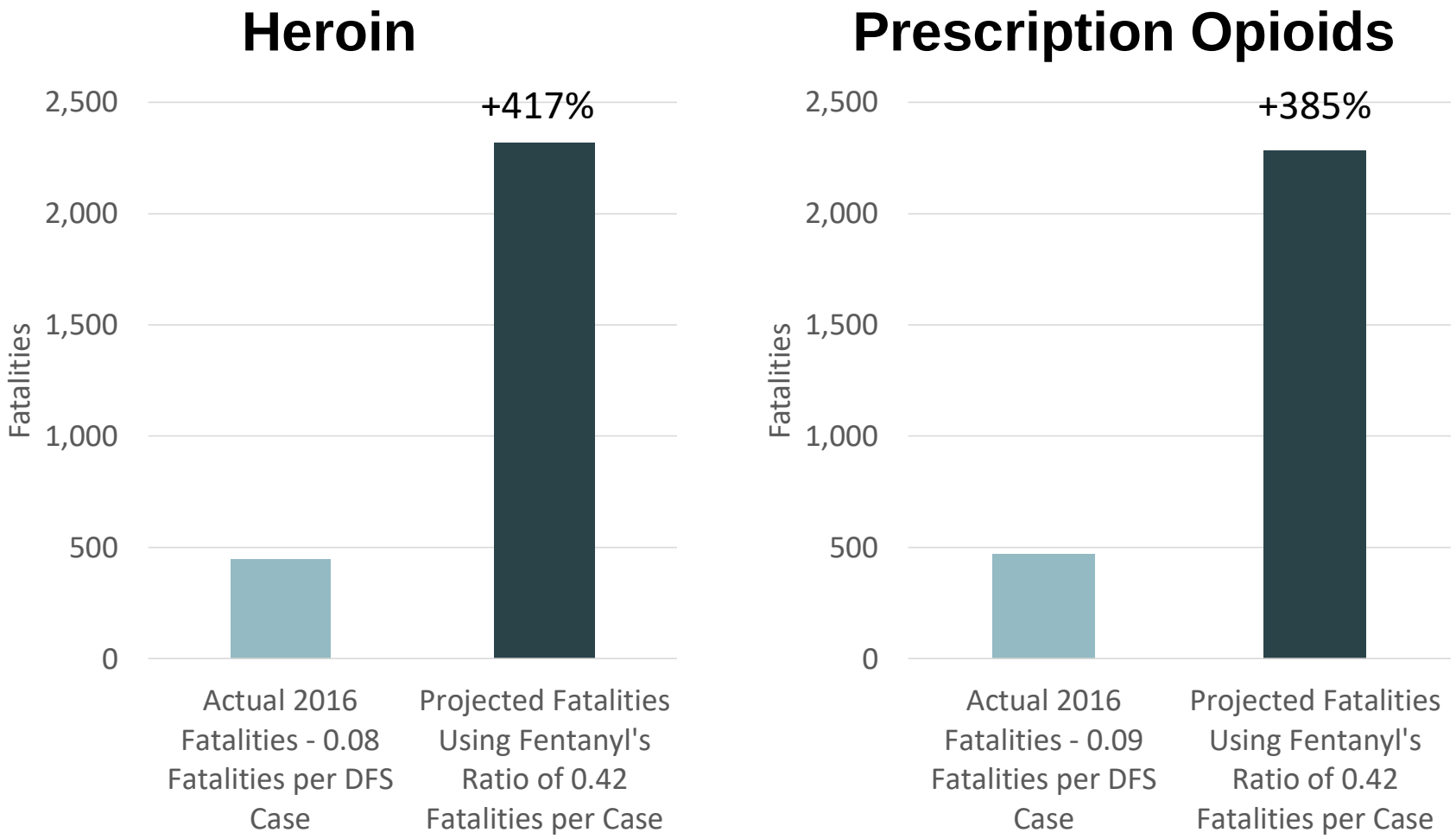
* "Fentanyl" includes fentanyl and fentanyl analogs.

** "Prescription Opioid (Fent Only If Additional)" includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality. .

Data Sources: http://www.vdh.virginia.gov/data/opioid-overdose/; DFS monthly submission to NFLIS.

Figure 13: If Other Opioids Had Fentanyl's Fatality-to-DFS-Case Ratio

CY2016



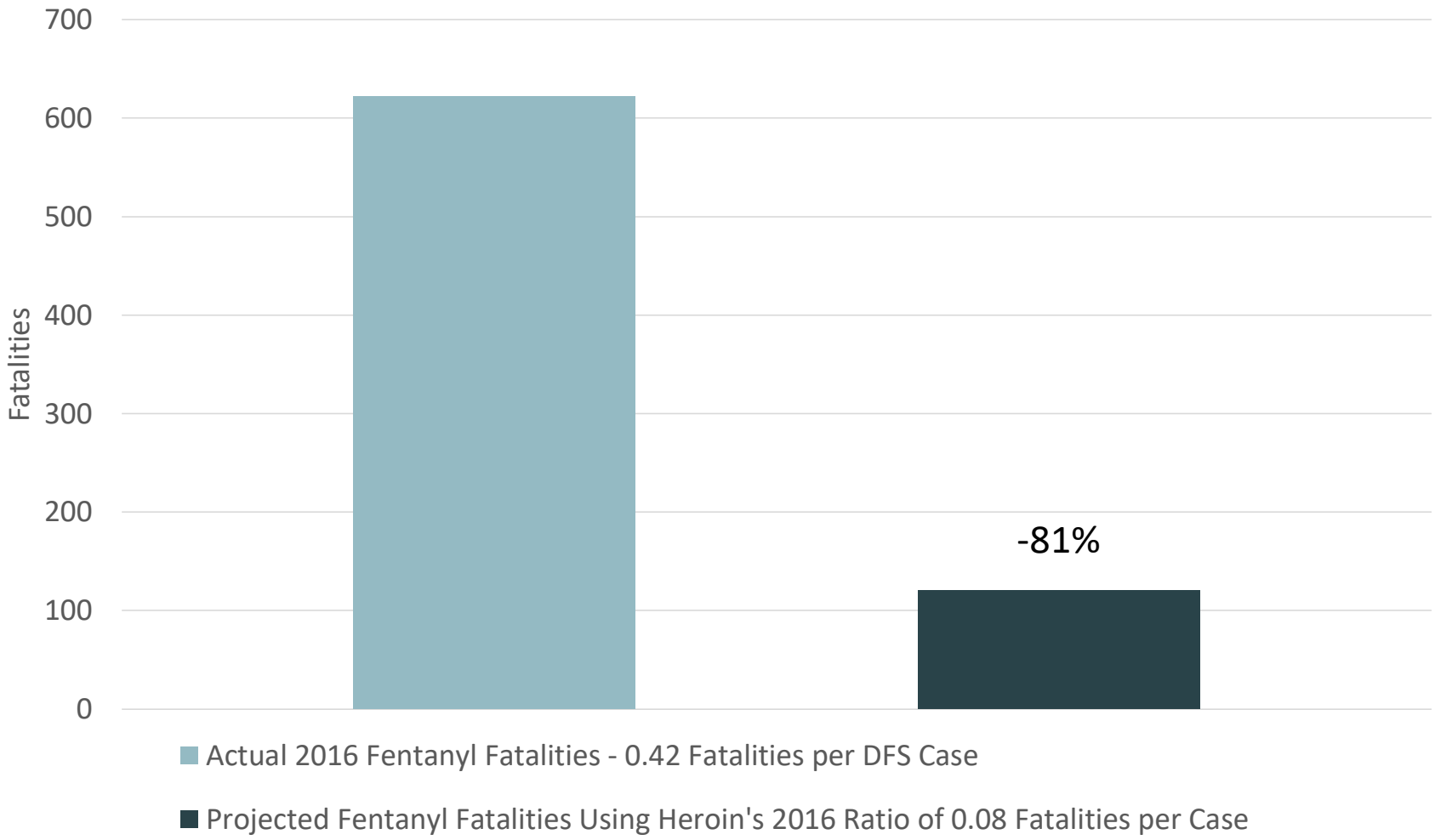
* "Fentanyl" includes fentanyl and fentanyl analogs.

** "Prescription Opioids" includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality.

Data Source: OCME Fata Drug Overdose Quarterly Report http://www.vdh.virginia.gov/medExam/ForensicEpidemiology.htm; DFS monthly submission to NFLIS.

Figure 14: If Fentanyl Had Same Fatality-to-DFS-Case Ratio As Heroin

CY2016

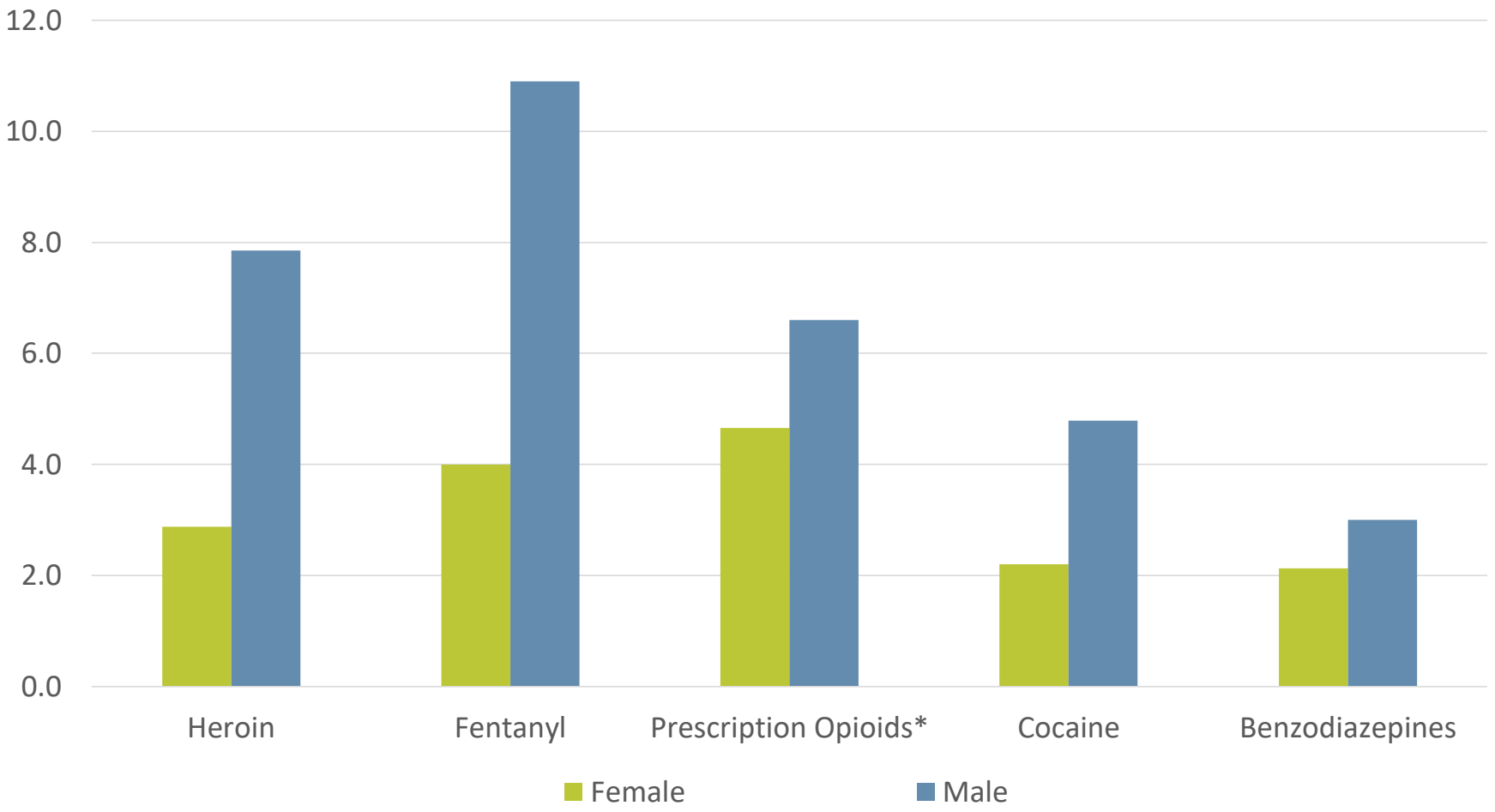


* "Fentanyl" includes fentanyl and fentanyl analogs.
** "Prescription Opioid (Fent Only If Additional)" includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality. .

Data Source: OCME Fata Drug Overdose Quarterly Report http://www.vdh.virginia.gov/medExam/ForensicEpidemiology.htm; DFS monthly submission to NFLIS.

Figure 15: Fatality Rate by Sex, CY2016

Heroin, Fentanyl, Prescription Opioids*, Cocaine, and Benzodiazepines

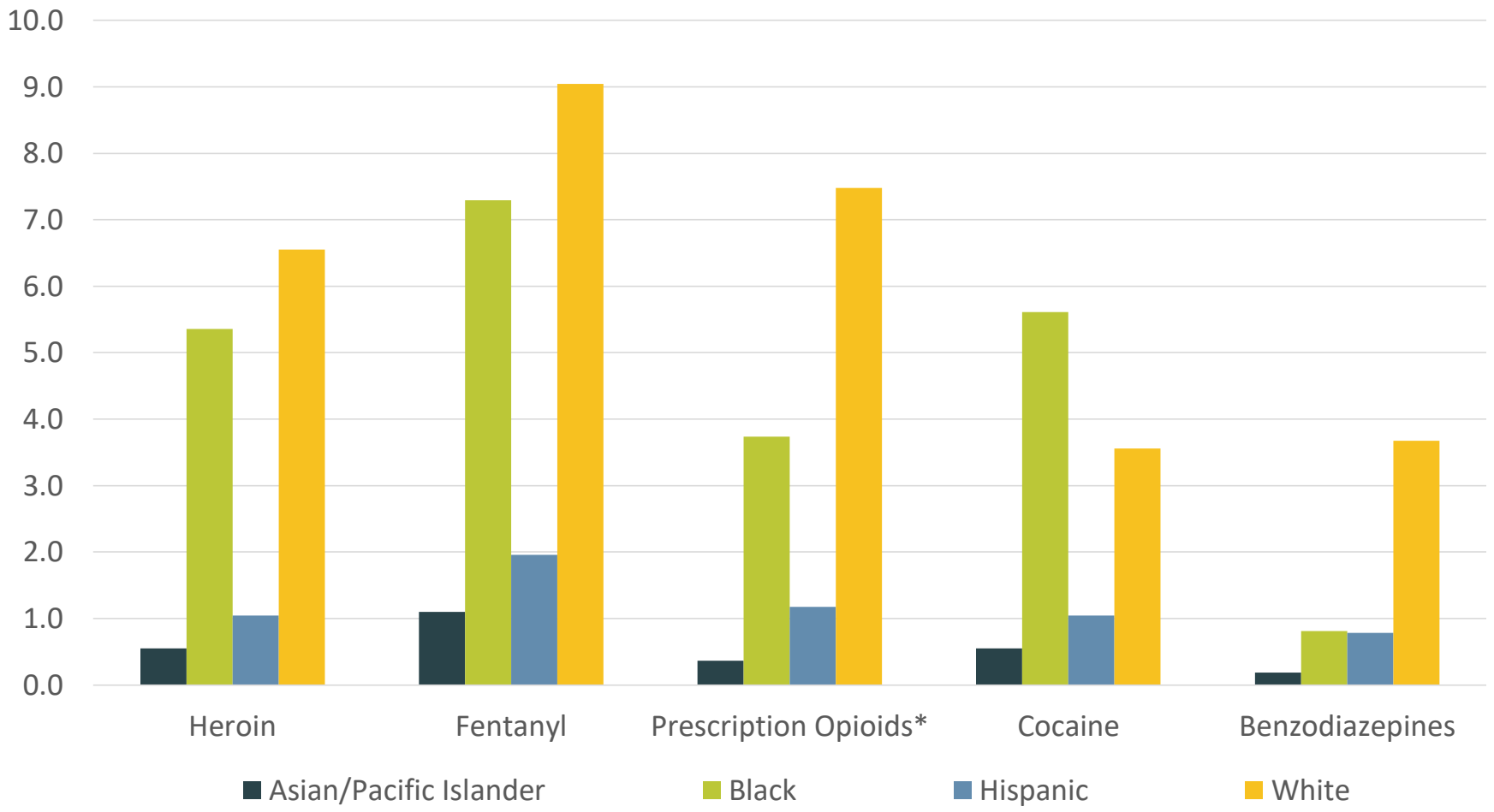


*Includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality. .

Data Sources: OCME response to data request

Figure 16: Fatality Rate by Race/Ethnicity Distribution, CY2016

Heroin, Fentanyl, Prescription Opioids*, Cocaine, and Benzodiazepines

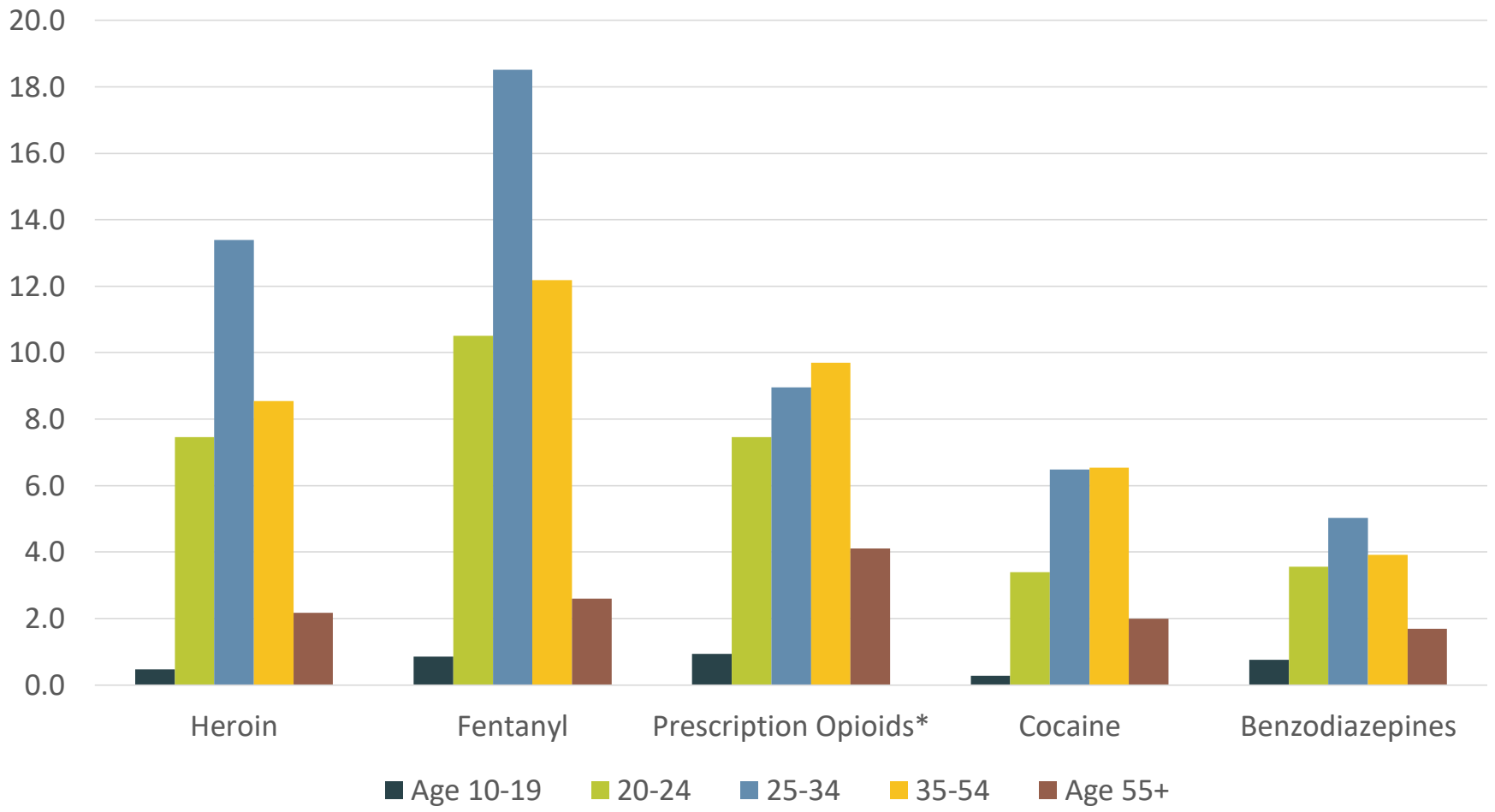


*Includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality. .

Data Sources: OCME response to data request

Figure 17: Fatality Rate by Age Group, CY2016

Heroin, Fentanyl, Prescription Opioids*, Cocaine, and Benzodiazepines

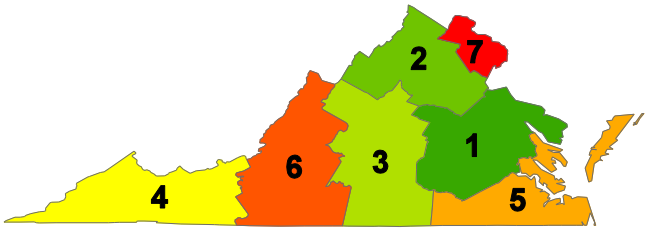


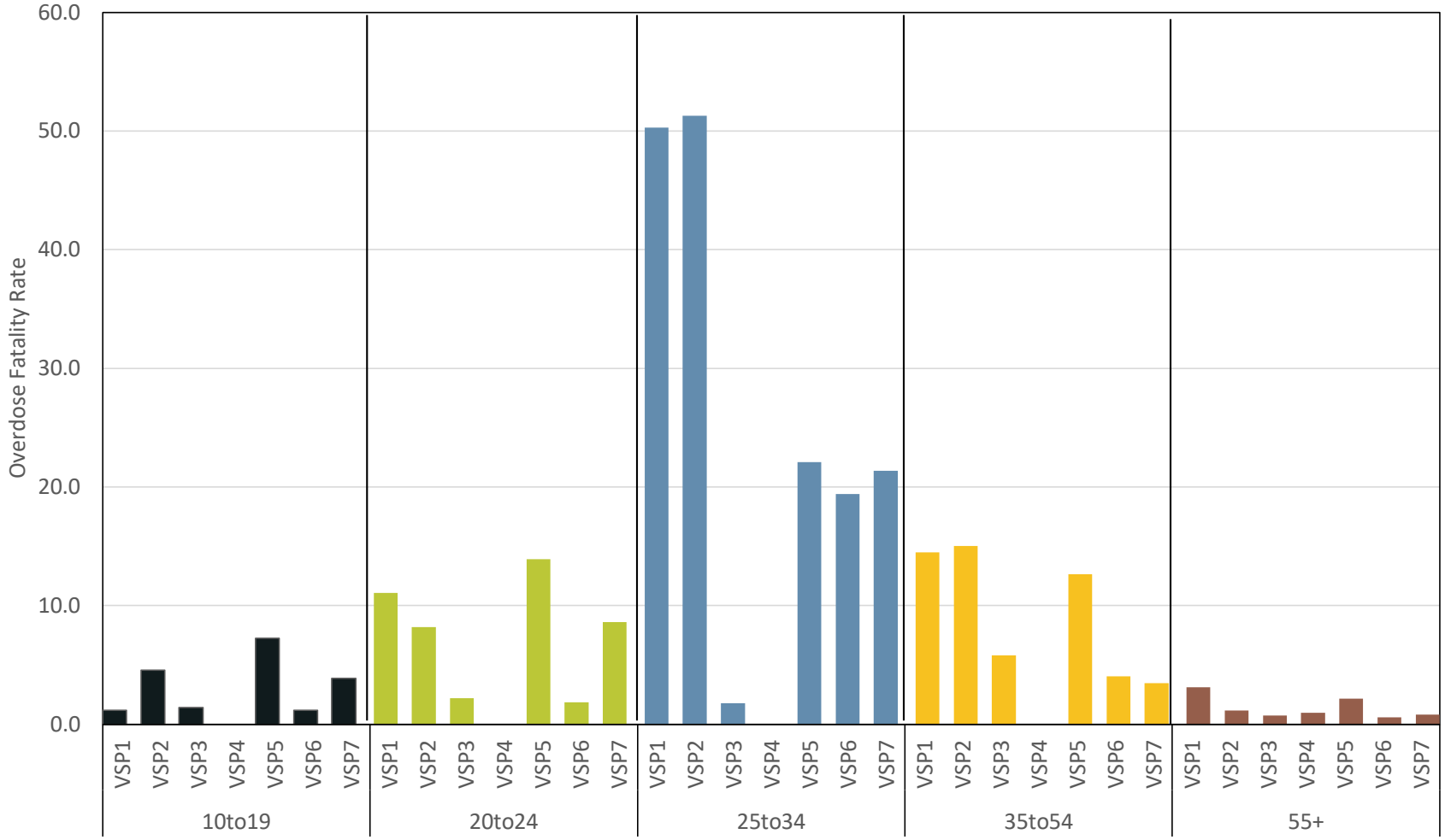
*Includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality. .

Data Sources: OCME response to data request

Figure 18: Regional Heroin Overdose Fatalities

Rate by Age Group Per 100,000 Population, CY2016

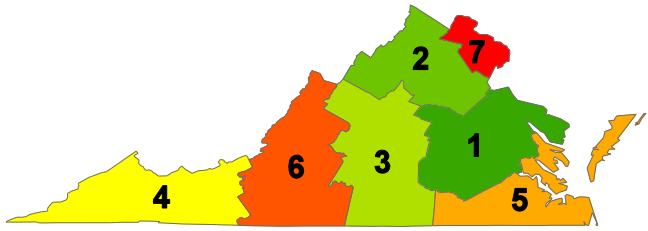


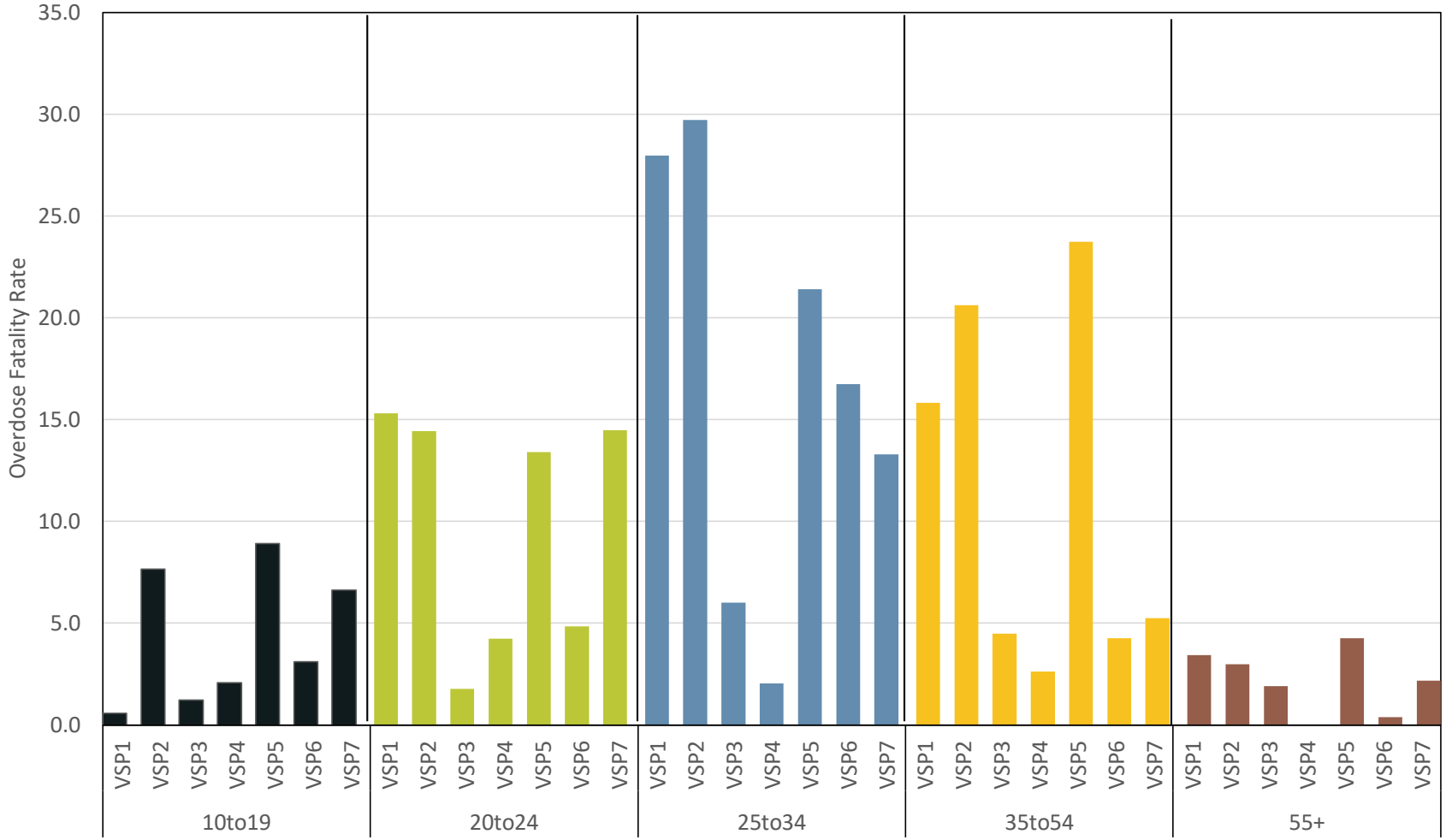


Data Sources: OCME response to data request

Figure 19: Regional Fentanyl Overdose Fatalities

Rate by Age Group Per 100,000 Population, CY2016

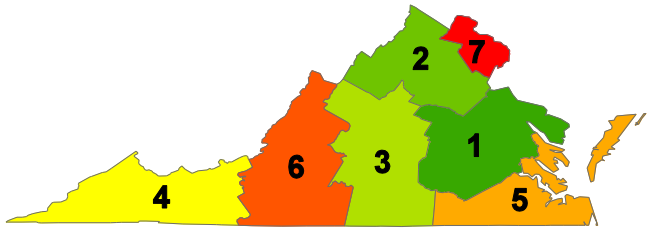


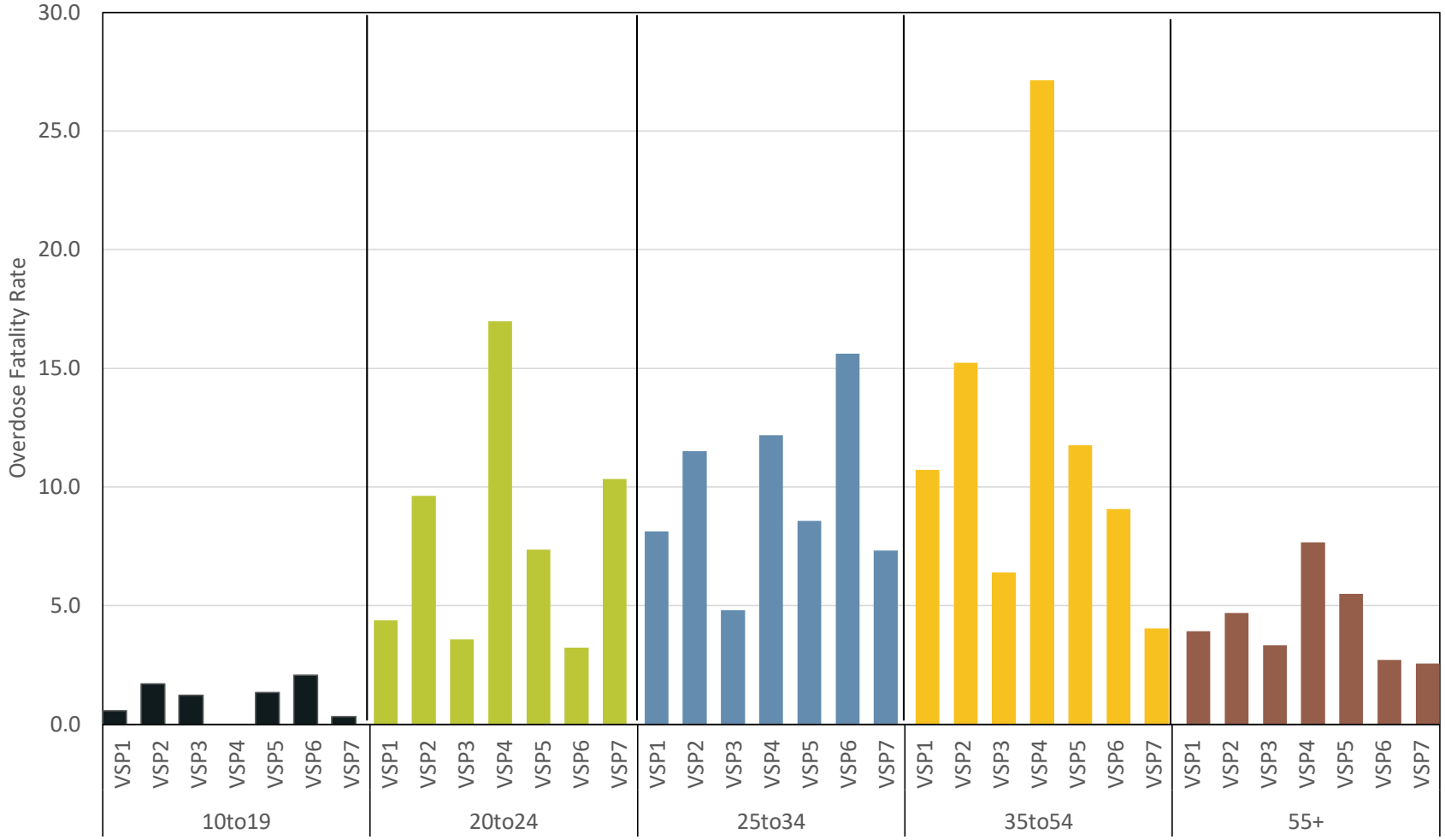


Data Sources: OCME response to data request

Figure 20: Regional Prescription Opioid Overdose Fatalities

Rate by Age Group Per 100,000 Population, CY2016

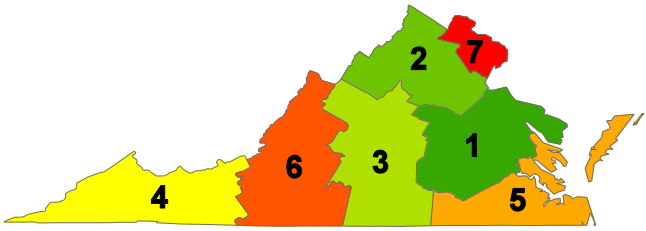


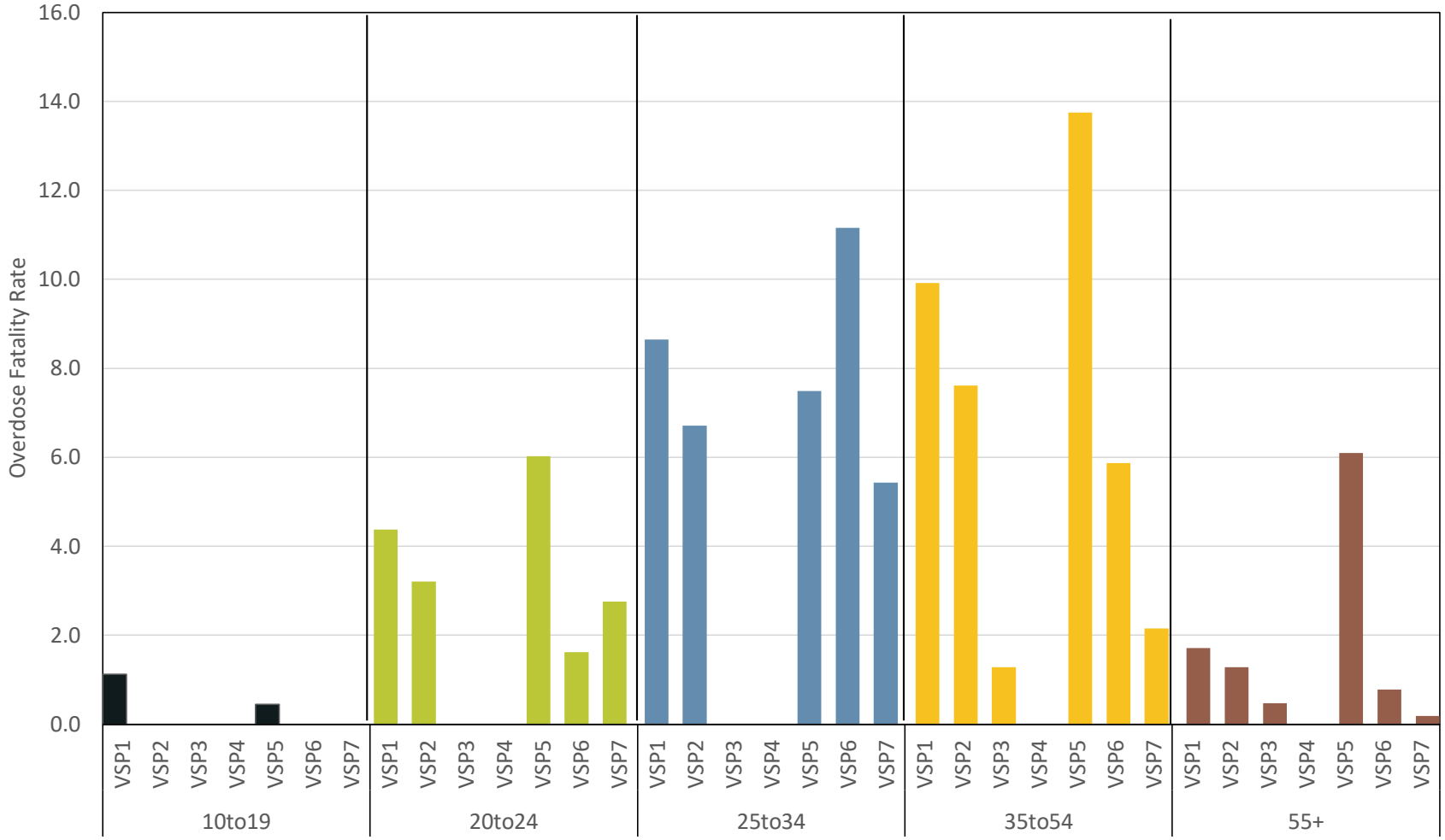


Data Sources: OCME response to data request

Figure 21: Regional Cocaine Overdose Fatalities

Rate by Age Group Per 100,000 Population, CY2016

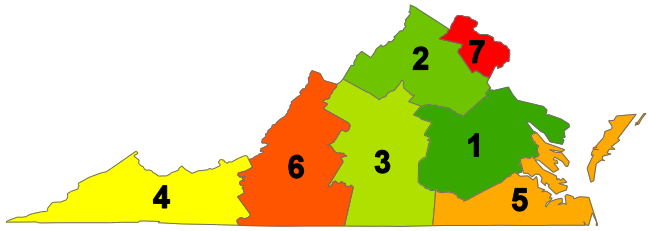


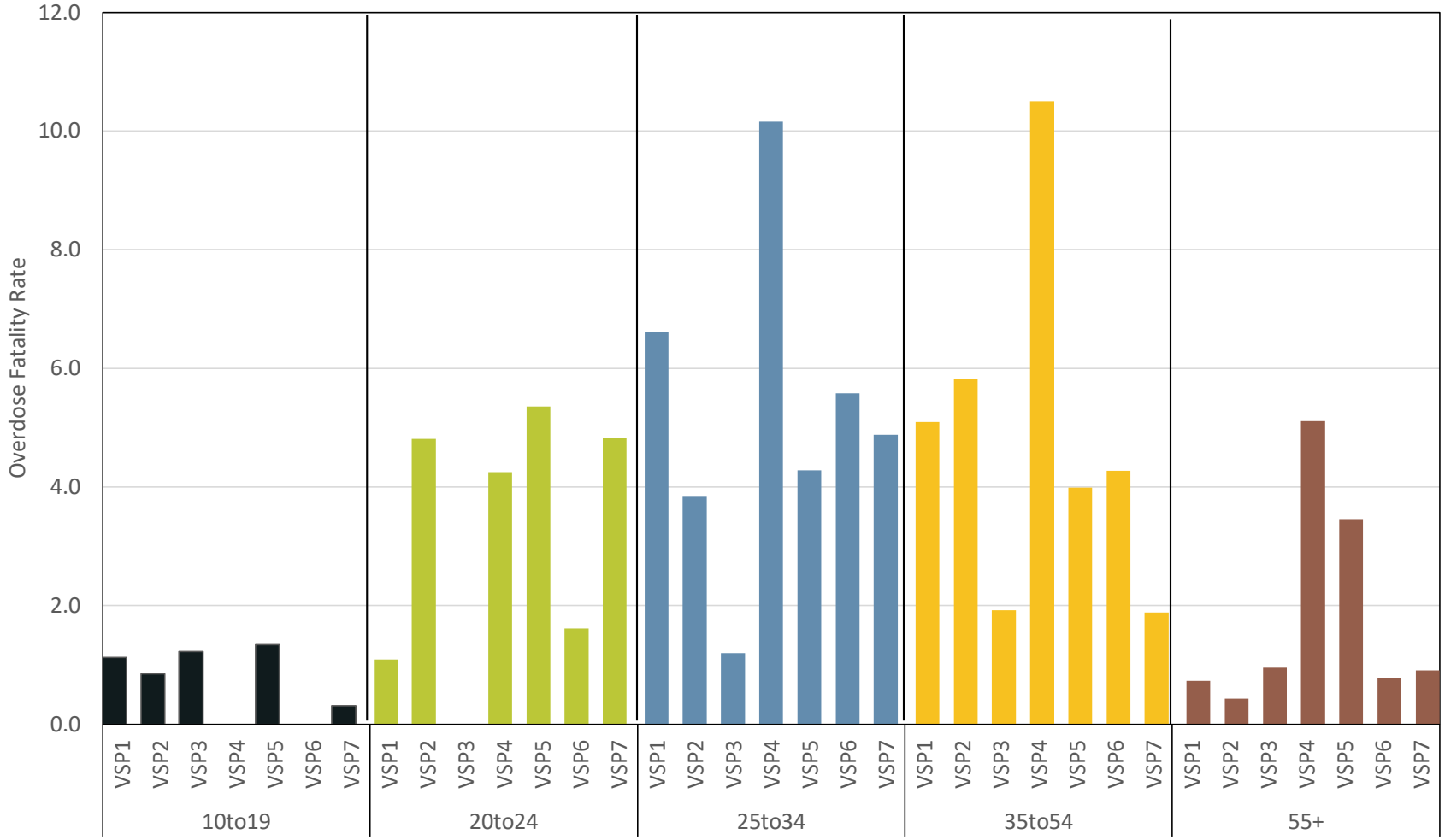


Data Sources: OCME response to data request

Figure 22: Regional Benzodiazepine Overdose Fatalities

Rate by Age Group Per 100,000 Population, CY2016

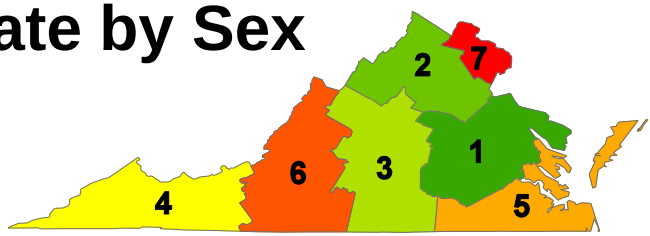


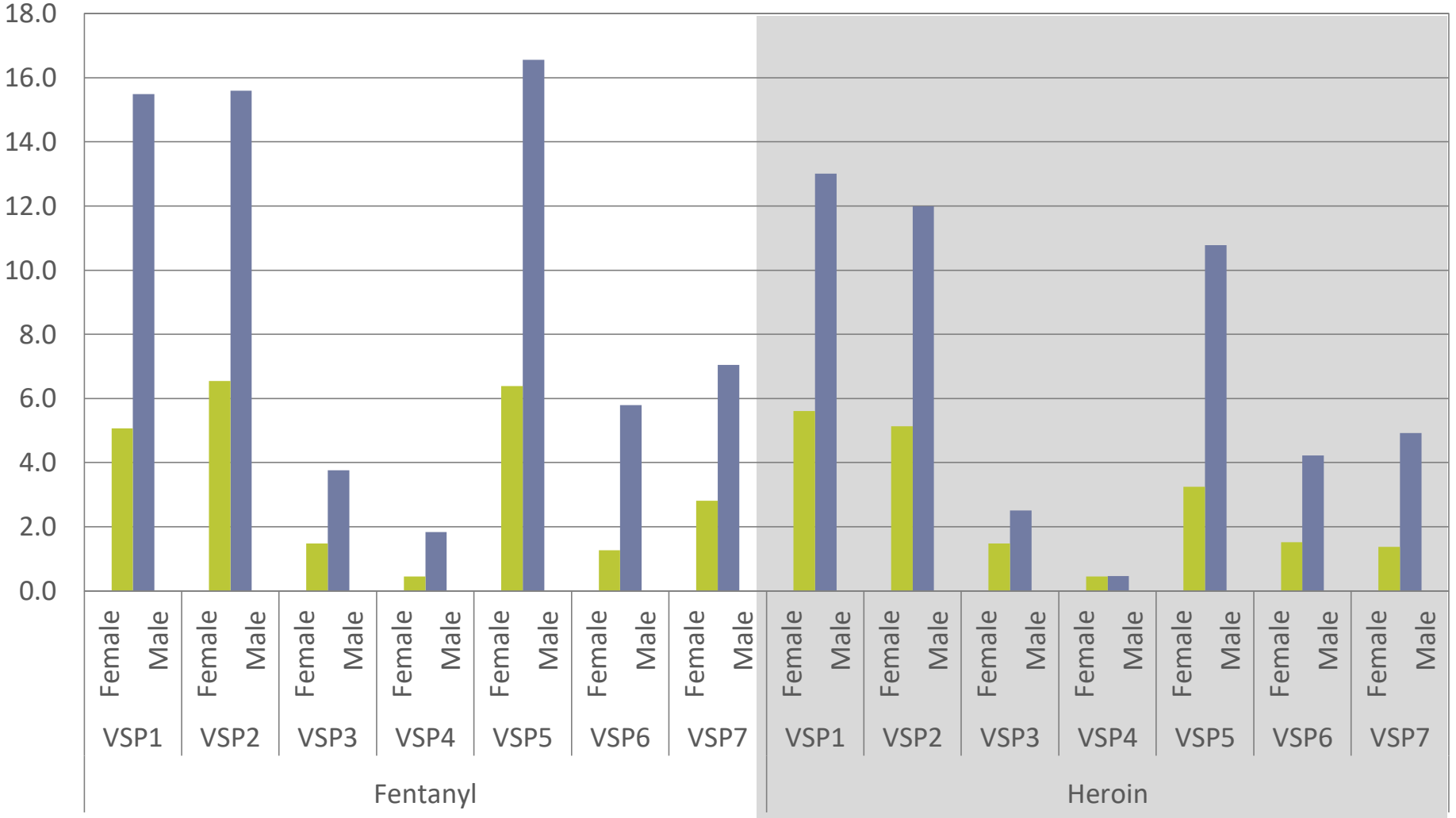


Data Sources: OCME response to data request

Figure 23: Regional Overdose Fatality Rate by Sex

Fentanyl & Heroin Fatalities Per 100,000 Population, CY2016

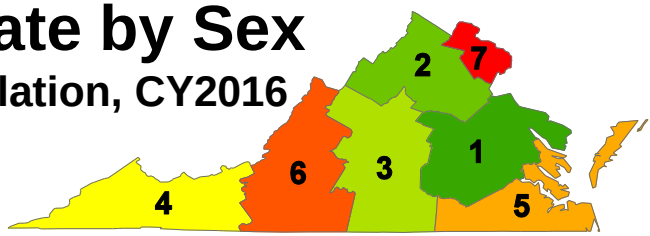


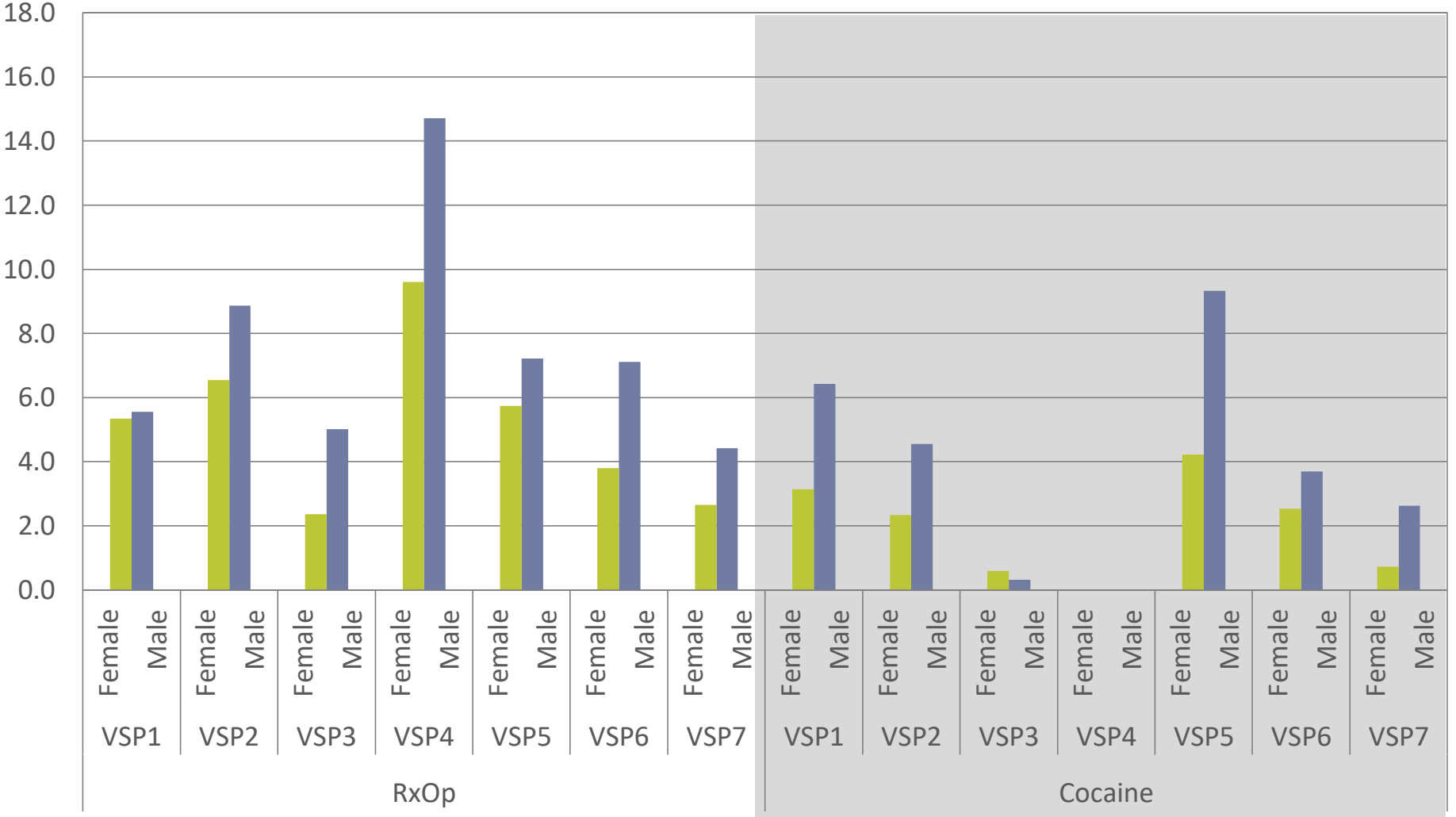


Data Sources: OCME response to data request

Figure 24: Regional Overdose Fatality Rate by Sex

Prescription Opioids* & Cocaine Fatalities Per 100,000 Population, CY2016

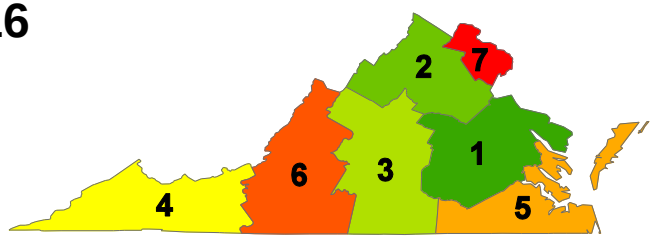


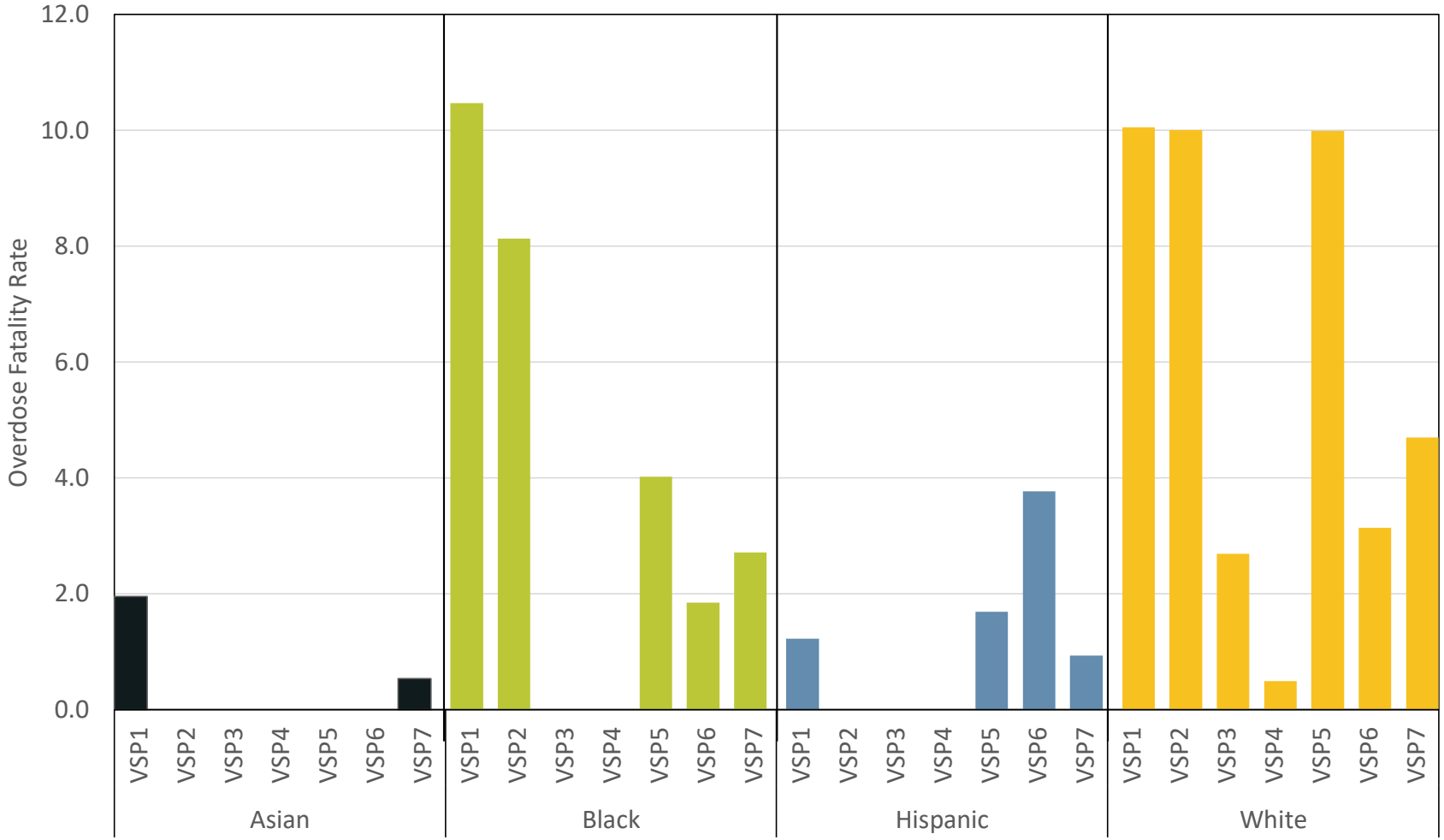


Data Sources: OCME response to data request

Figure 25: Regional Heroin Overdose Fatalities

Rate by Race/Ethnicity Per 100,000 Population, CY2016

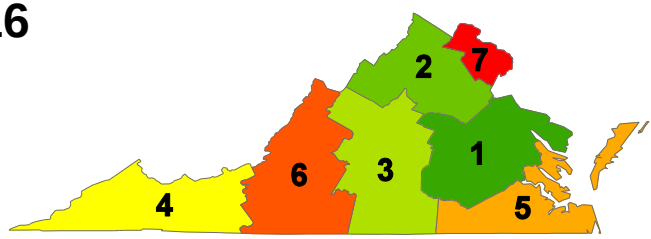


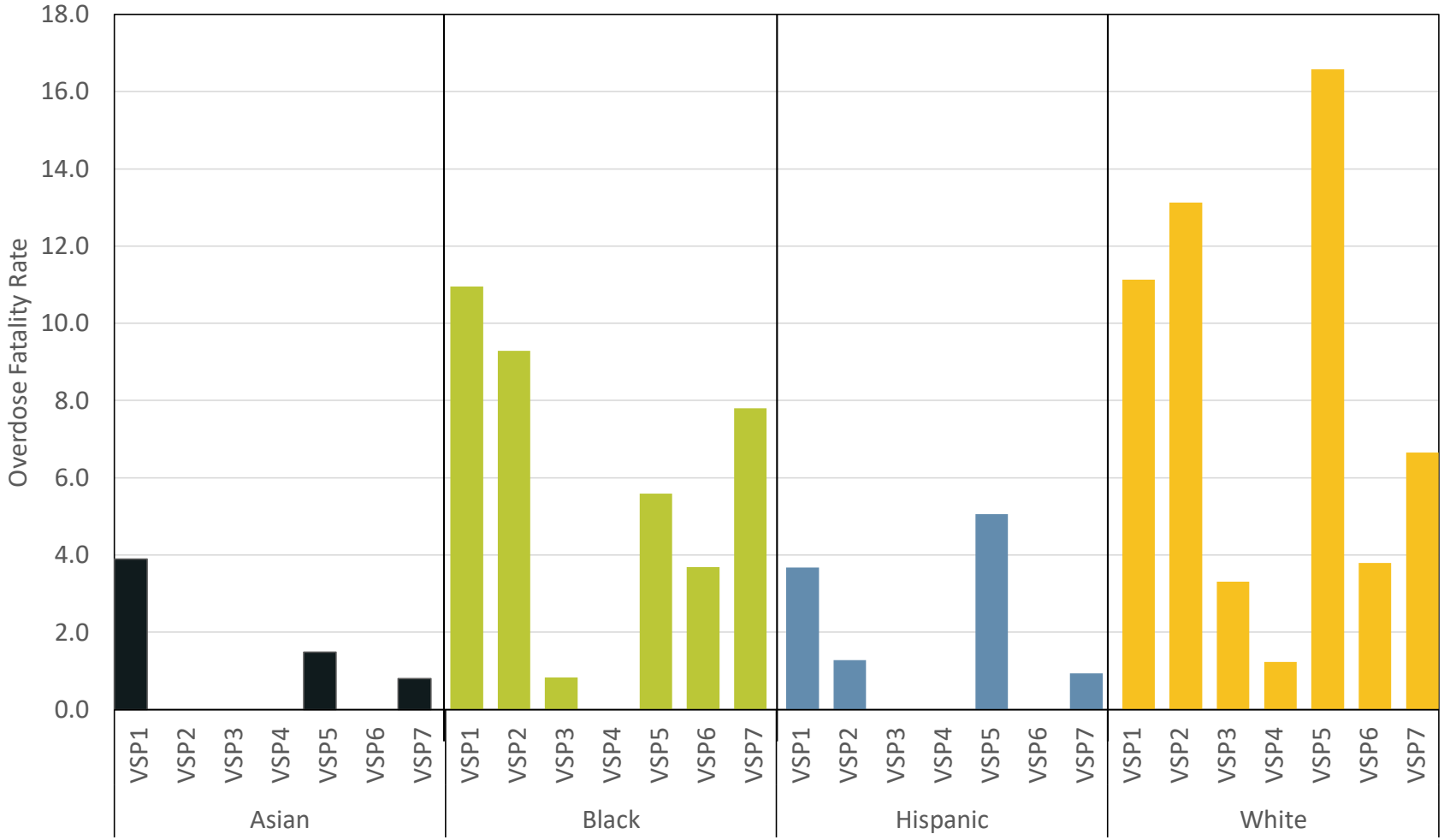


Data Sources: OCME response to data request

Figure 26: Regional Fentanyl Overdose Fatalities

Rate by Race/Ethnicity Per 100,000 Population, CY2016

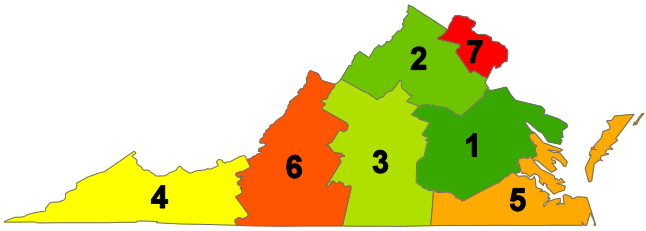


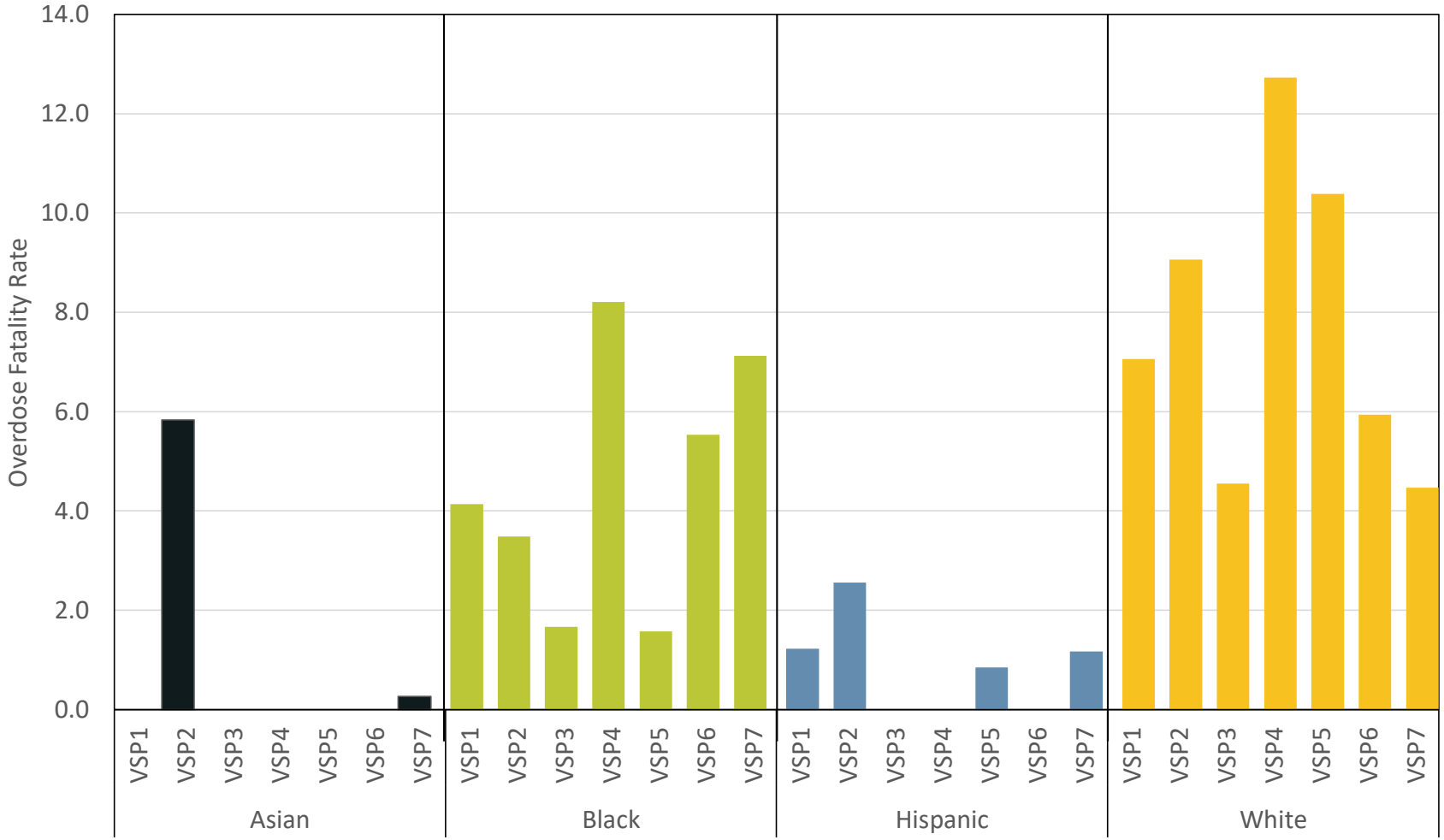


Data Sources: OCME response to data request

Figure 27: Regional Prescription Opioid* Overdose Fatalities

Rate by Race/Ethnicity Per 100,000 Population, CY2016

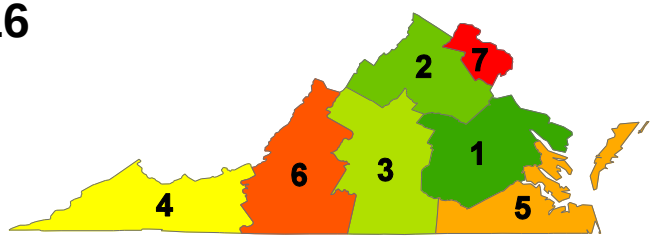


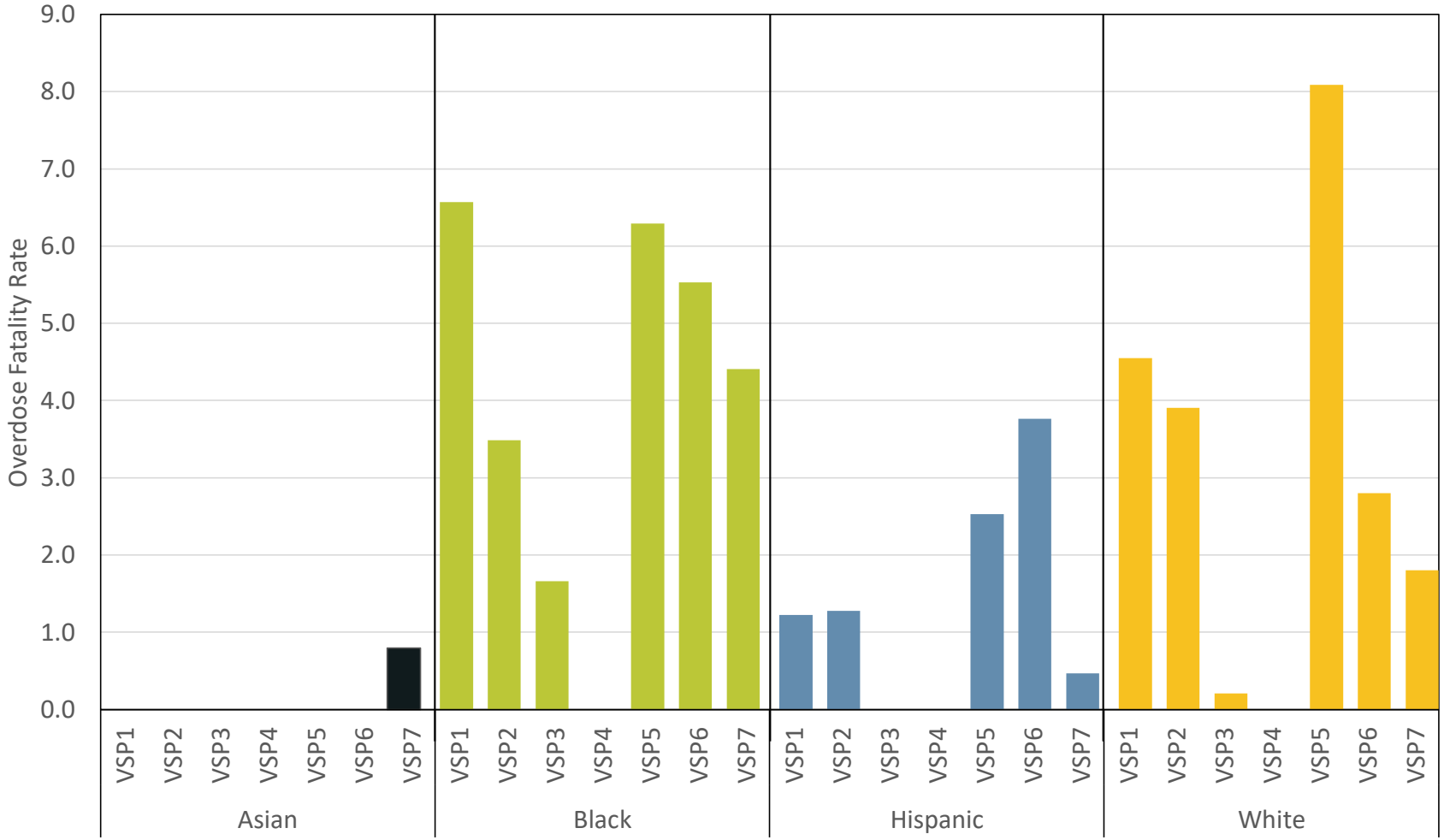


Data Sources: OCME response to data request

Figure 28: Regional Cocaine Overdose Fatalities

Rate by Race/Ethnicity Per 100,000 Population, CY2016

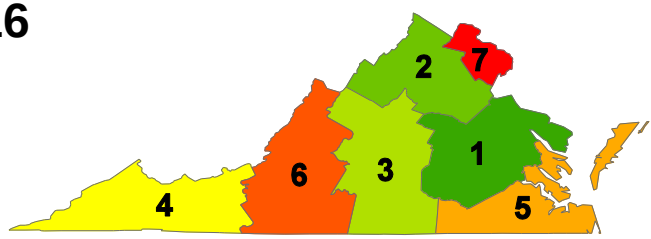


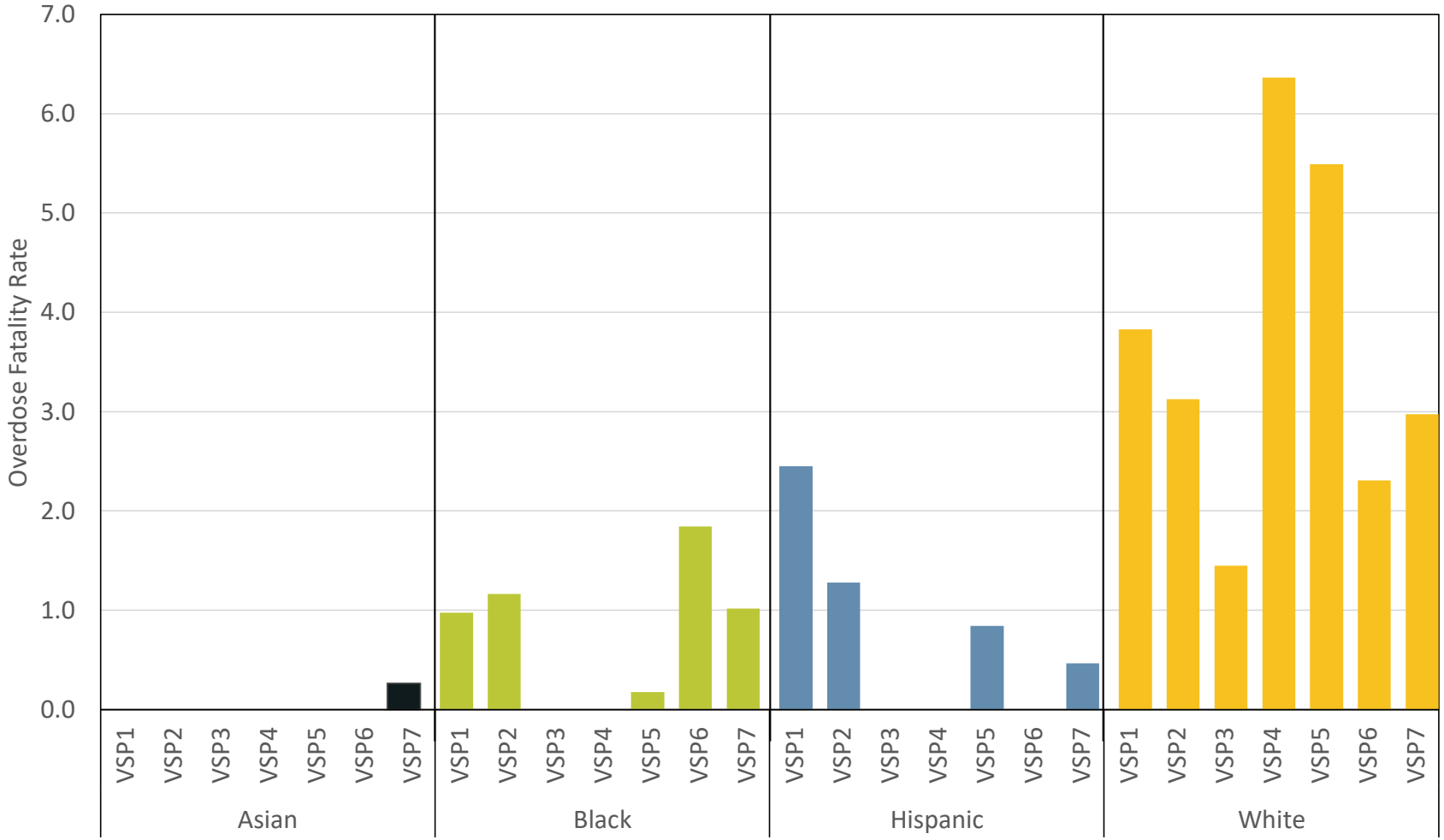


Data Sources: OCME response to data request

Figure 29: Regional Benzodiazepine Overdose Fatalities

Rate by Race/Ethnicity Per 100,000 Population, CY2016

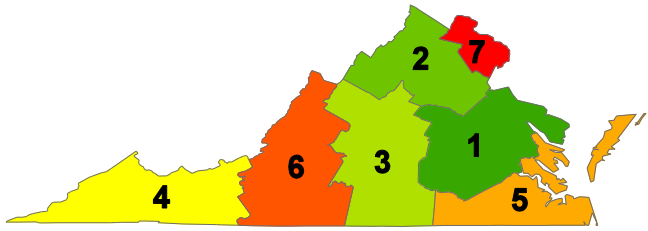


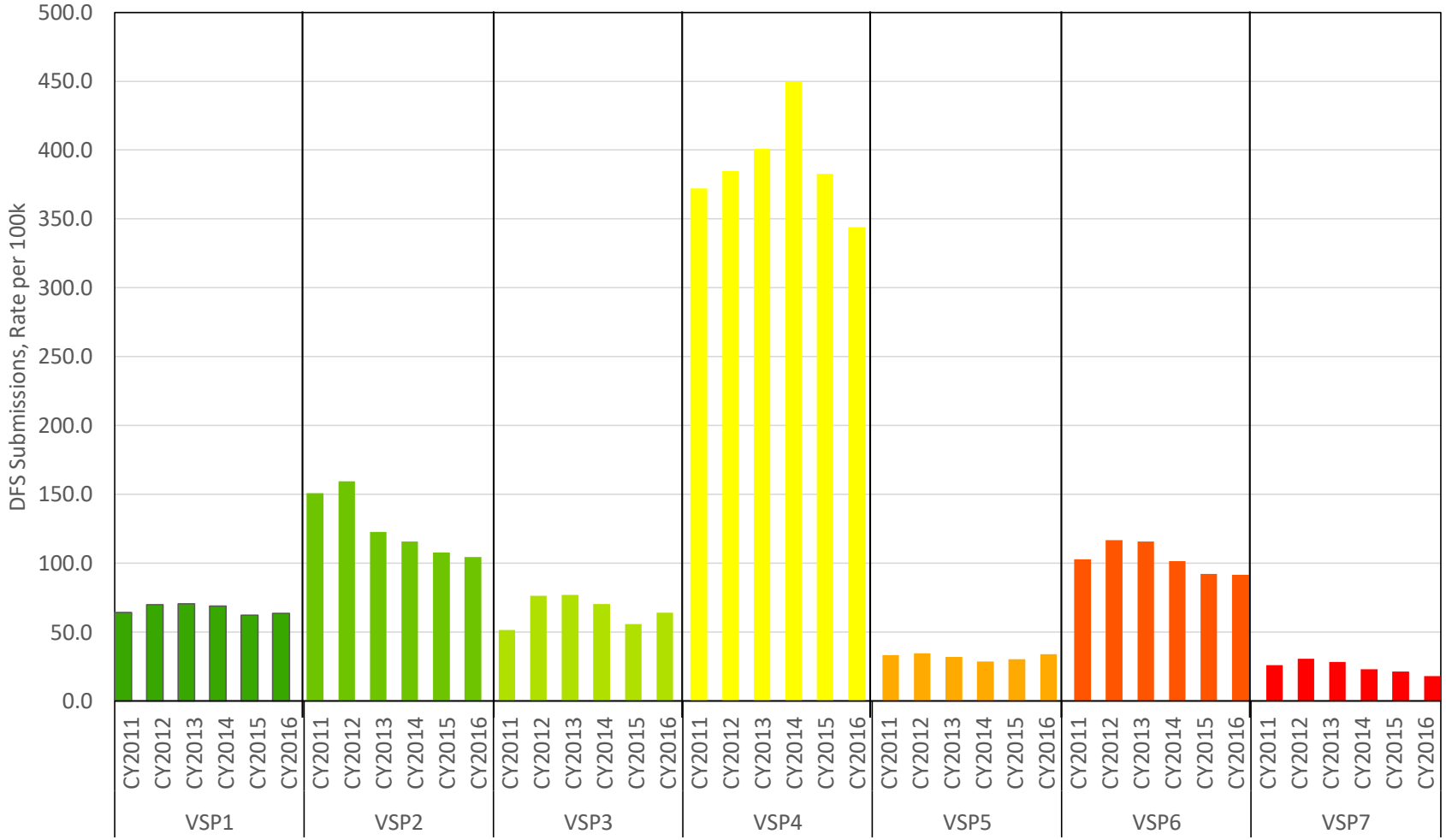


Data Sources: OCME response to data request

Figure 30: Regional Prescription Opioid DFS Submissions

Rate Per 100,000 Population, CY2011-2016

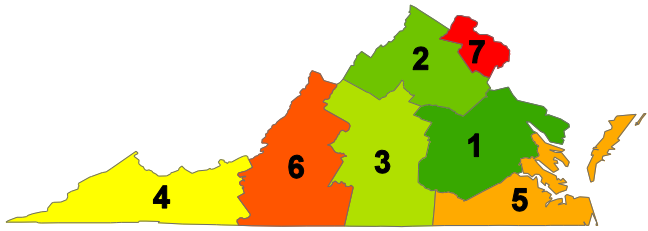


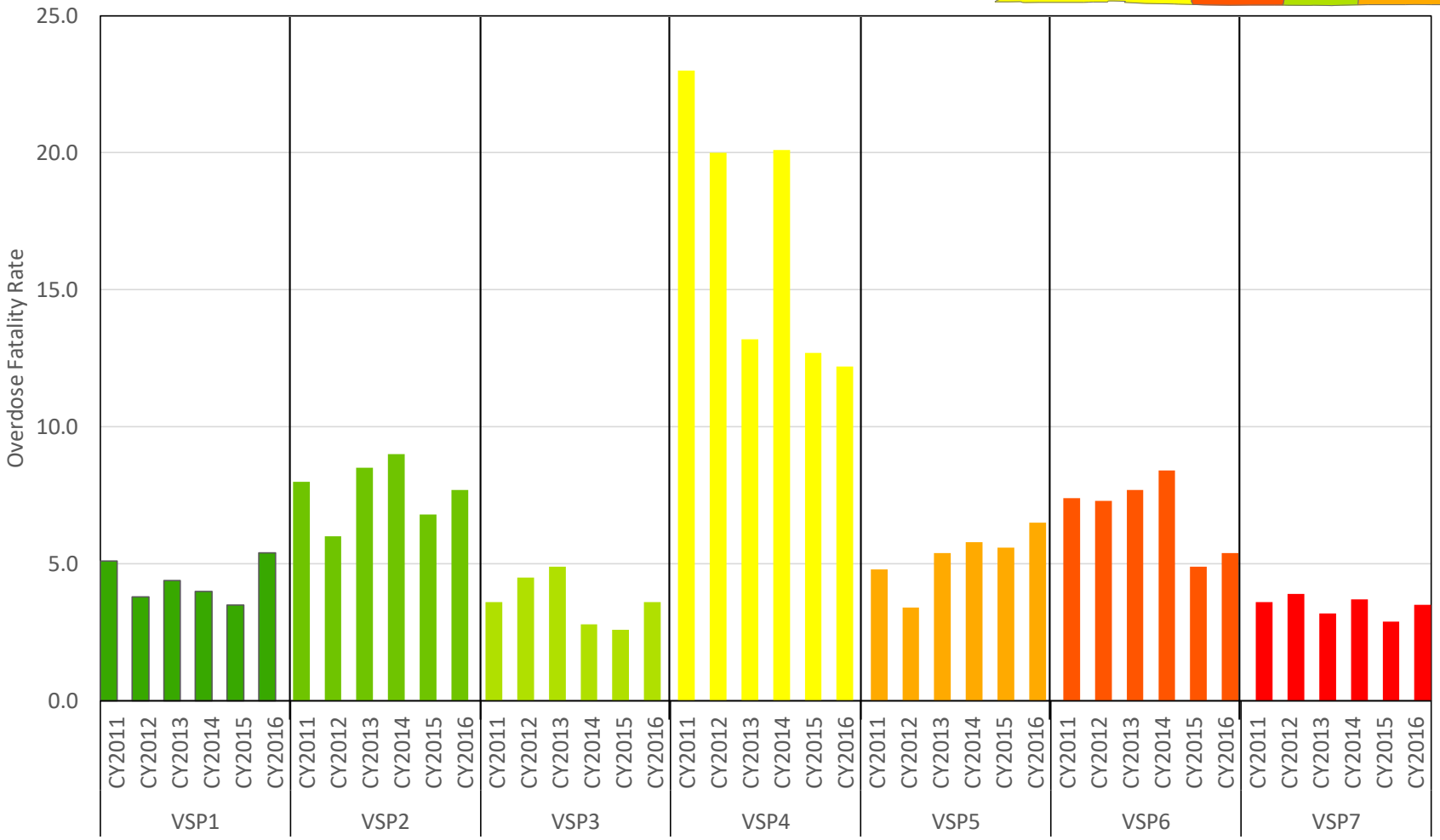


Data Sources: DFS monthly submission to NFLIS

Figure 31: Regional Prescription Opioid* Overdose Fatalities

Rate Per 100,000 Population, CY2011-2016



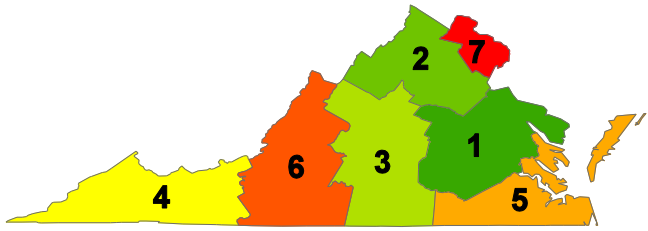


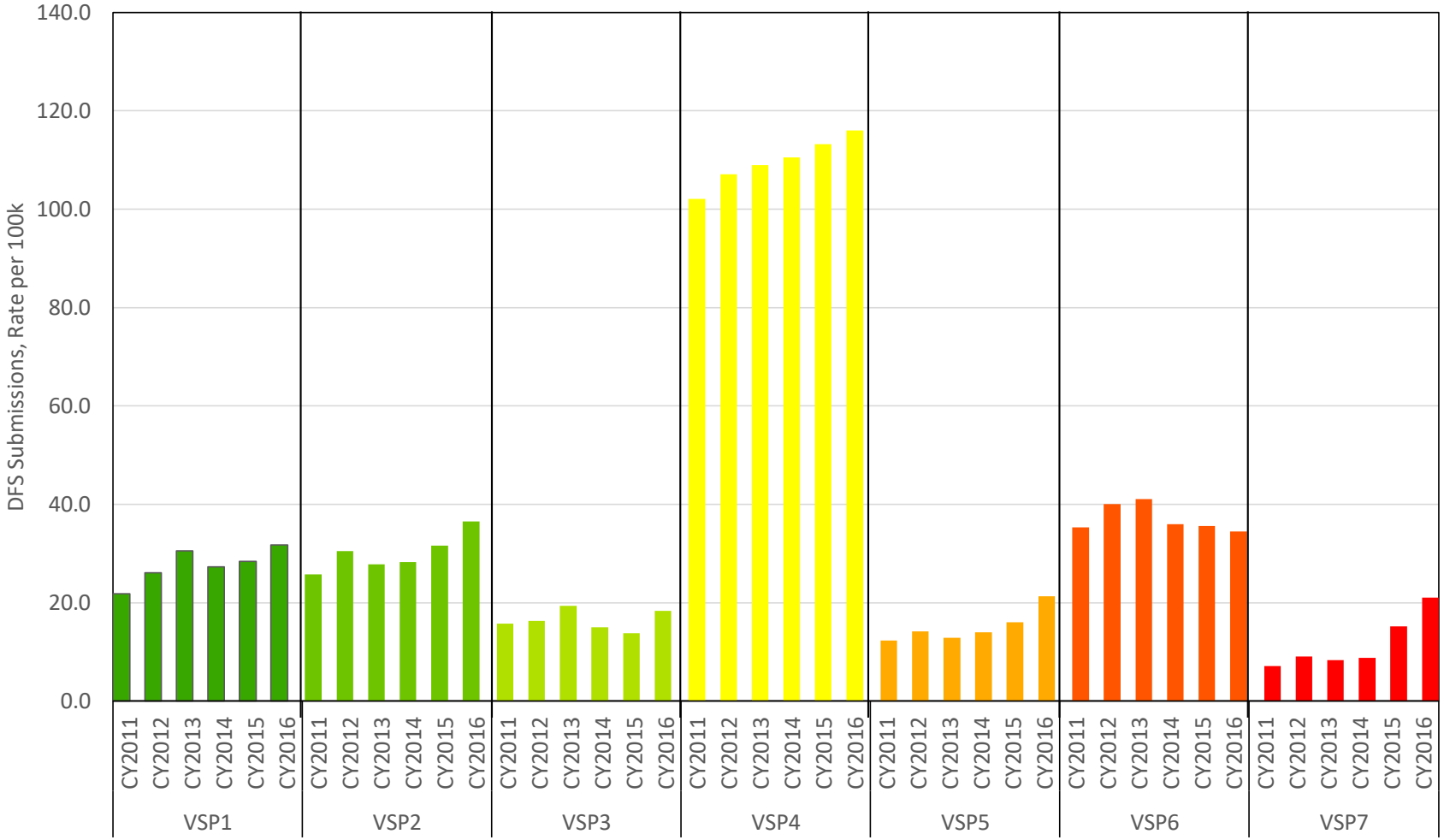
*Includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality. .

Data Sources: http://www.vdh.virginia.gov/data/opioid-overdose/

Figure 32: Regional Benzodiazepine DFS Submissions

Rate Per 100,000 Population, CY2011-2016

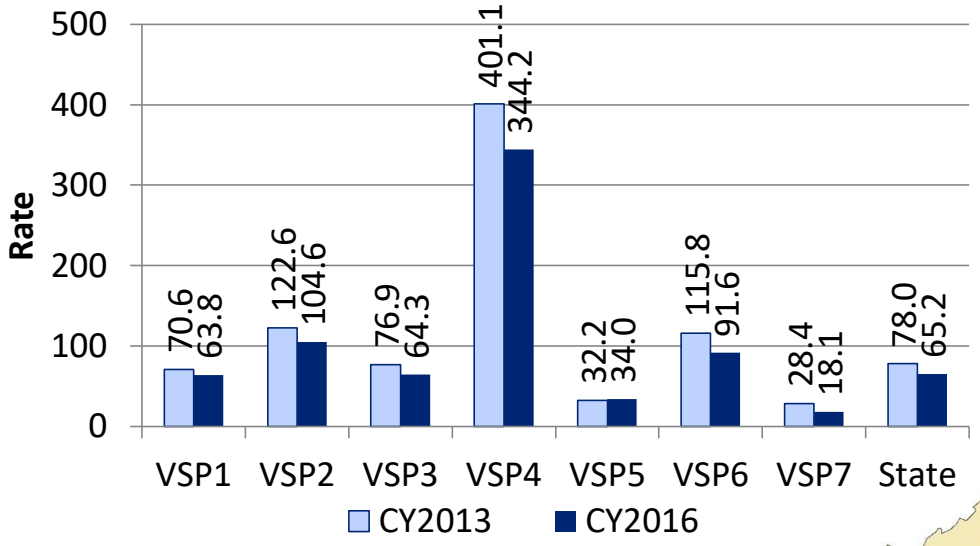


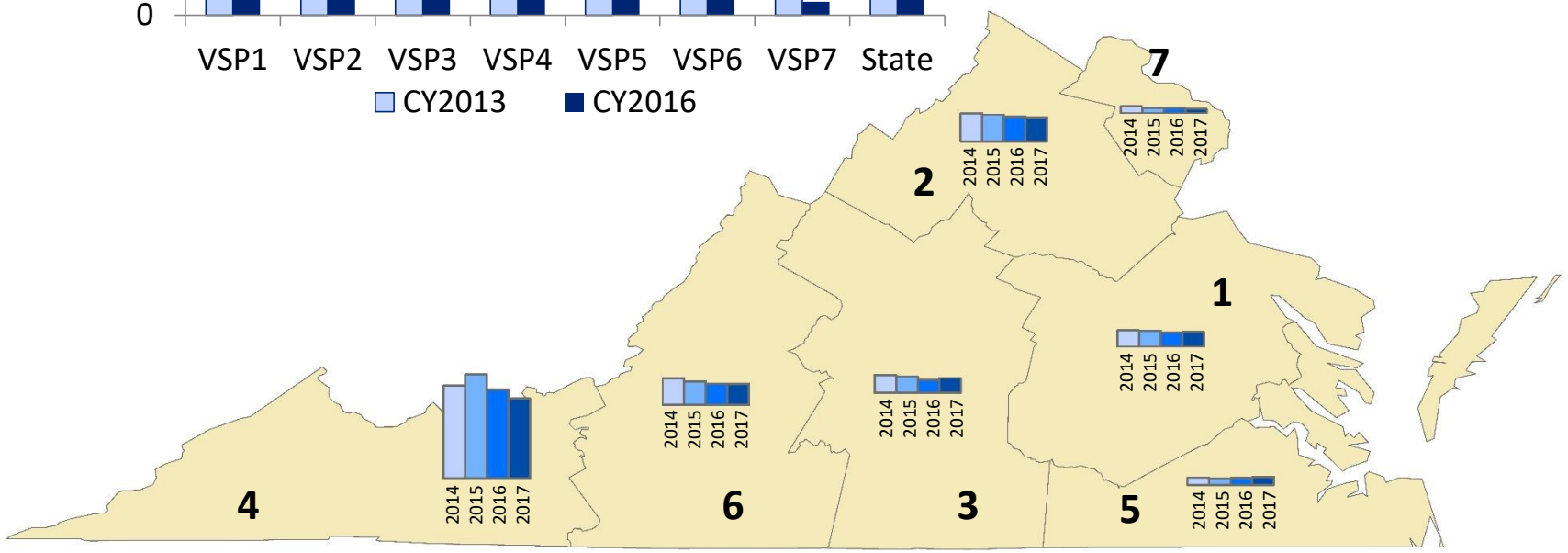


Data Sources: DFS monthly submission to NFLIS

Figure 33: Regional Prescription Opioid DFS Submission Rate

Rate Per 100,000 Population, CY2013-2016



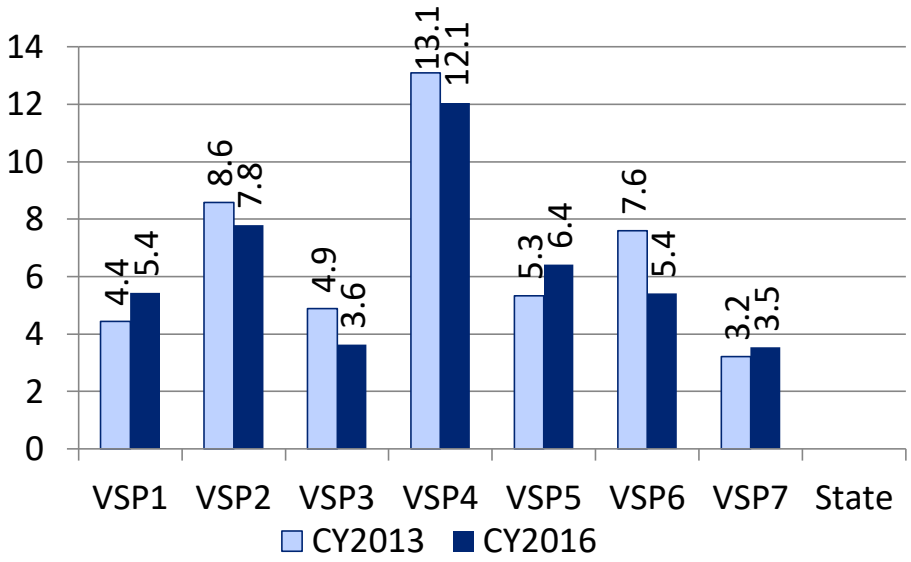


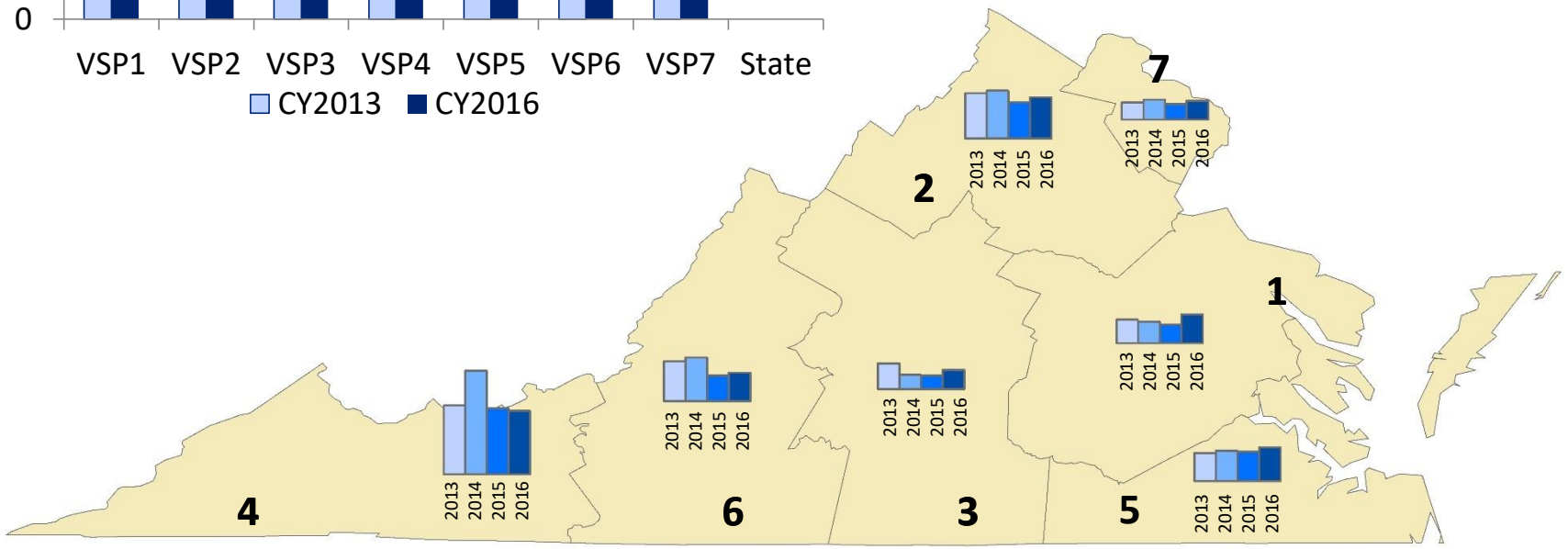
*Only includes fentanyl if it was in the form of a transdermal patch.

Data Sources: DFS monthly submission to NFLIS. FY2017 data are preliminary. Based on historical trends, FY2017 data are estimated to be 99.9% complete.

Figure 34: Regional Prescription Opioid* Overdose Fatality Rate

Rate of fatalities per 100,000 Population, CY2013-2016





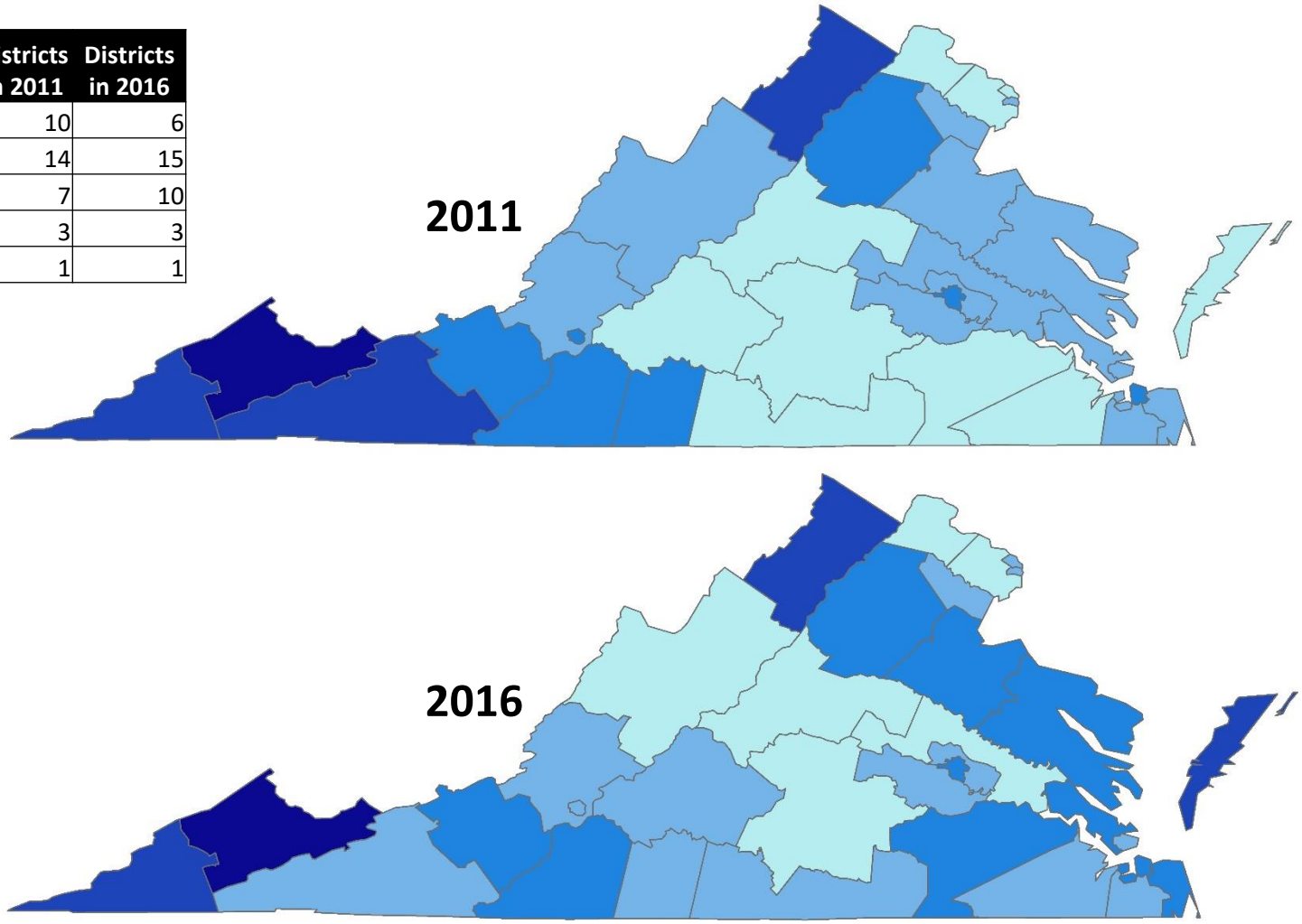
*Includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality. .

Data Sources: http://www.vdh.virginia.gov/data/opioid-overdose/

Figure 35: Prescription Opioid* Overdose Fatality Rate

Per 100,000 Population Virginia Health Districts, 2011 & 2016

Color	Value	Districts in 2011	Districts in 2016
	Up to 3.47 per 100k	10	6
	3.48 to 6.61 per 100k	14	15
	6.62 to 11.21 per 100k	7	10
	11.22 to 15.93 per 100k	3	3
	15.94 or more per 100k	1	1

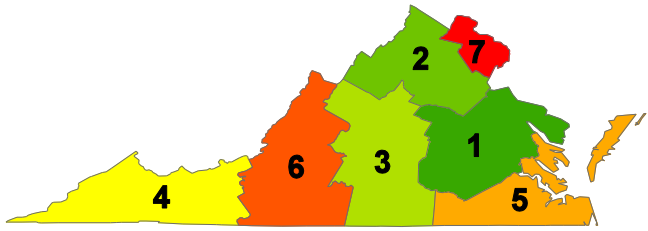


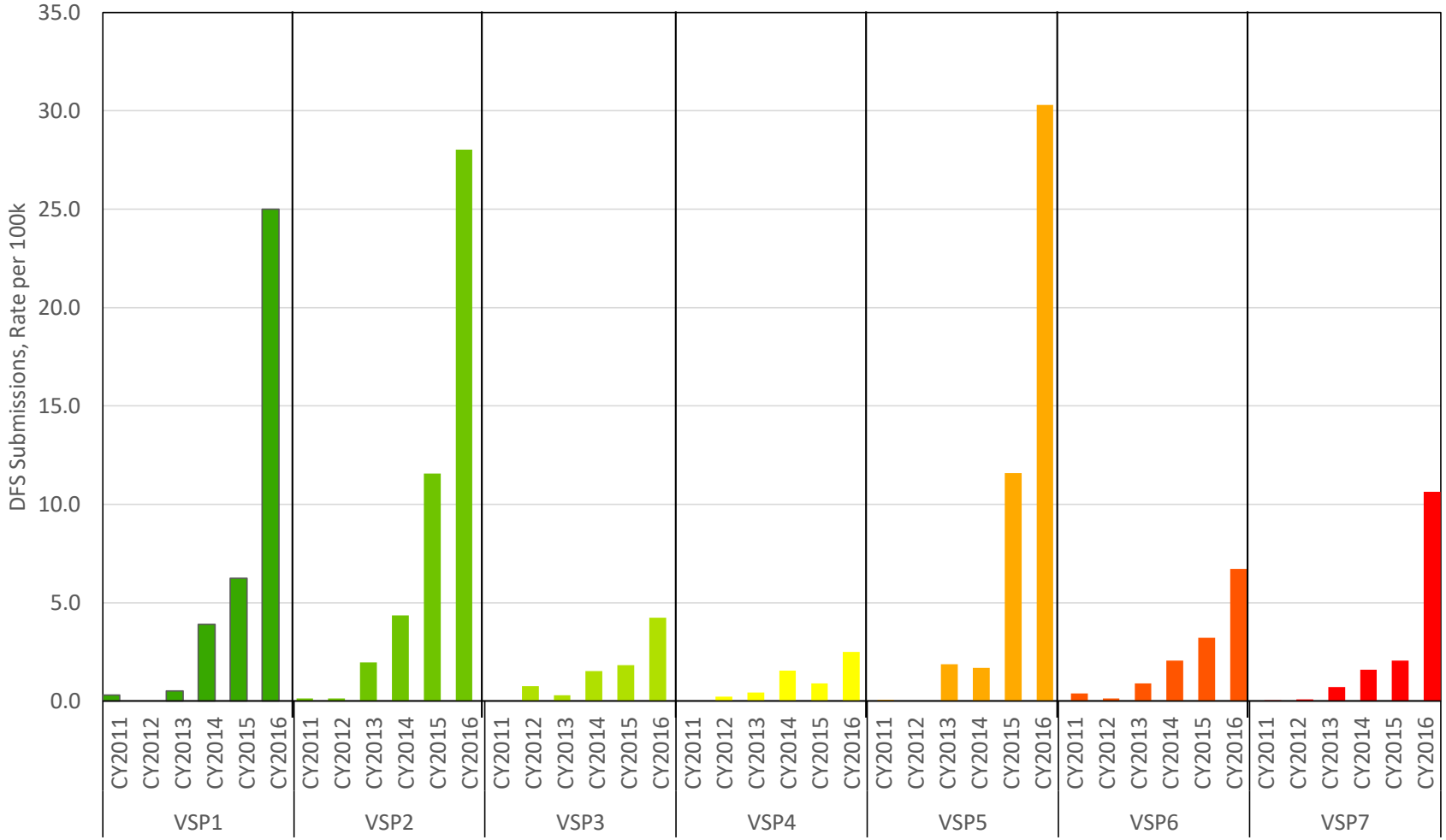
*Includes all prescription opioid fatalities, but only includes cases involving fentanyl if another prescription opioid was a contributing factor in the fatality. .

Data Sources: OCME Fatal Drug Overdose Quarterly Report http://www.vdh.virginia.gov/medical-examiner/forensic-epidemiology/

Figure 36: Regional Illicit Fentanyl DFS Submissions

Rate Per 100,000 Population, CY2011-2016

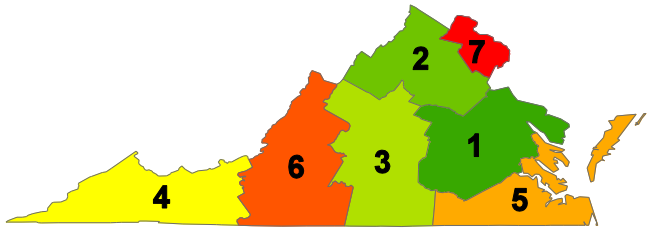


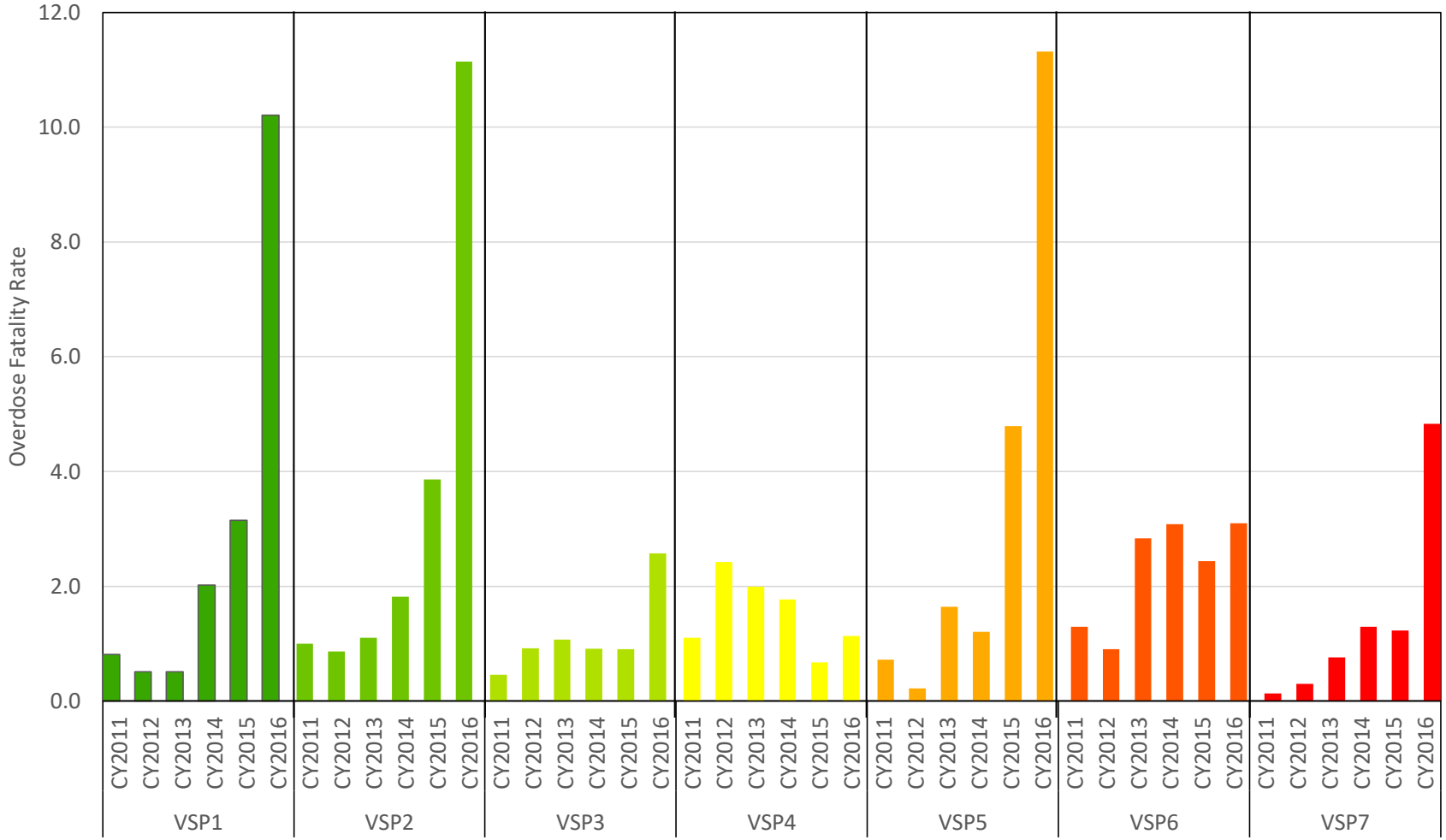


Data Sources: DFS monthly submission to NFLIS

Figure 37: Regional Illicit Fentanyl Overdose Fatalities

Rate Per 100,000 Population, CY2011-2016

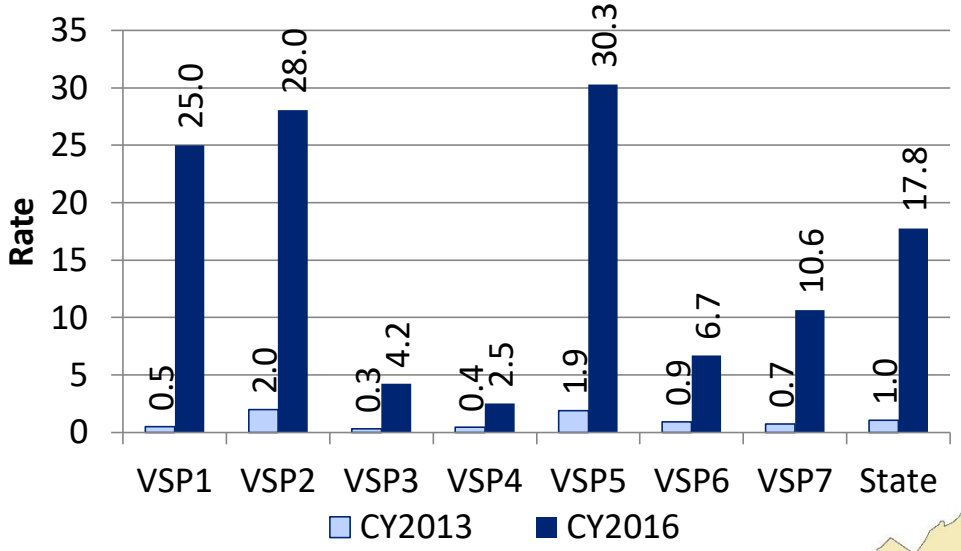


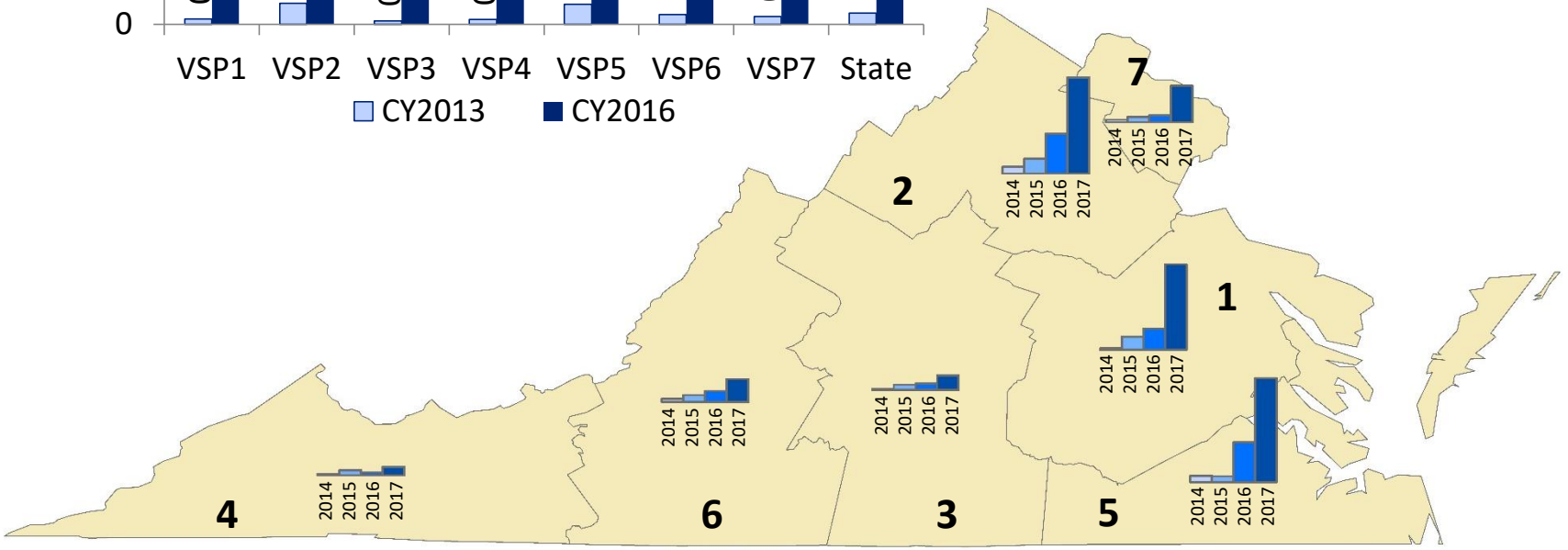


Data Sources: http://www.vdh.virginia.gov/data/opioid-overdose/

Figure 38: Regional Illicit Fentanyl DFS Submission Rate

Rate Per 100,000 Population, CY2013-2016

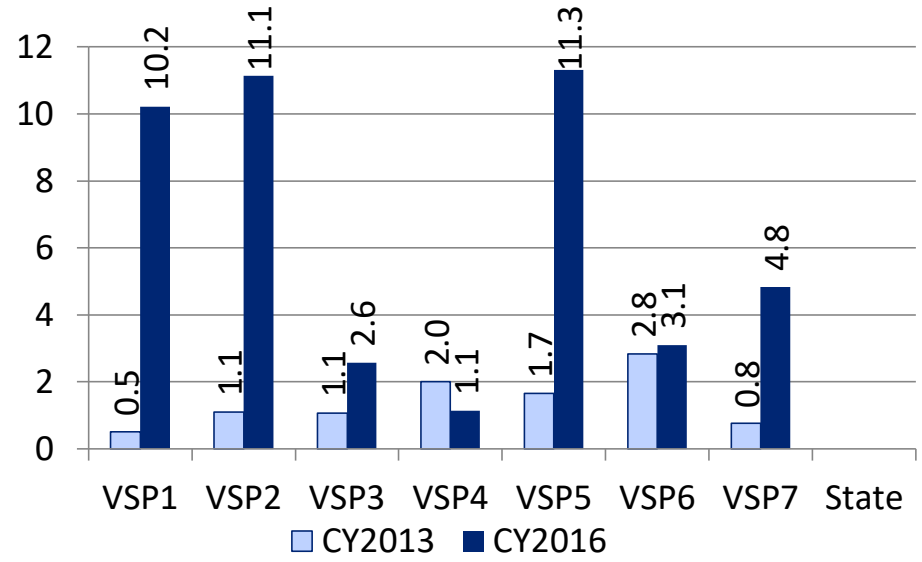


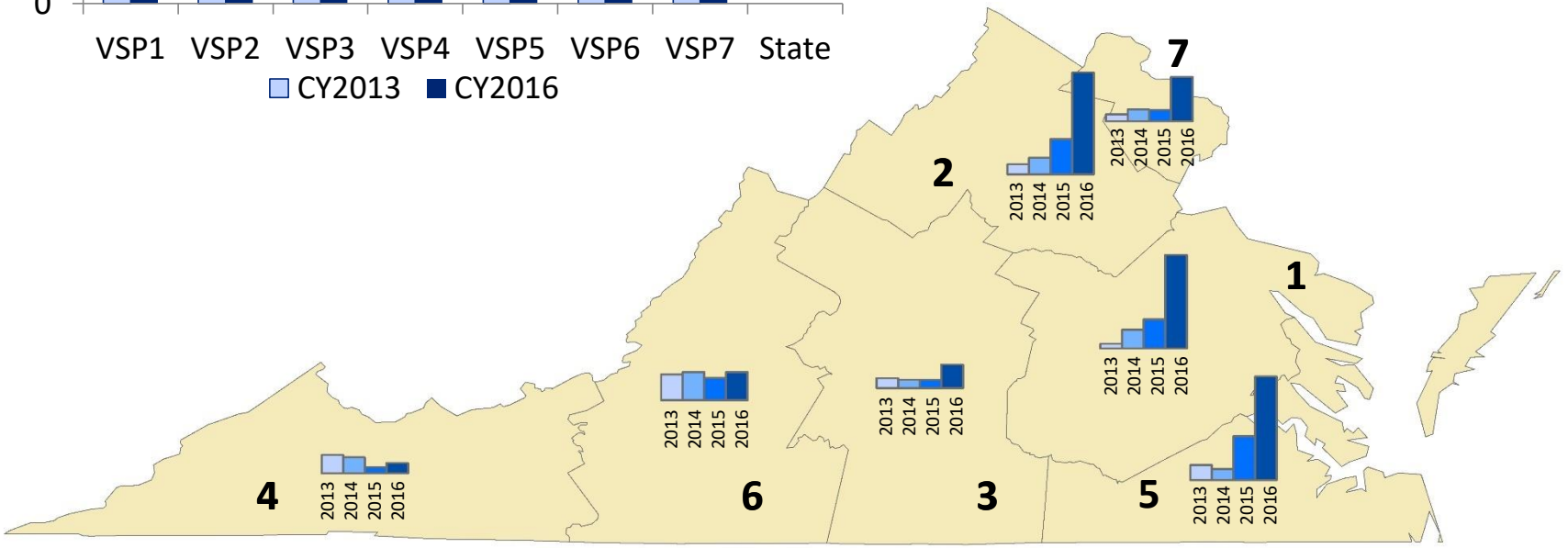


Data Sources: DFS monthly submission to NFLIS. FY2017 data are preliminary. Based on historical trends, FY2017 data are estimated to be 99.7% complete.

Figure 39: Regional Fentanyl* Overdose Fatality Rate

Rate of fatalities per 100,000 Population, CY2013-2016



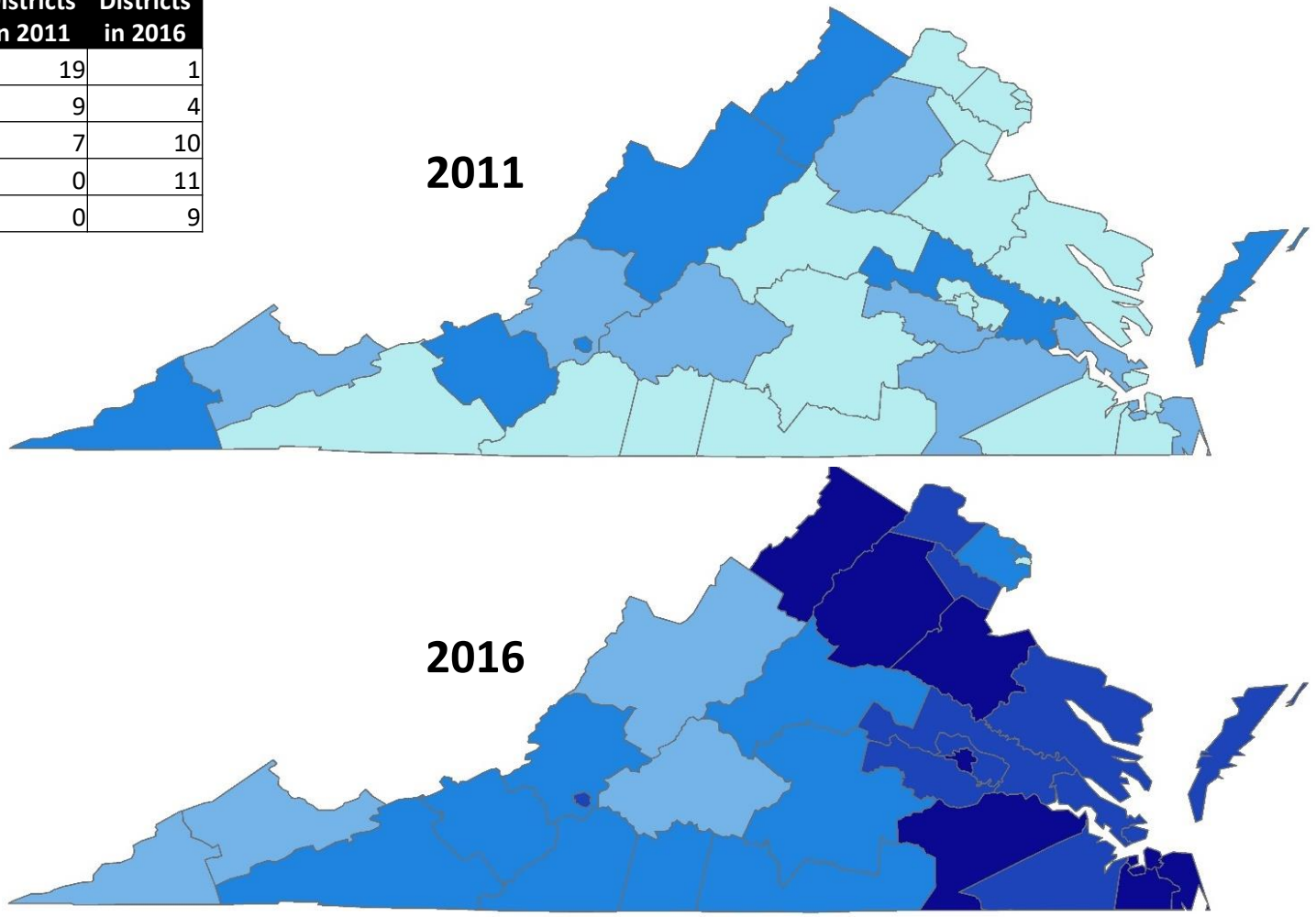


Data Sources: http://www.vdh.virginia.gov/data/opioid-overdose/

Figure 40: Fentanyl* Overdose Fatality Rate

Per 100,000 Population Virginia Health Districts, 2011 & 2016

Color	Value	Districts in 2011	Districts in 2016
	Up to 0.75 per 100k	19	1
	0.76 to 1.50 per 100k	9	4
	1.51 to 5.00 per 100k	7	10
	5.01 to 10.00 per 100k	0	11
	10.01 or more per 100k	0	9

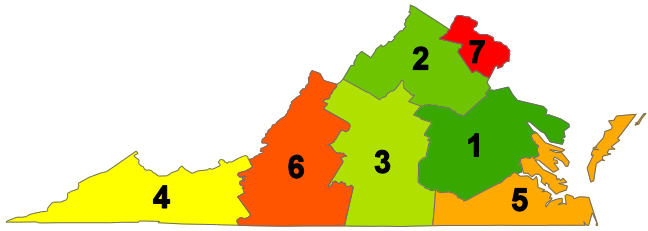


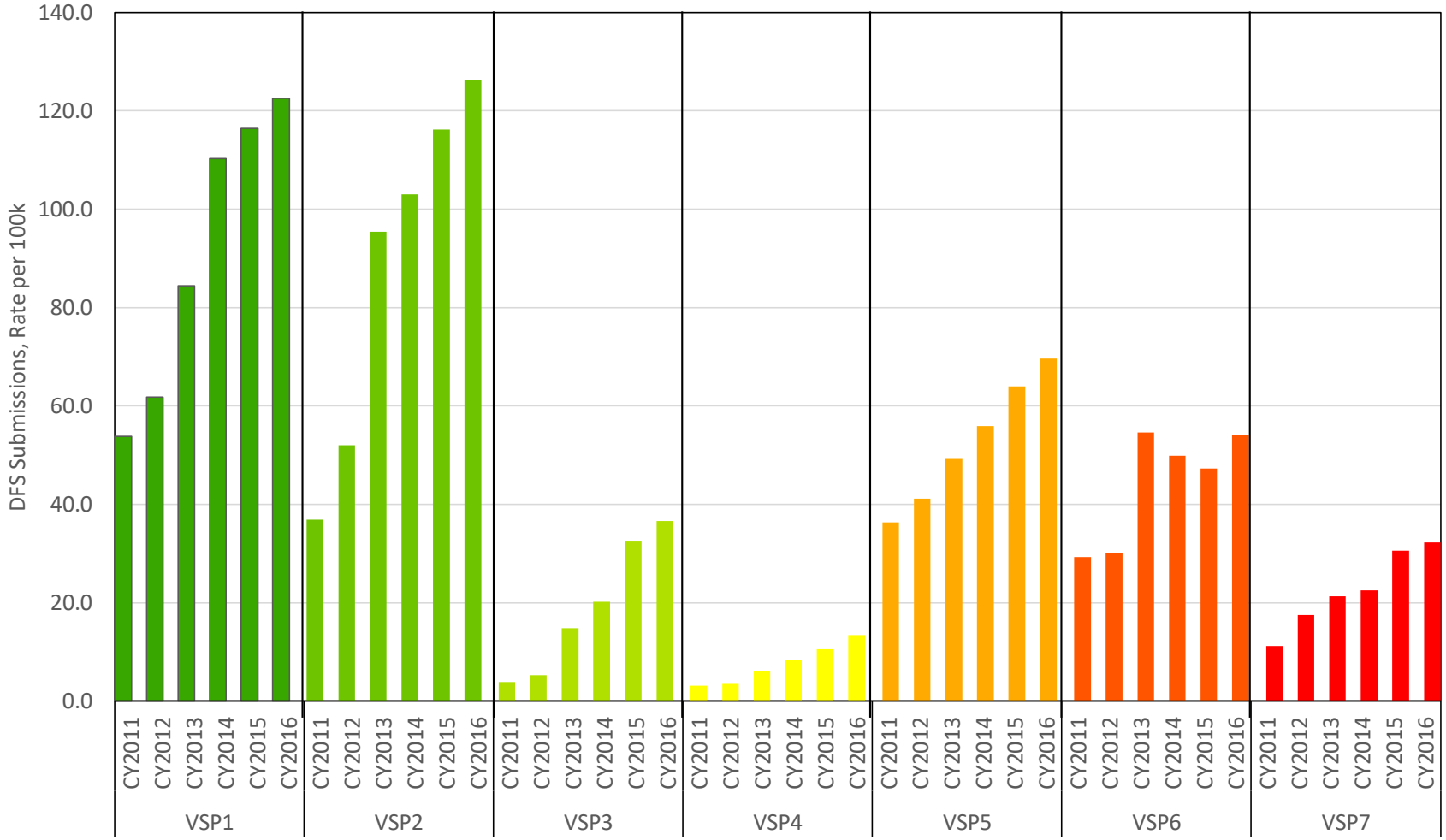
*"Fentanyl" includes fentanyl and fentanyl analogs.

Data Sources: OCME Fatal Drug Overdose Quarterly Report, supplemental spreadsheets (www.vdh.virginia.gov/medical-examiner/forensic-epidemiology)

Figure 41: Regional Heroin DFS Submissions

Rate Per 100,000 Population, CY2011-2016

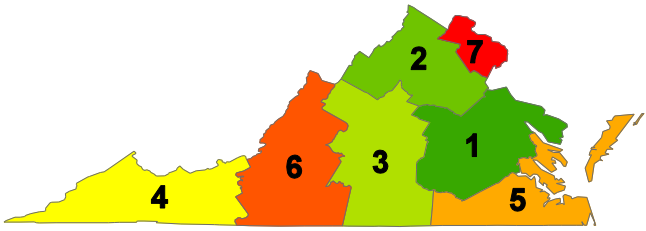


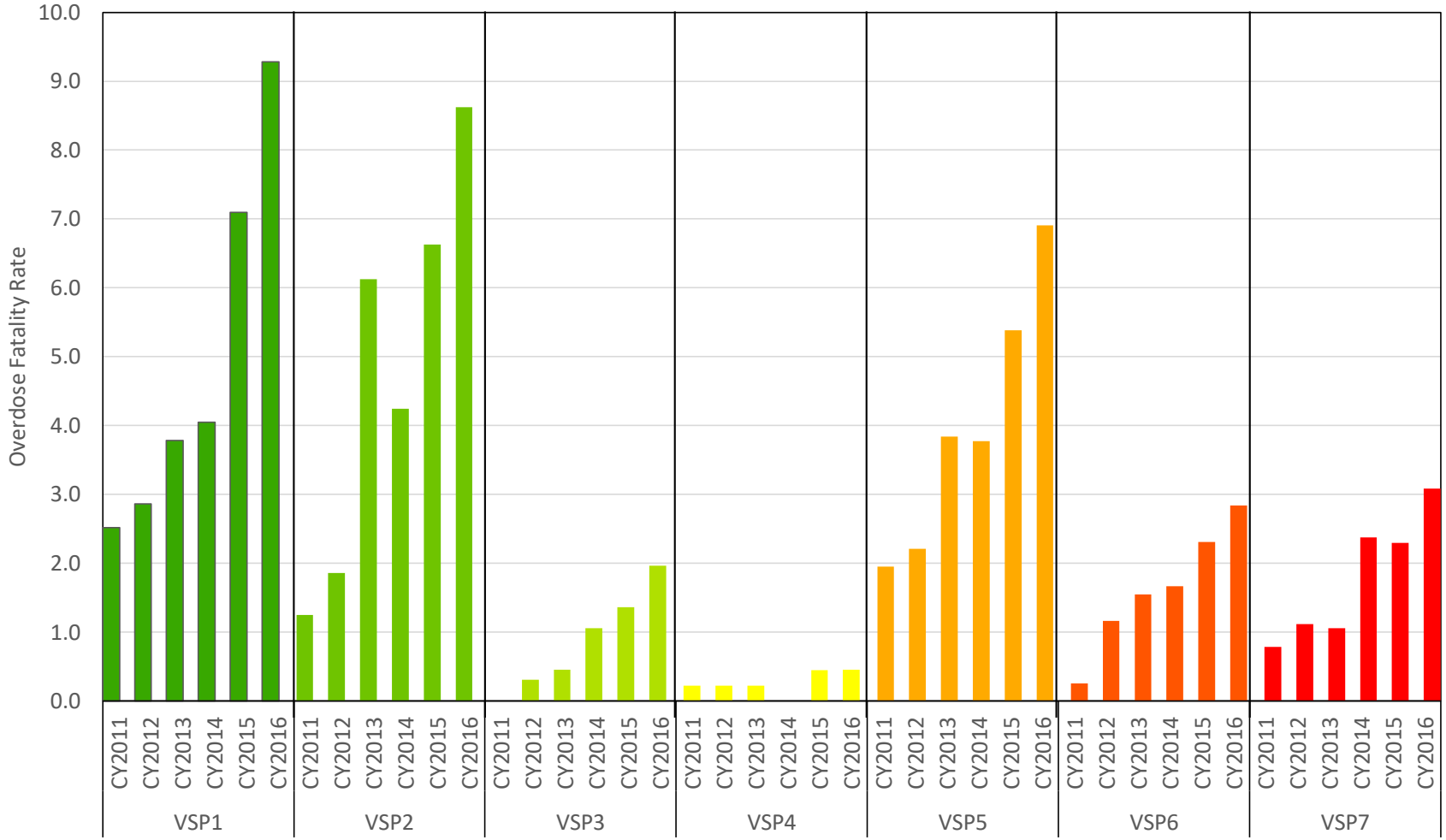


Data Sources: DFS monthly submission to NFLIS

Figure 42: Regional Heroin Overdose Fatalities

Rate Per 100,000 PopulationCY2011-2016

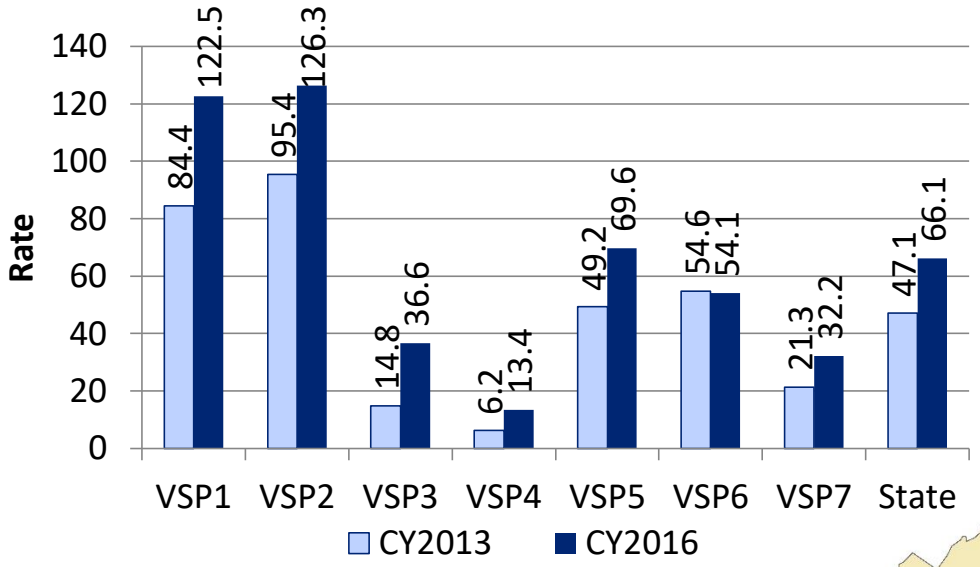


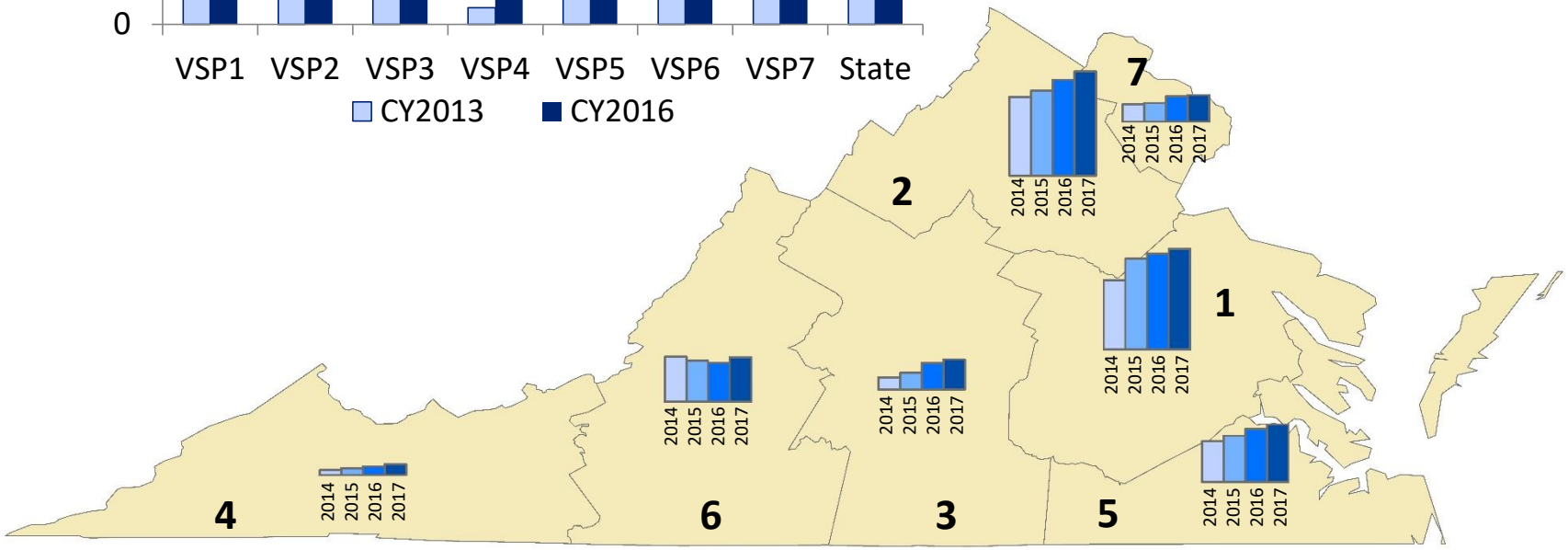


Data Sources: http://www.vdh.virginia.gov/data/opioid-overdose/

Figure 43: Regional Heroin DFS Submission Rate

Rate Per 100,000 Population, CY2013-2016

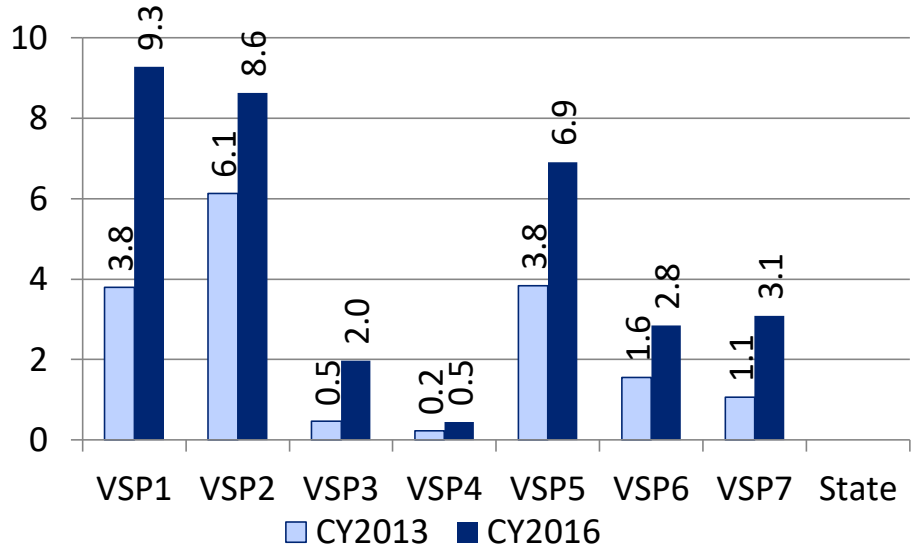


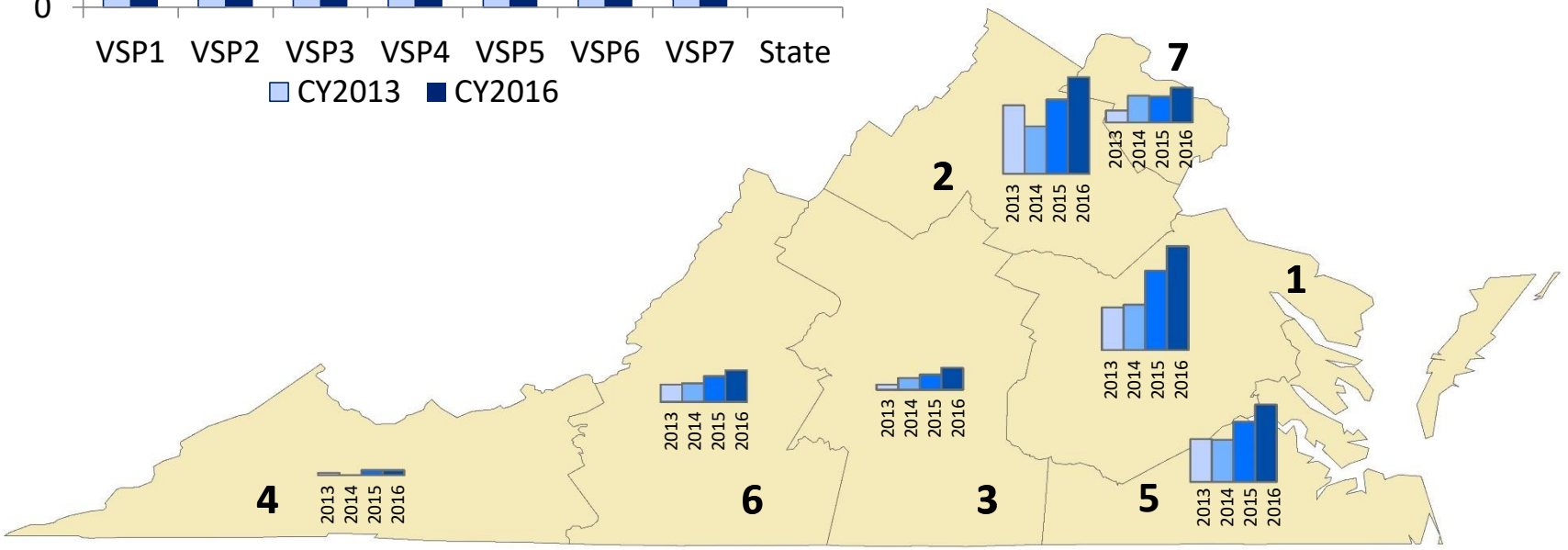


Data Sources: DFS monthly submission to NFLIS. FY2017 data are preliminary. Based on historical trends, FY2017 data are estimated to be 99.9% complete.

Figure 44: Regional Heroin Overdose Fatality Rate

Rate of fatalities per 100,000 Population, CY2013-2016



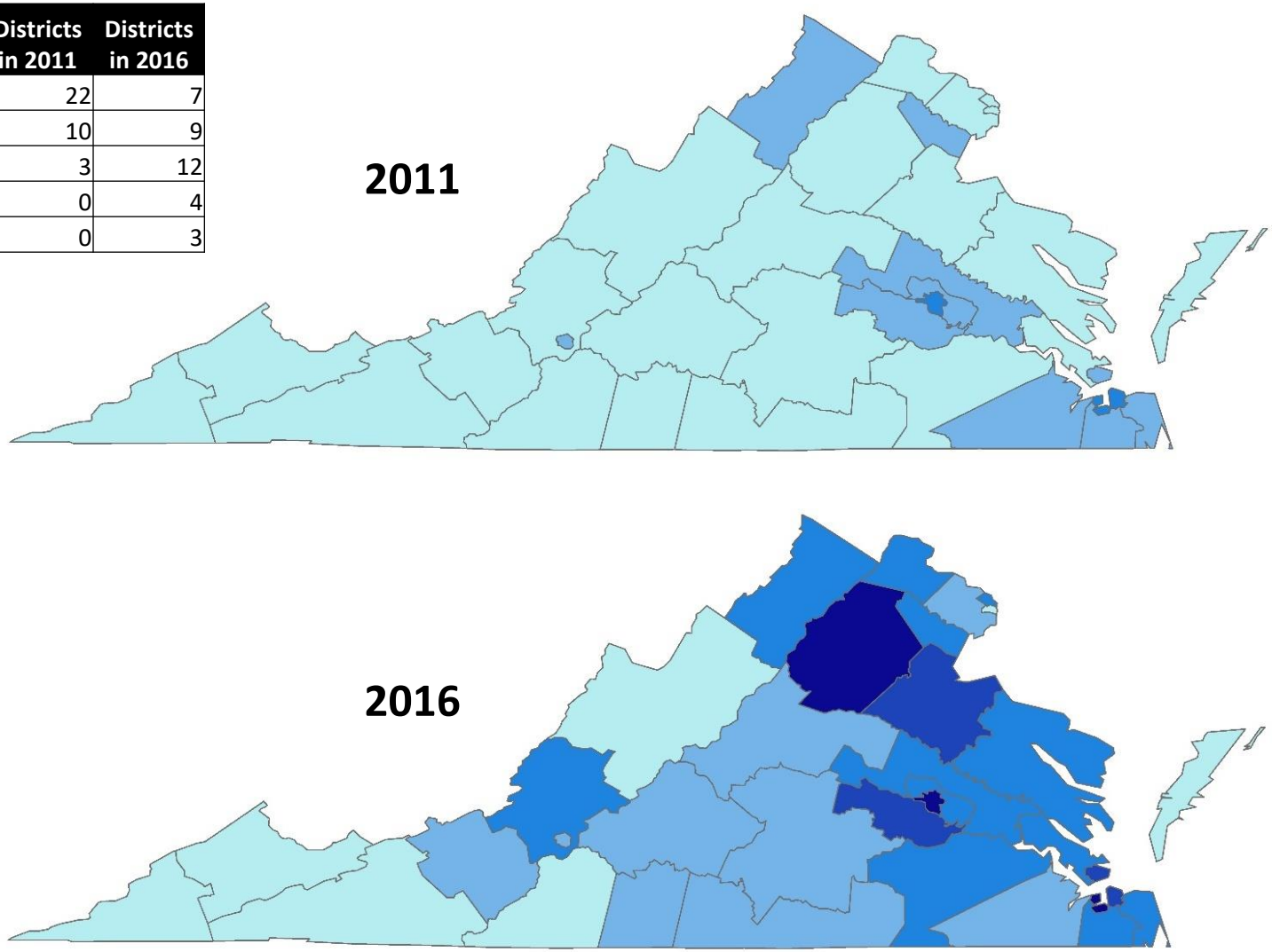


Data Sources: http://www.vdh.virginia.gov/data/opioid-overdose/

Figure 45: Heroin Overdose Fatality Rate

Per 100,000 Population Virginia Health Districts, 2011 & 2016

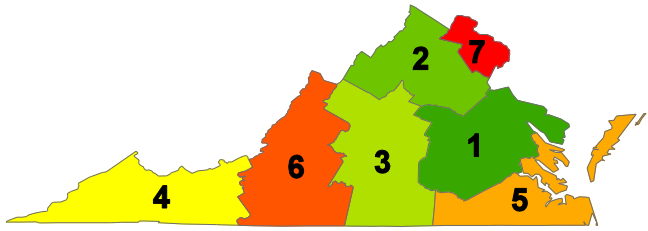
Color	Value	Districts in 2011	Districts in 2016
	Up to 1.03 per 100k	22	7
	1.04 to 3.82 per 100k	10	9
	3.83 to 9.07 per 100k	3	12
	9.08 to 13.58 per 100k	0	4
	13.59 or more per 100k	0	3

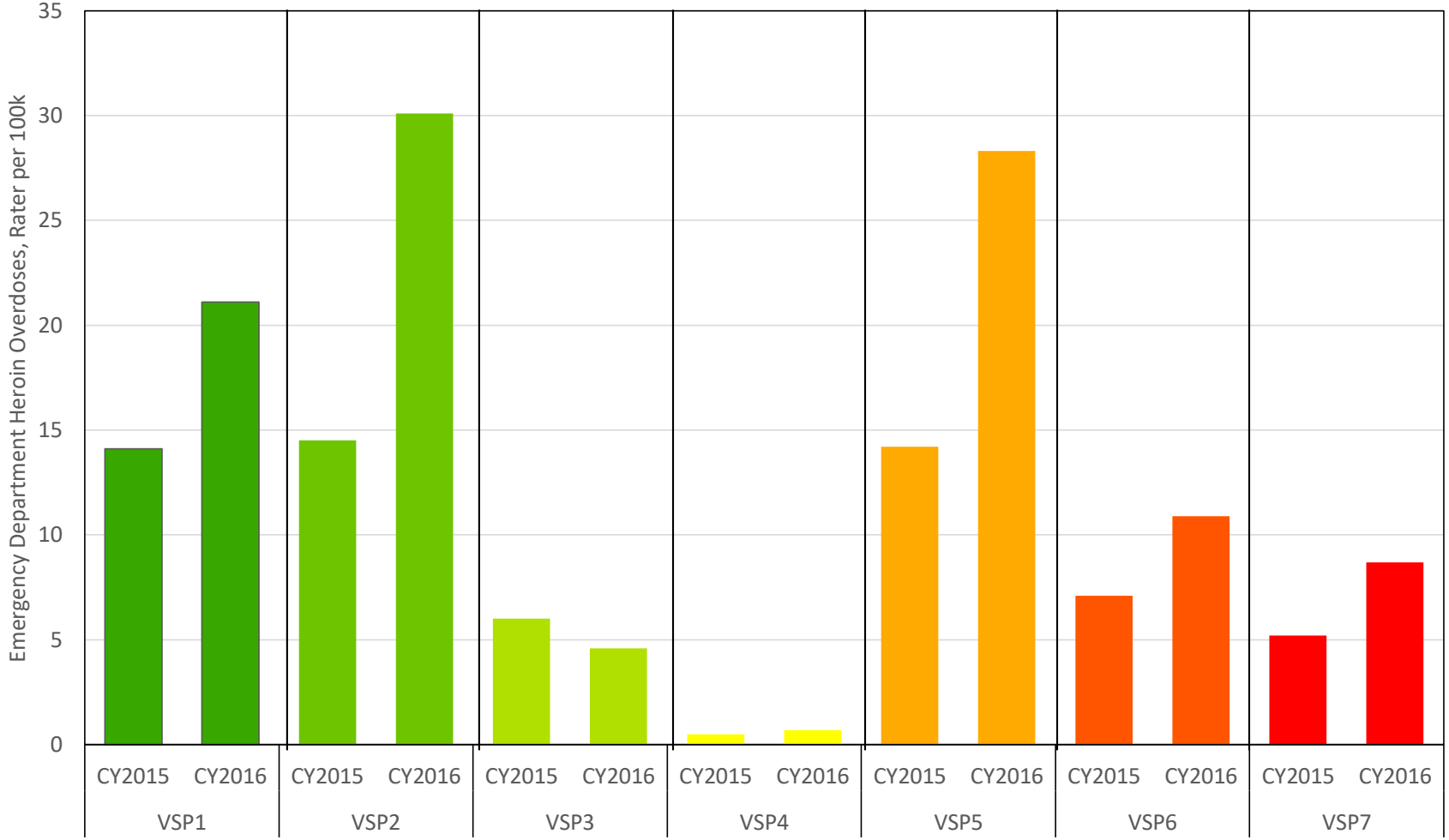


Data Sources: OCME Fatal Drug Overdose Quarterly Report, supplemental spreadsheets (www.vdh.virginia.gov/medical-examiner/forensic-epidemiology)

Figure 46: Emergency Department Visits for Heroin

Rate Per 100,000 Population, CY2015 & 2016

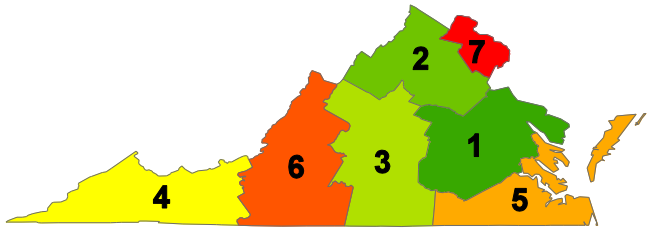


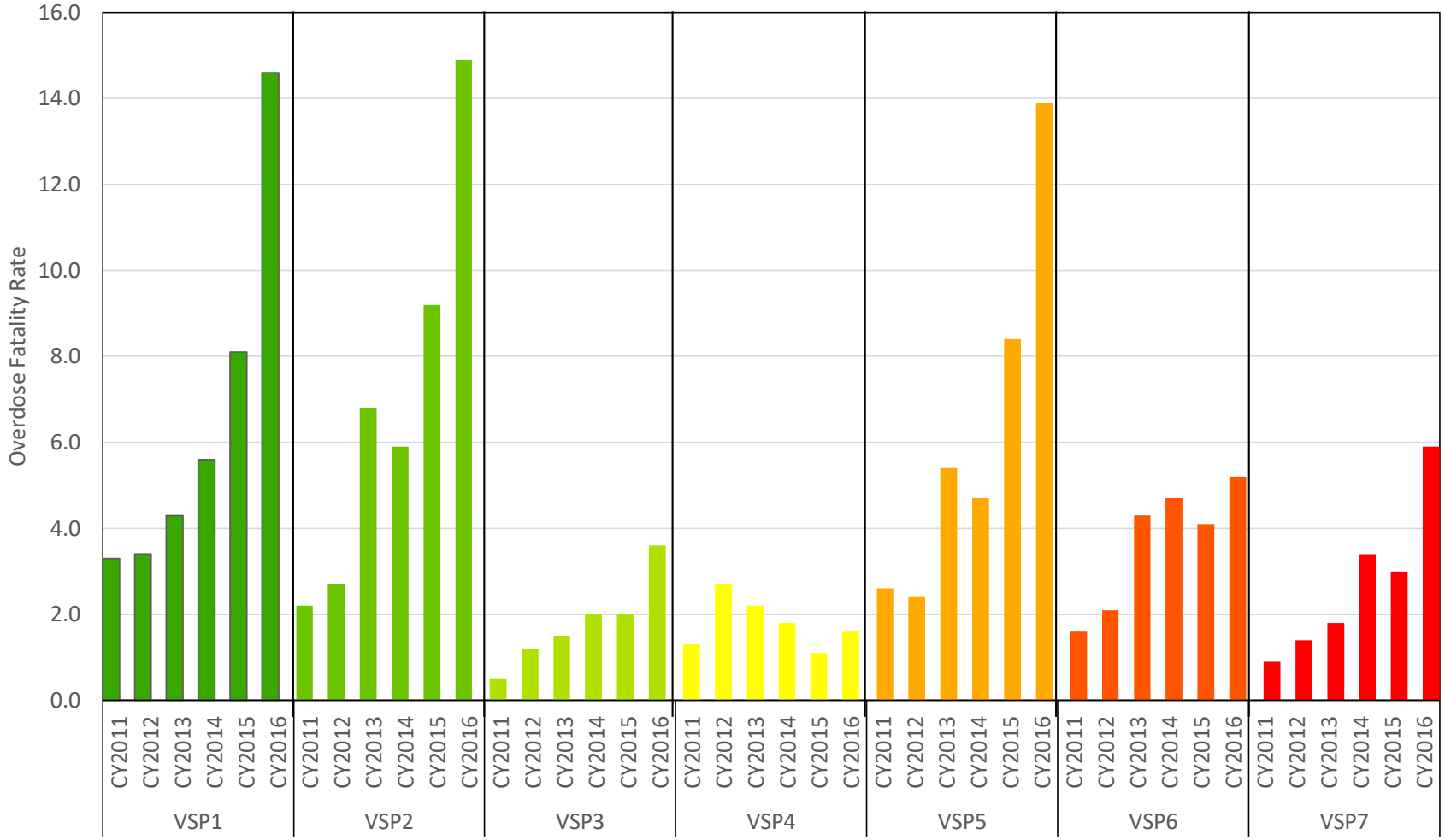


Data Sources: http://www.vdh.virginia.gov/data/opioid-overdose/

Figure 47: Combined Heroin & Fentanyl Overdose Fatalities

Rate Per 100,000 Population, CY2011-2016

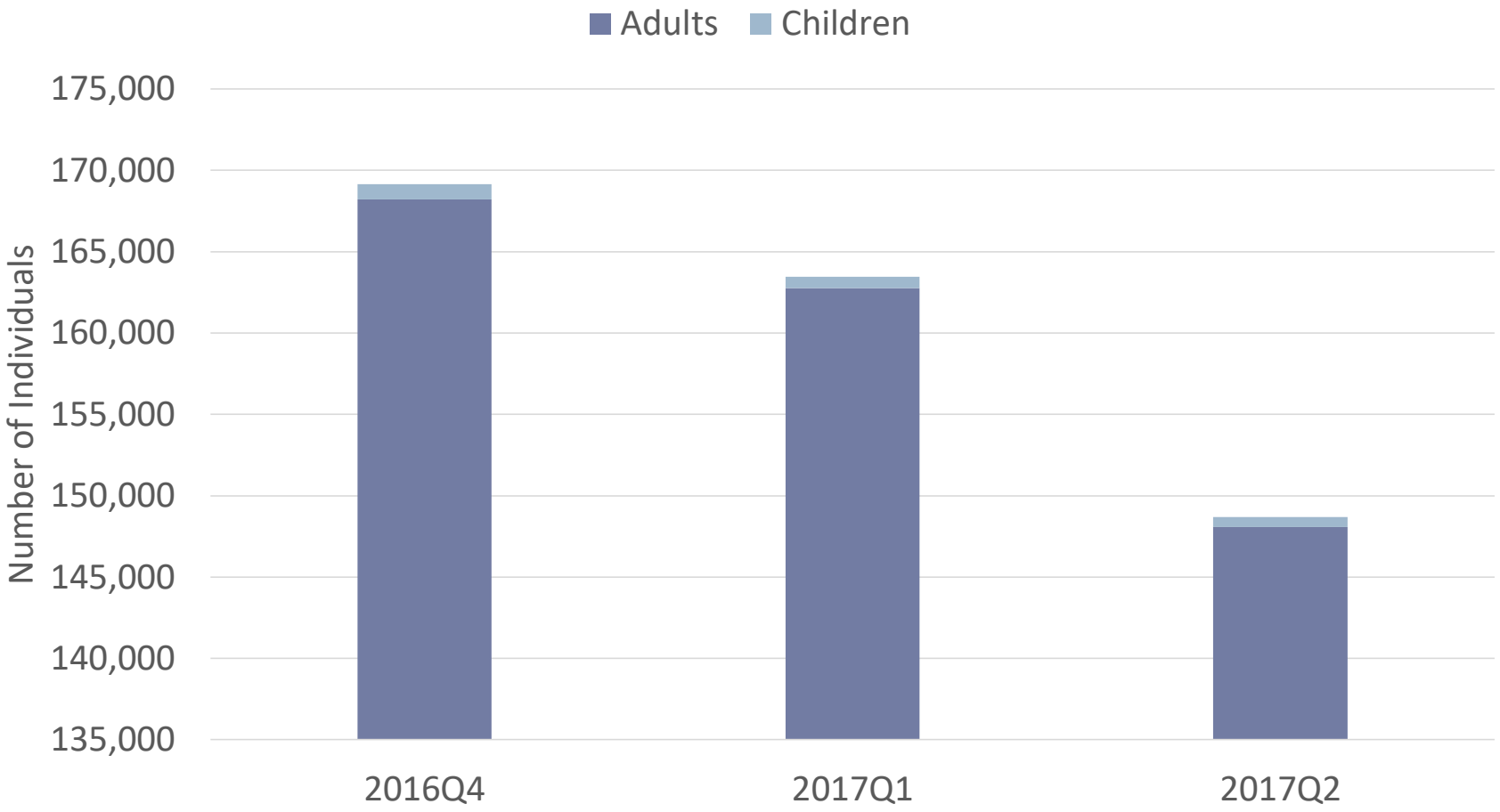




Data Sources: http://www.vdh.virginia.gov/data/opioid-overdose/

Figure 48: Virginia Prescription Monitoring Program

Individuals Receiving Greater than 100 Mg Morphine Equivalent Daily 2016Q1 to 2017Q2

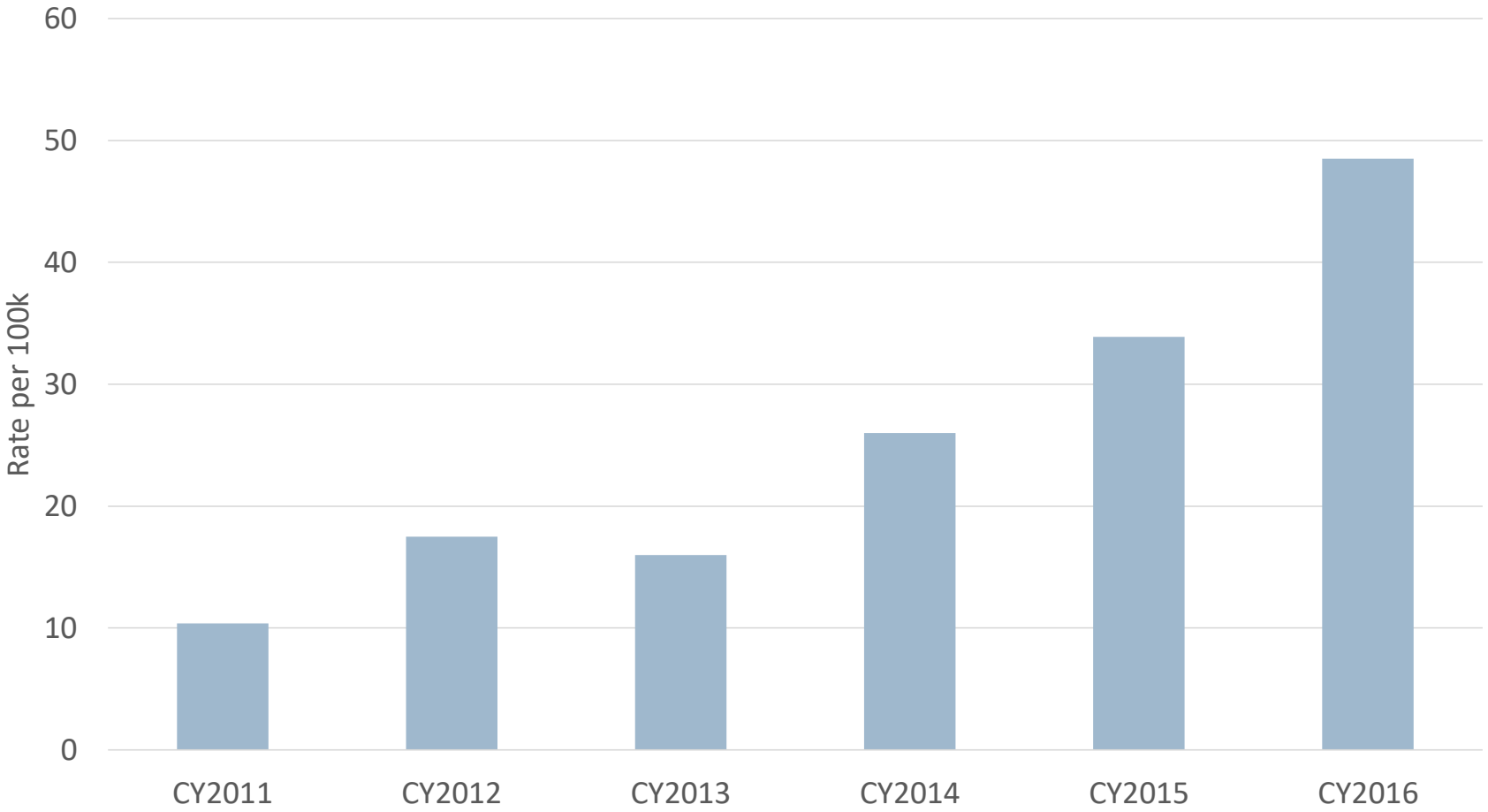


Daily morphine milligram equivalents (MMEs) is the daily dosage of morphine that would provide an equal amount of analgesia as the daily dosage of the opioid. Mean daily dosage is calculated for state residents in the PDMP that have an opioid prescription in a given quarter and refers to MMEs per day prescribed (total number of MMEs prescribed divided by the total number of prescription days).

Data Source: Prescription Monitoring Program Database.

Figure 49: Statewide Narcan Administrations by EMS

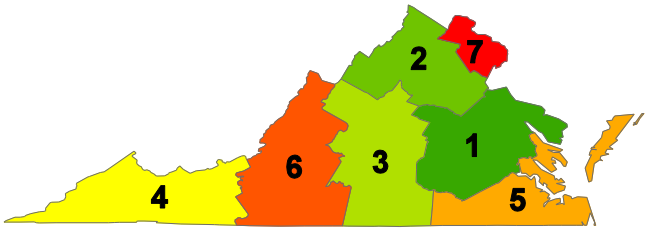
Rate Per 100,000 Population, CY2011-2016

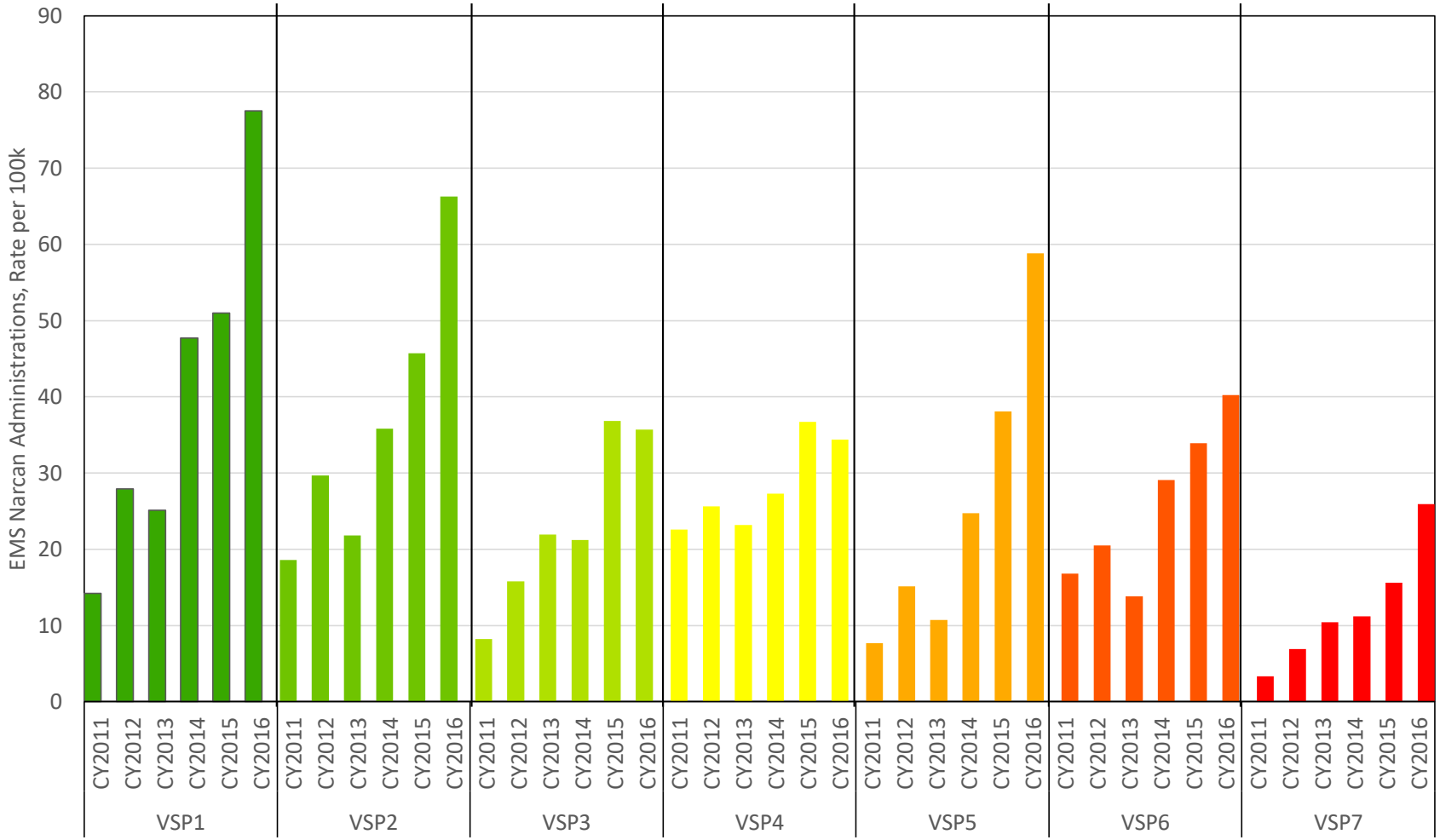


Data Sources: http://www.vdh.virginia.gov/data/opioid-overdose/

Figure 50: EMS Narcan Administrations

Rate Per 100,000 Population, CY2011-2016



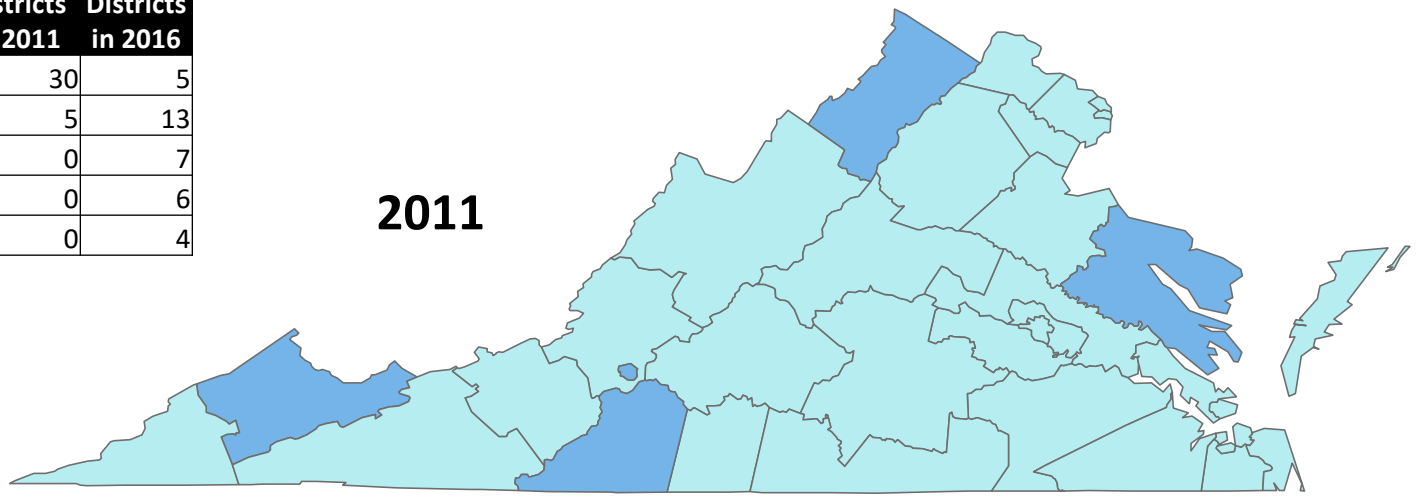


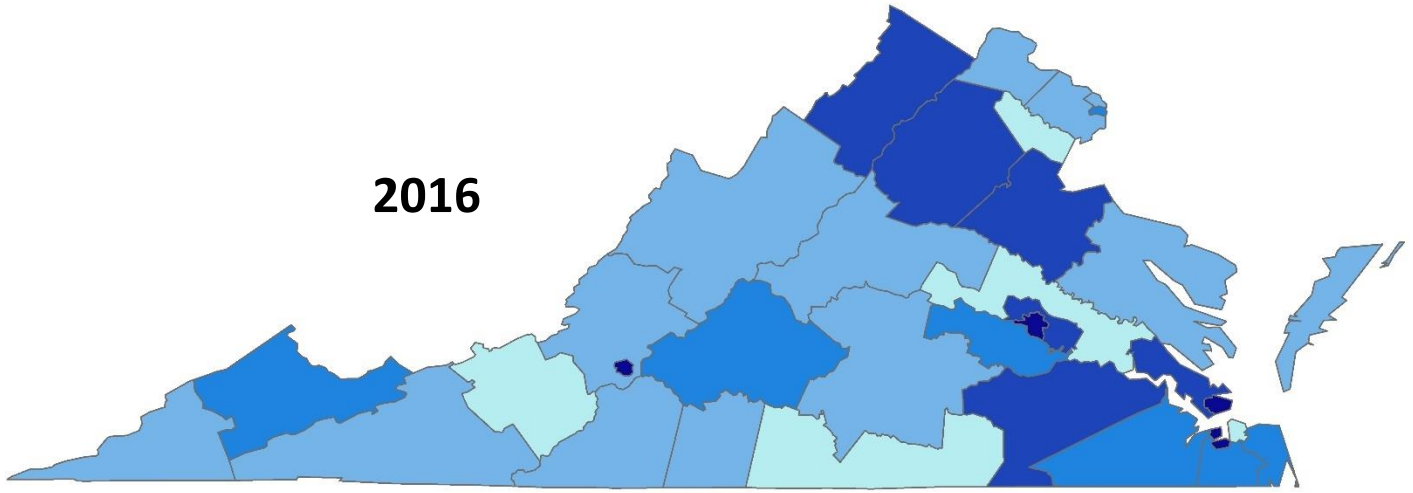
Data Sources: http://www.vdh.virginia.gov/data/opioid-overdose/

Figure 51: EMS Narcan Administrations

Rate Per 100,000 Population Virginia Health Districts, 2011 & 2016

Color	Value	Districts in 2011	Districts in 2016
	Up to 22.4 per 100k	30	5
	22.41 to 40.20 per 100k	5	13
	40.21 to 55.00 per 100k	0	7
	55.01 to 84.50 per 100k	0	6
	84.51 or more per 100k	0	4

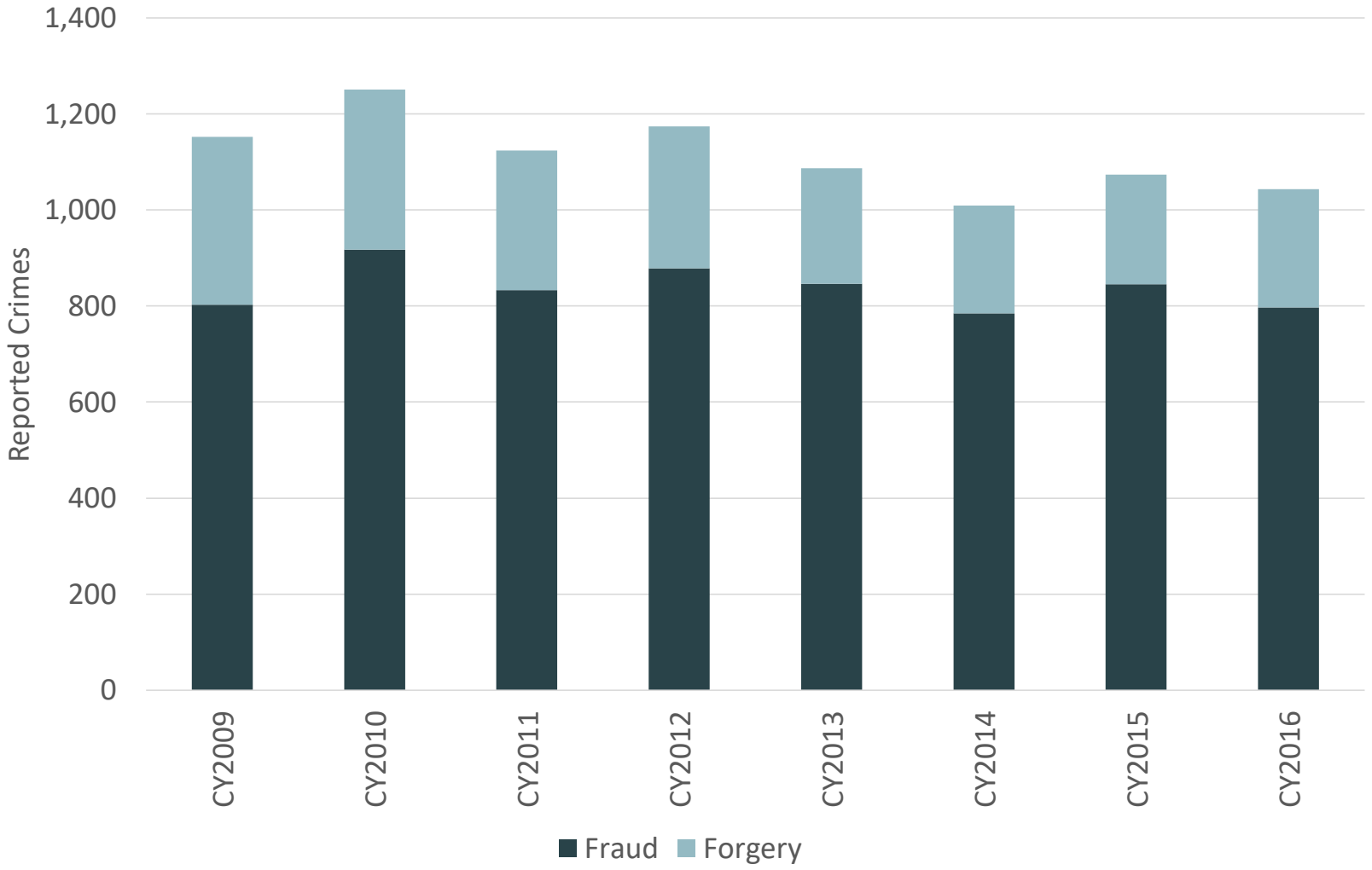




Data Sources: http://www.vdh.virginia.gov/data/opioid-overdose/

Figure 52: Virginia Reported Crimes

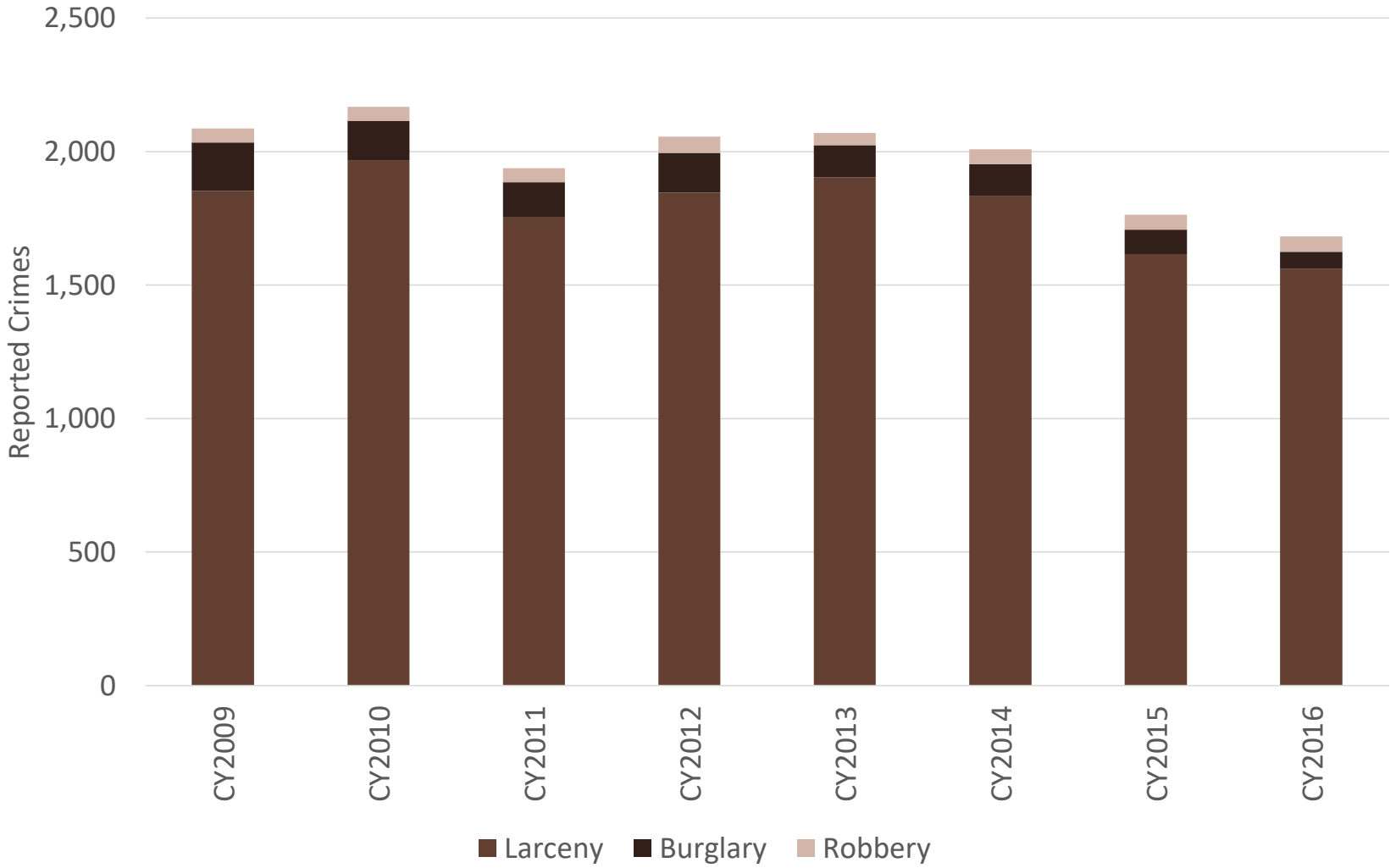
Forgery and Fraud Incidents at a Drug Store, Doctor's Office, or Hospital CY2009-2016



Data Source: VSP *Crime in Virginia* reports. http://www.vsp.state.va.us/Crime_in_Virginia.shtm

Figure 53: Virginia Reported Crimes

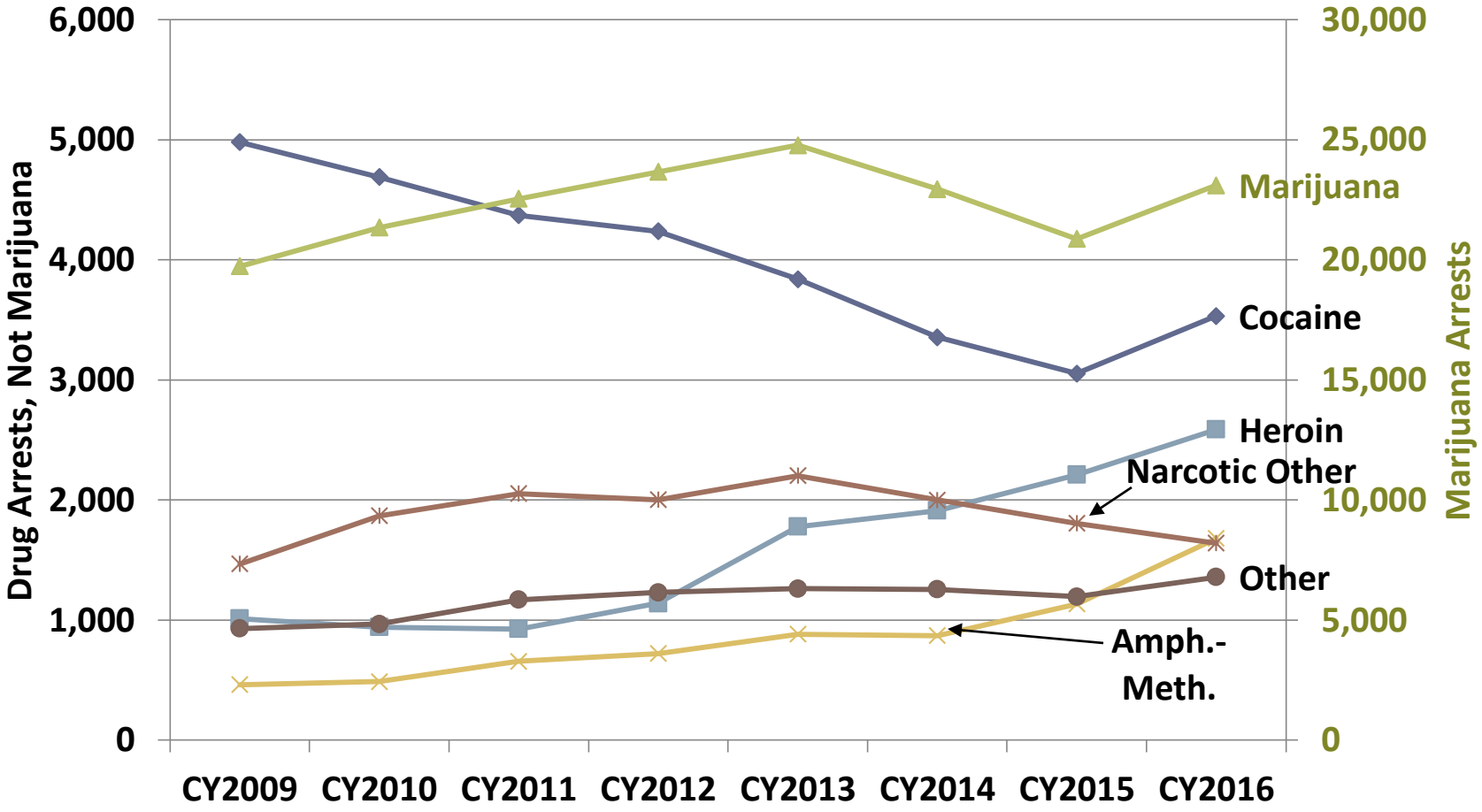
Larceny, Burglary, and Robbery from a Drug Store, Doctor's Office, or Hospital CY2009-2016



Data Source: VSP *Crime in Virginia* reports. http://www.vsp.state.va.us/Crime_in_Virginia.shtm

Figure 54: Virginia Drug Arrests

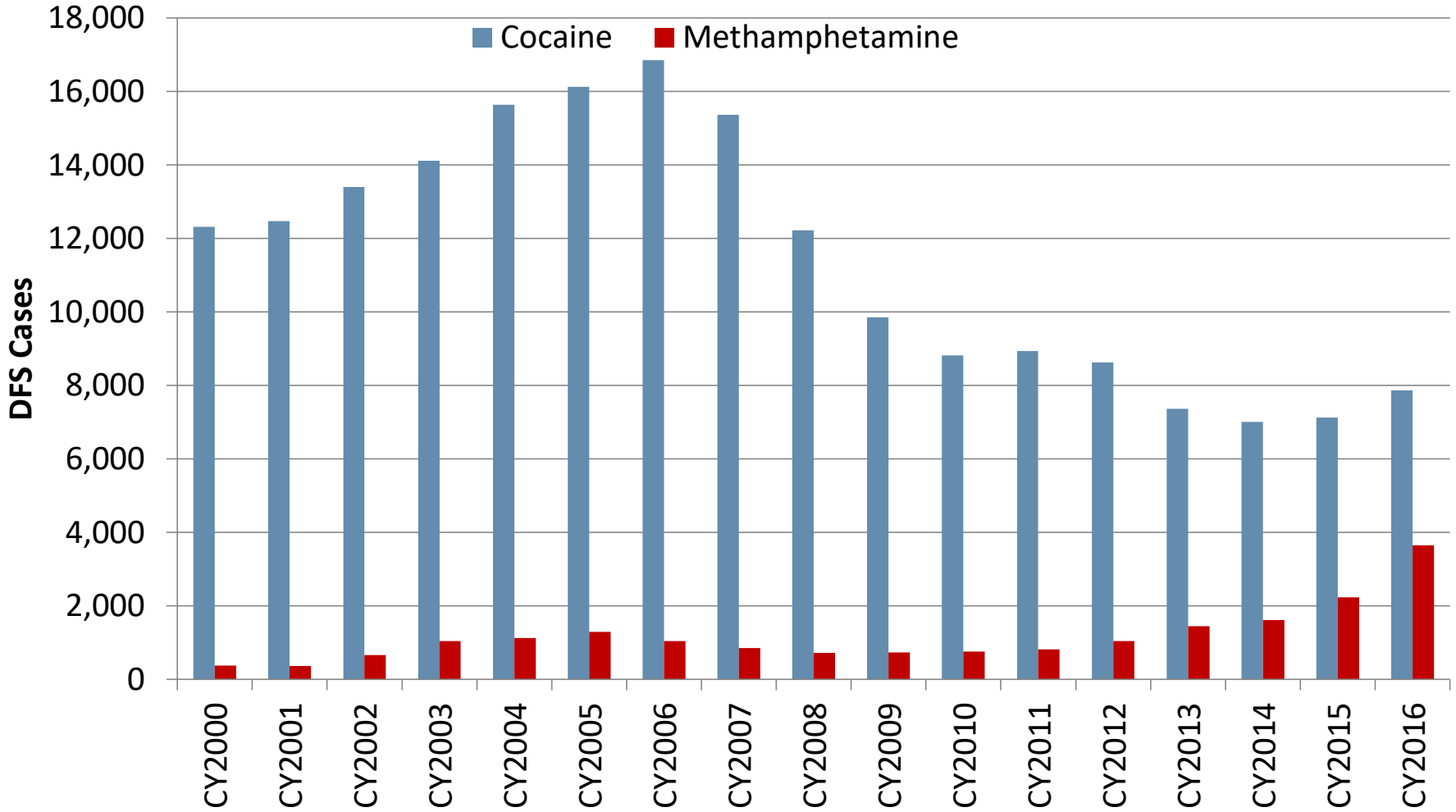
By Drug Type, CY2009-2016



Data Sources: *Crime in Virginia*

Figure 55: DFS Cocaine & Methamphetamine Submissions

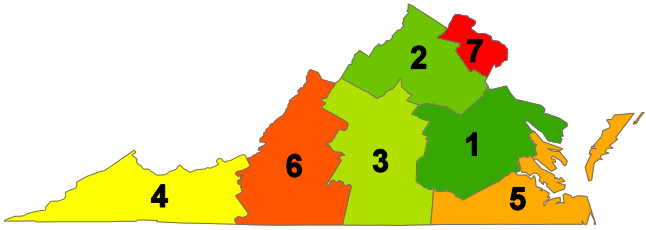
Cases submitted to DFS, CY2000-2016

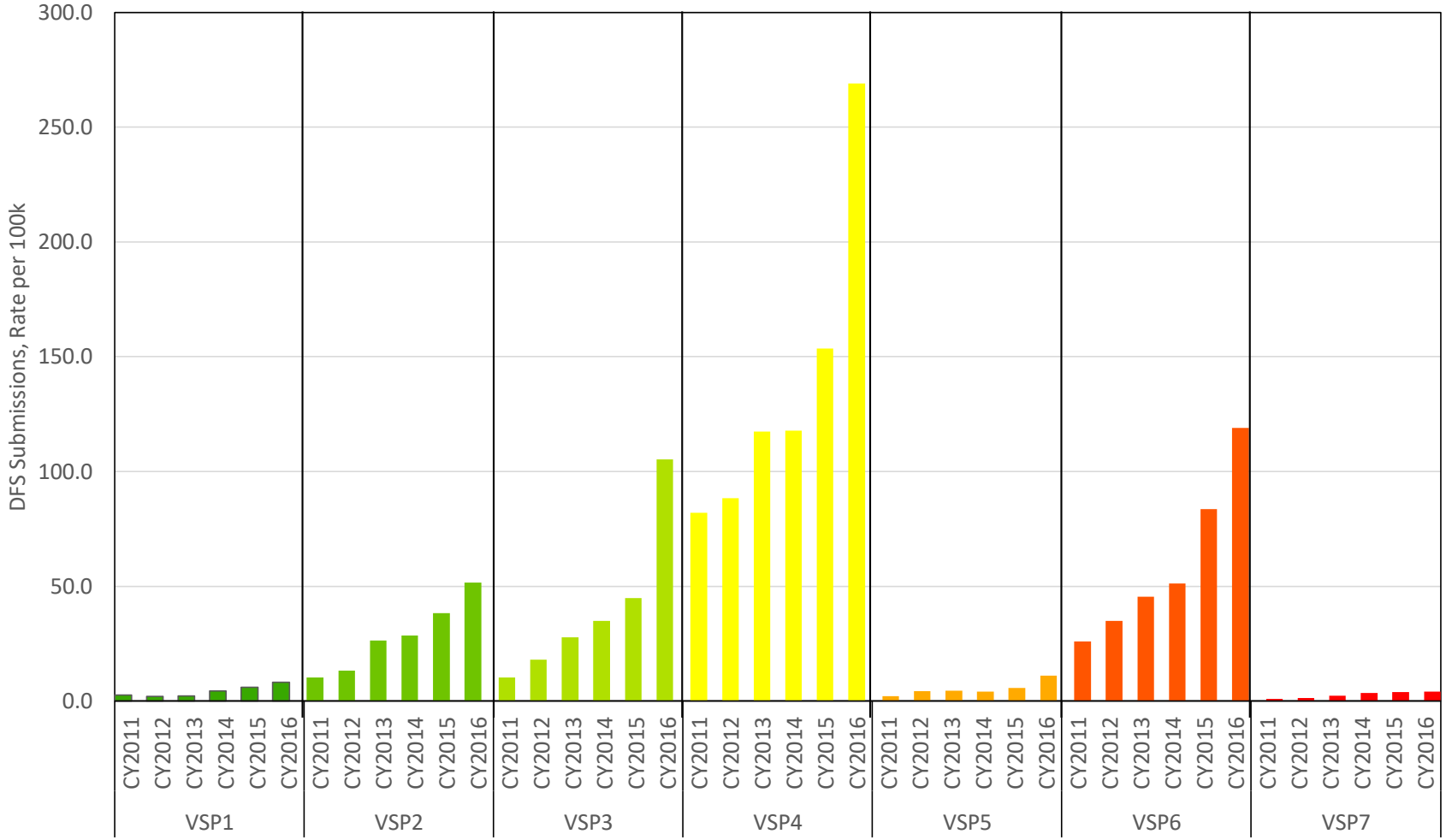


Data Sources: DFS monthly submission to NFLIS

Figure 56: Regional Methamphetamine DFS Submissions

Rate Per 100,000 Population, CY2011-2016

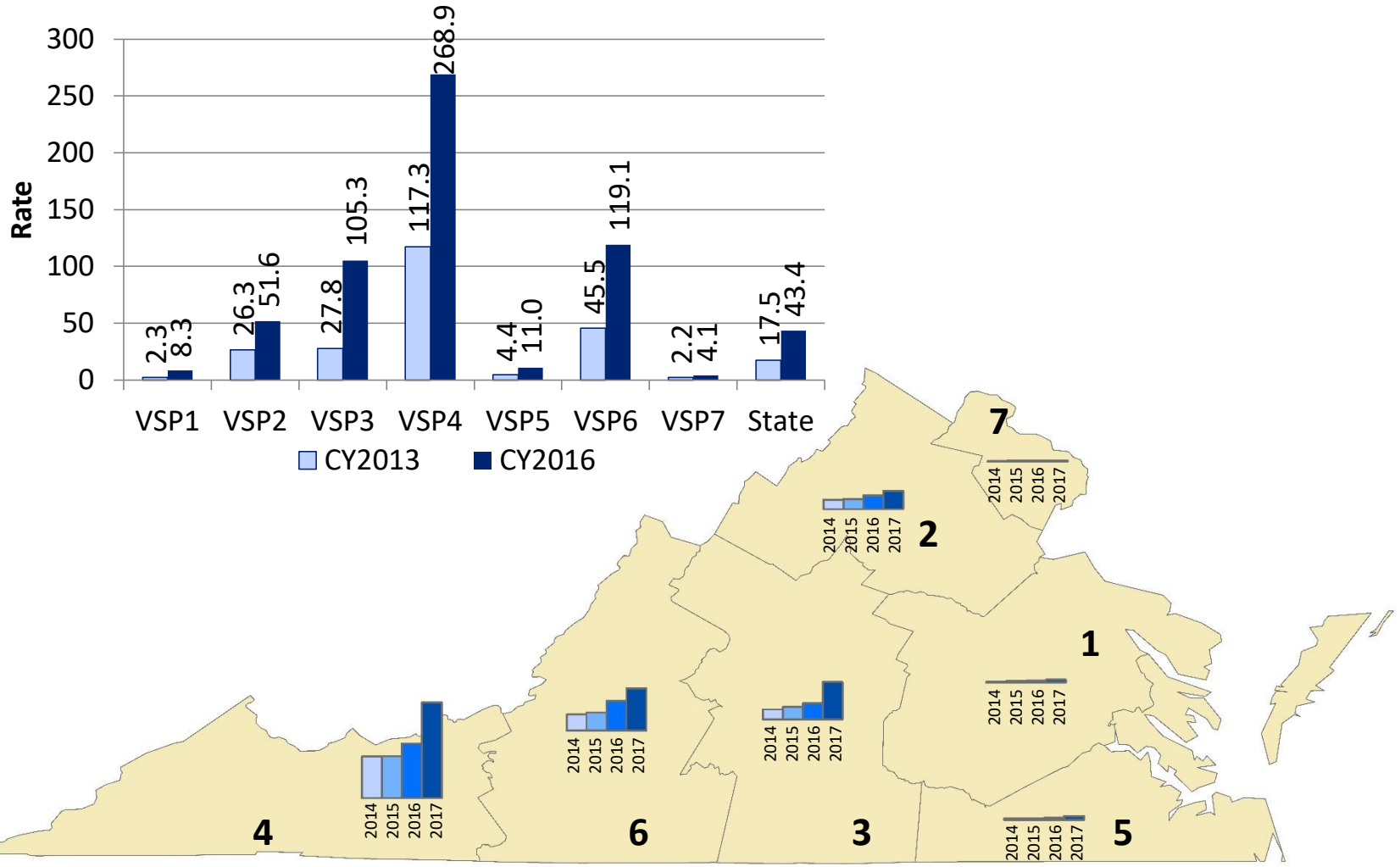




Data Sources: DFS monthly submission to NFLIS

Figure 57: Regional Methamphetamine DFS Submission Rate

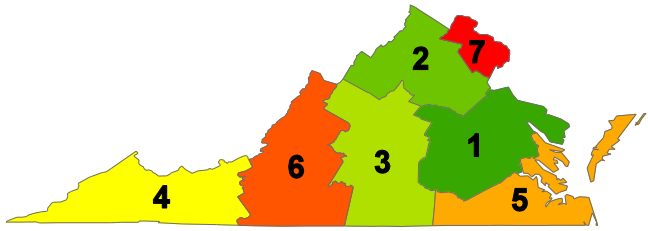
Rate Per 100,000 Population, CY2013-2016

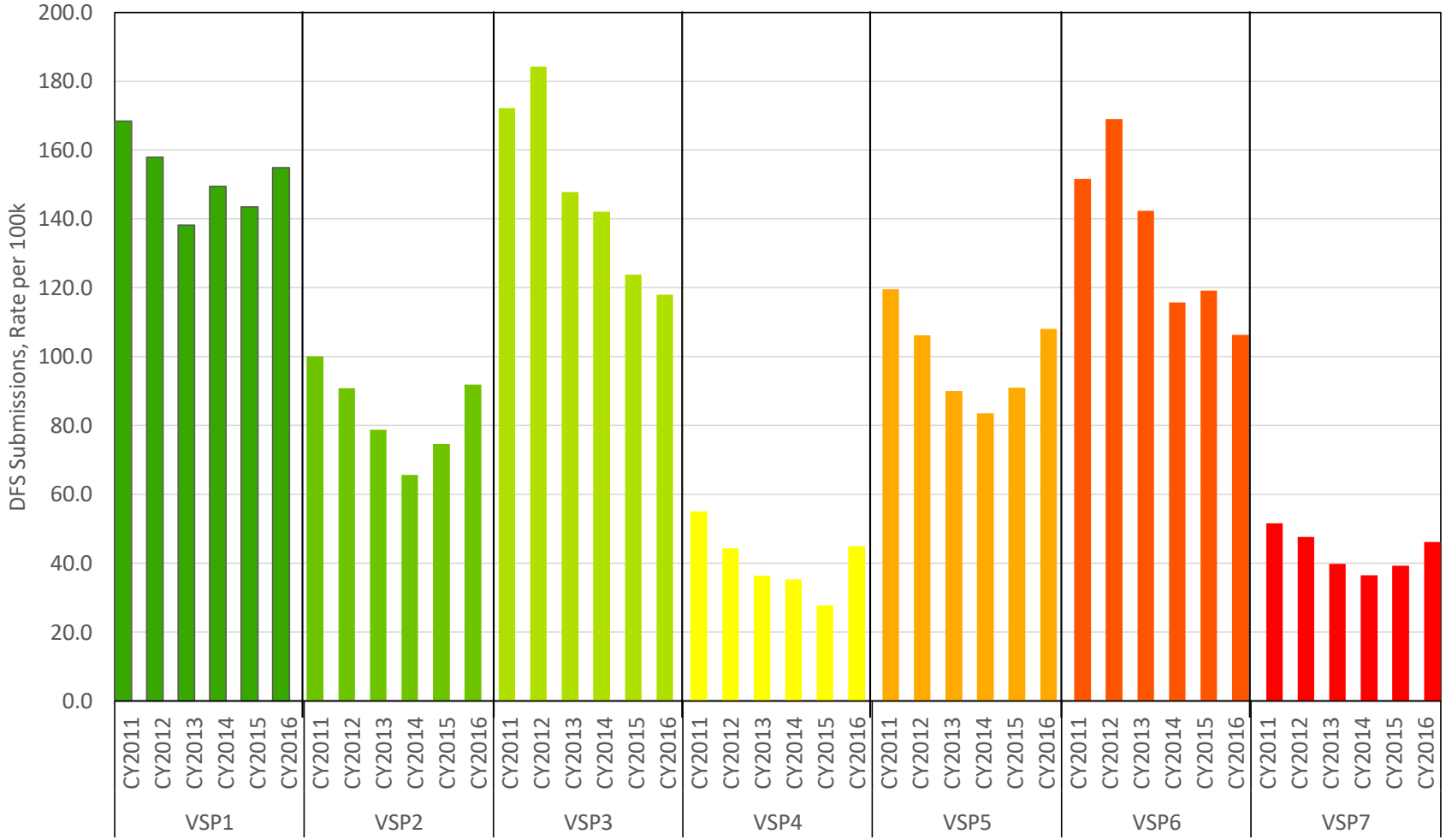


Data Sources: DFS monthly submission to NFLIS. FY2017 data are preliminary. Based on historical trends, FY2017 data are estimated to be 99.9% complete.

Figure 58: Regional Cocaine DFS Submissions

Rate Per 100,000 Population, CY2011-2016

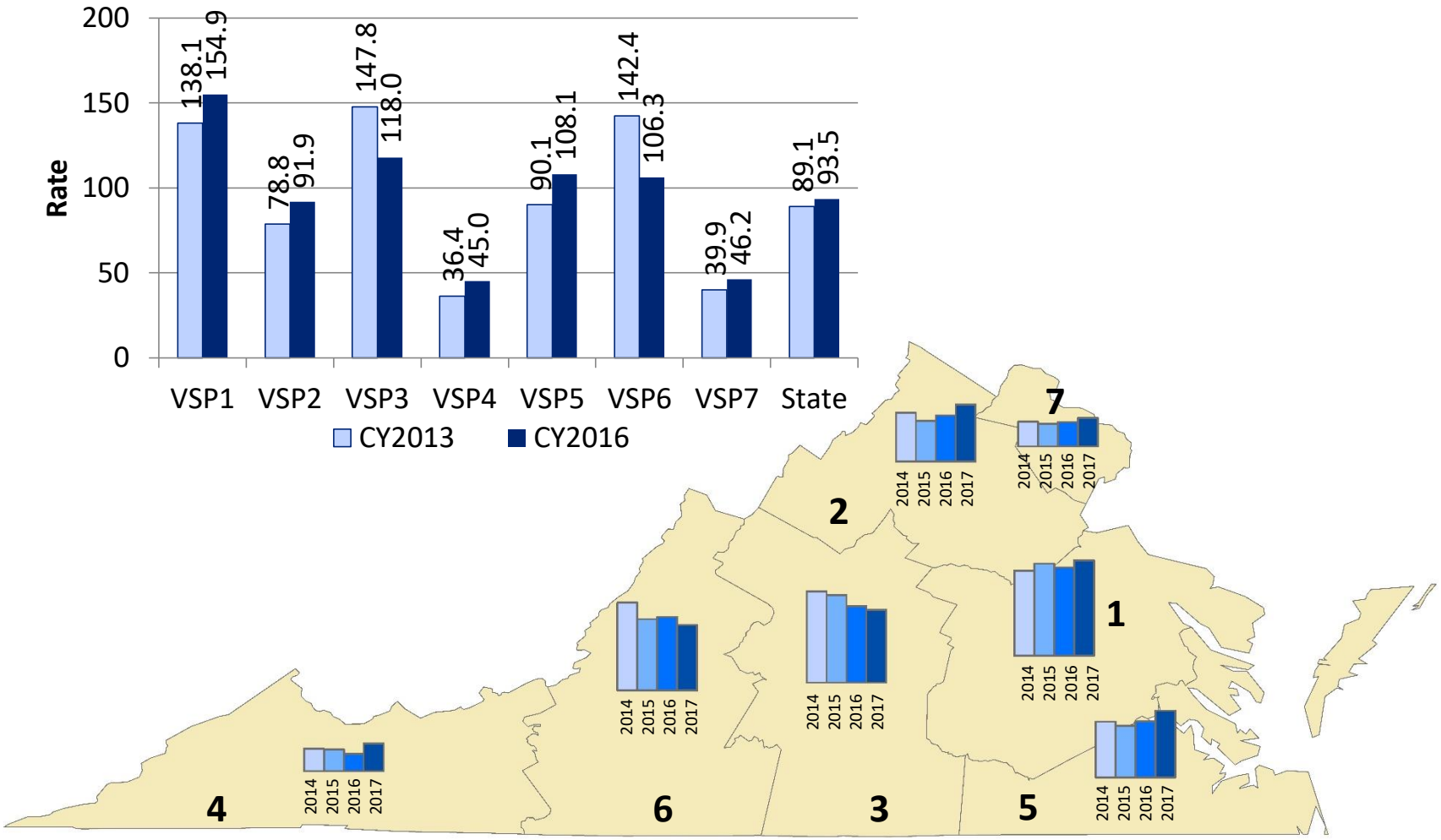




Data Sources: DFS monthly submission to NFLIS

Figure 59: Regional Cocaine DFS Submission Rate

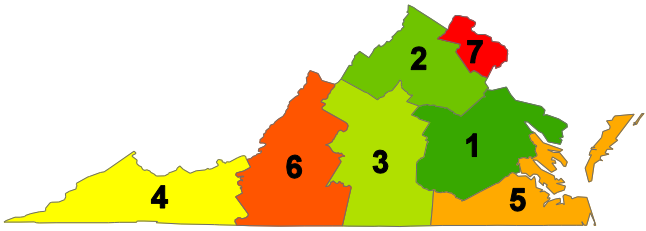
Rate Per 100,000 Population, CY2013-2016

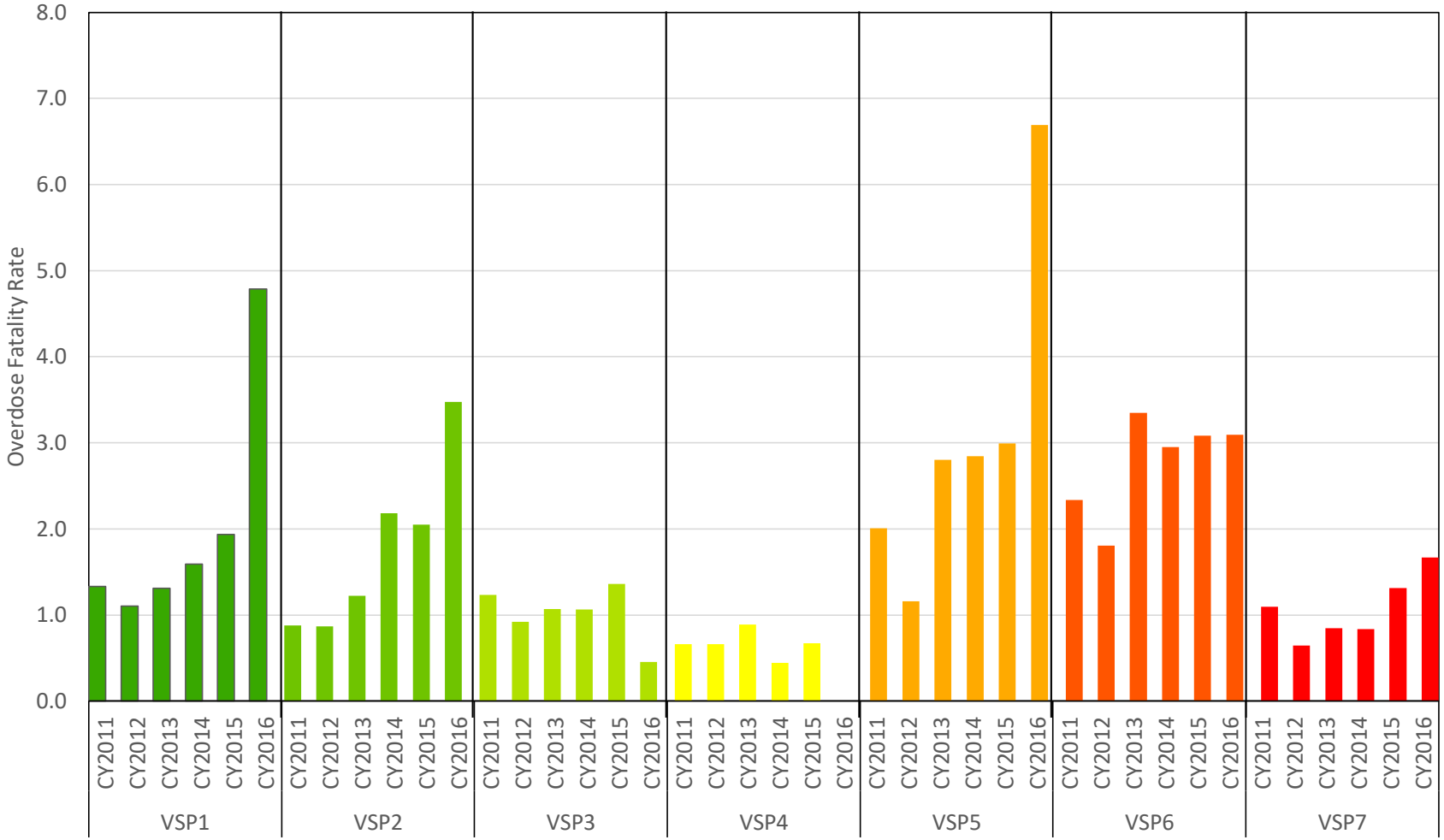


Data Sources: DFS monthly submission to NFLIS. FY2017 data are preliminary. Based on historical trends, FY2017 data are estimated to be 99.9% complete.

Figure 60: Regional Cocaine Overdose Fatalities

Rate Per 100,000 Population, CY2011-2016

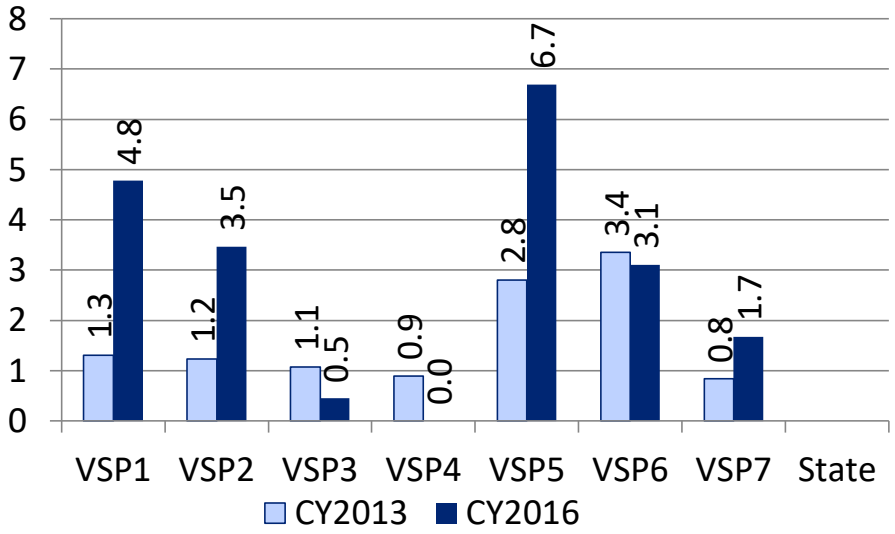


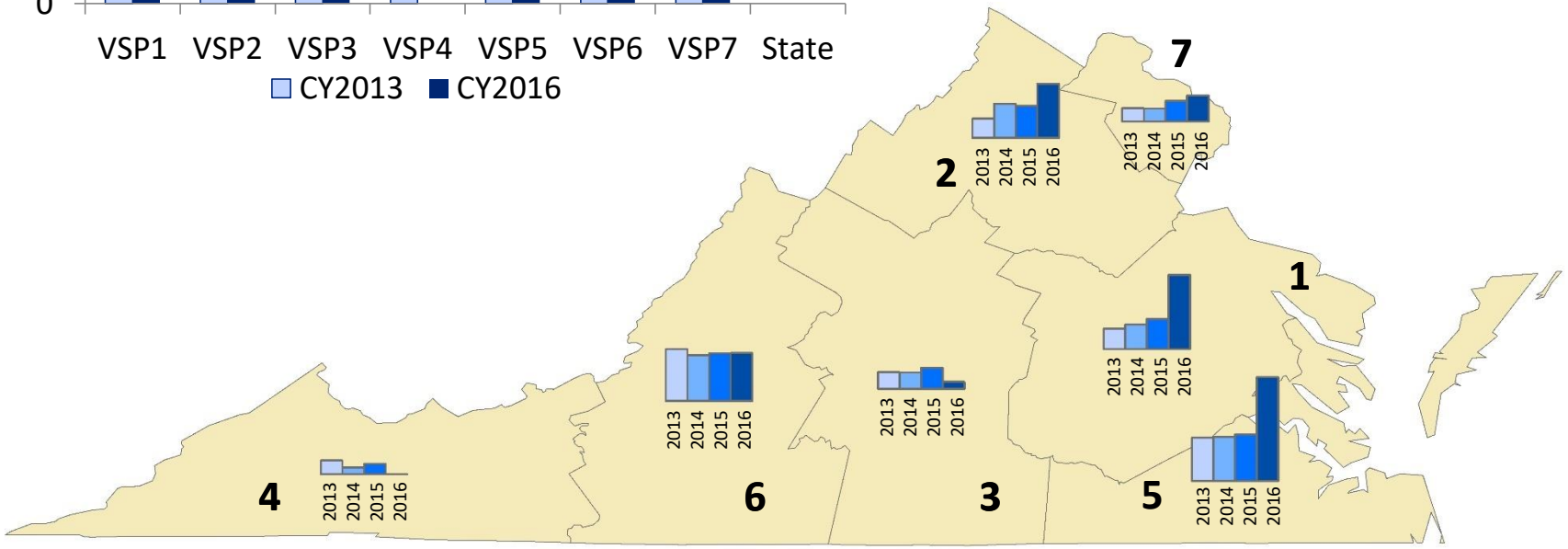


Data Sources: DFS monthly submission to NFLIS

Figure 61: Regional Cocaine Overdose Fatality Rate

Rate of fatalities per 100,000 Population, CY2013-2016



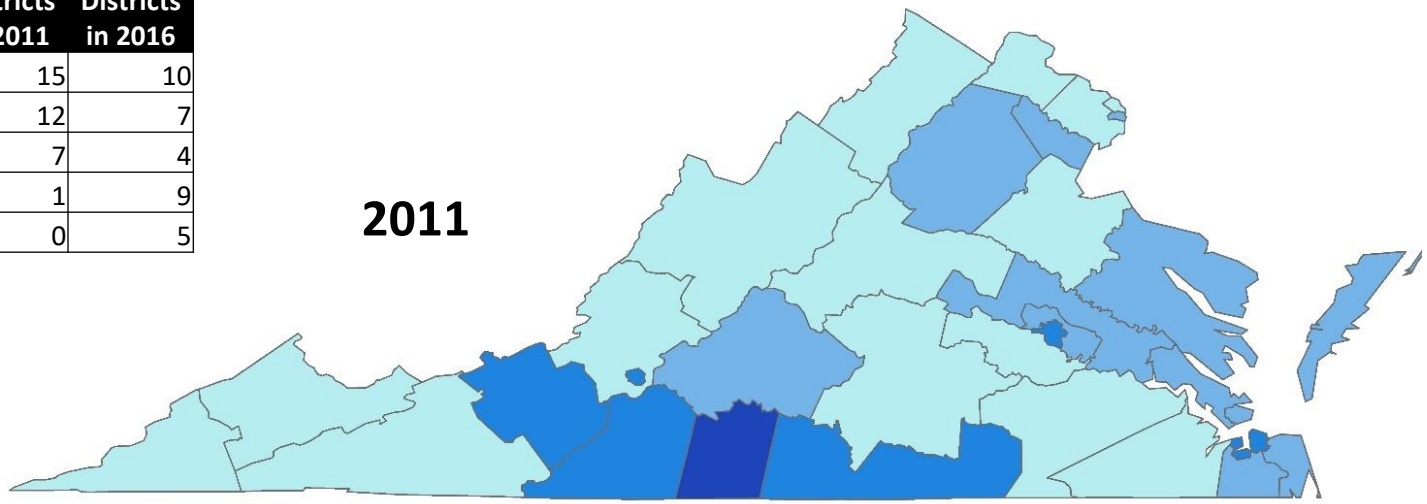


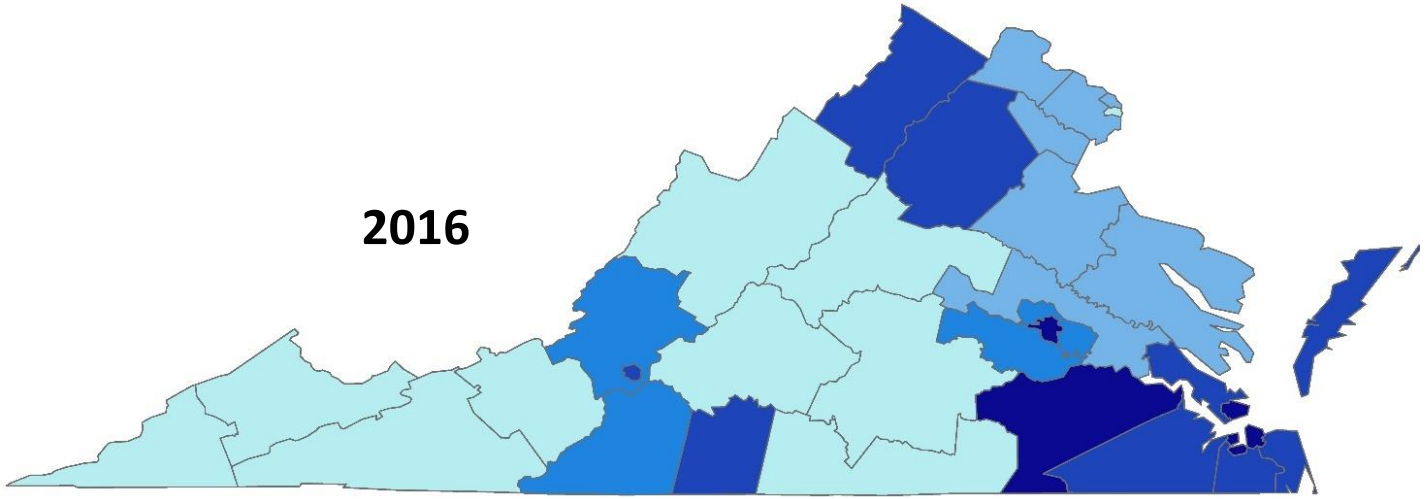
Data Sources: OCME Fatal Drug Overdose Quarterly Report, supplemental spreadsheets (www.vdh.virginia.gov/medical-examiner/forensic-epidemiology)

Figure 62: Cocaine Overdose Fatality Rate

Per 100,000 Population Virginia Health Districts, 2011 & 2016

Color	Value	Districts in 2011	Districts in 2016
	Up to 1.16 per 100k	15	10
	1.17 to 2.70 per 100k	12	7
	2.71 to 4.21 per 100k	7	4
	4.22 to 7.19 per 100k	1	9
	7.20 or more per 100k	0	5

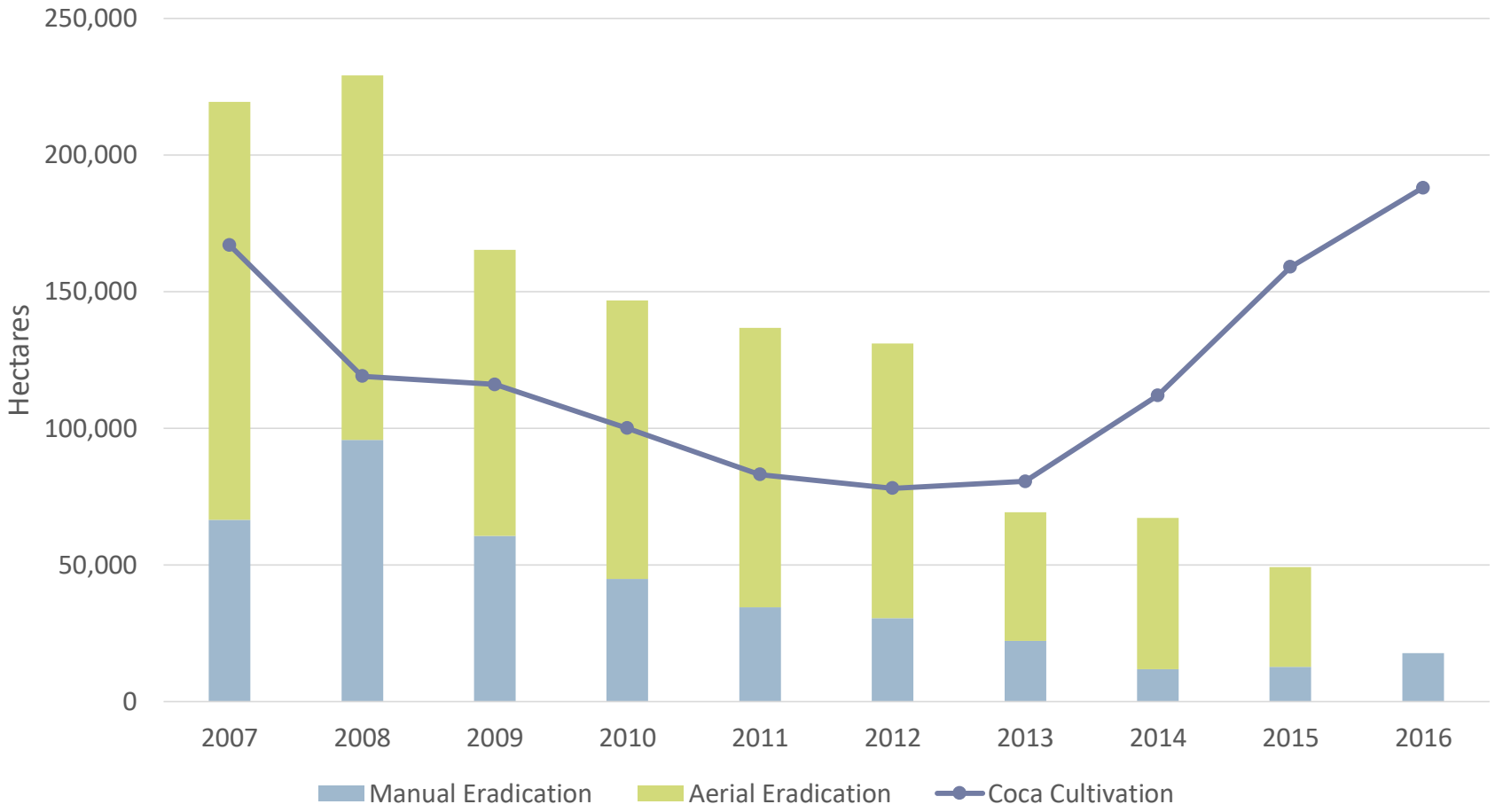




Data Sources: http://www.vdh.virginia.gov/data/opioid-overdose/

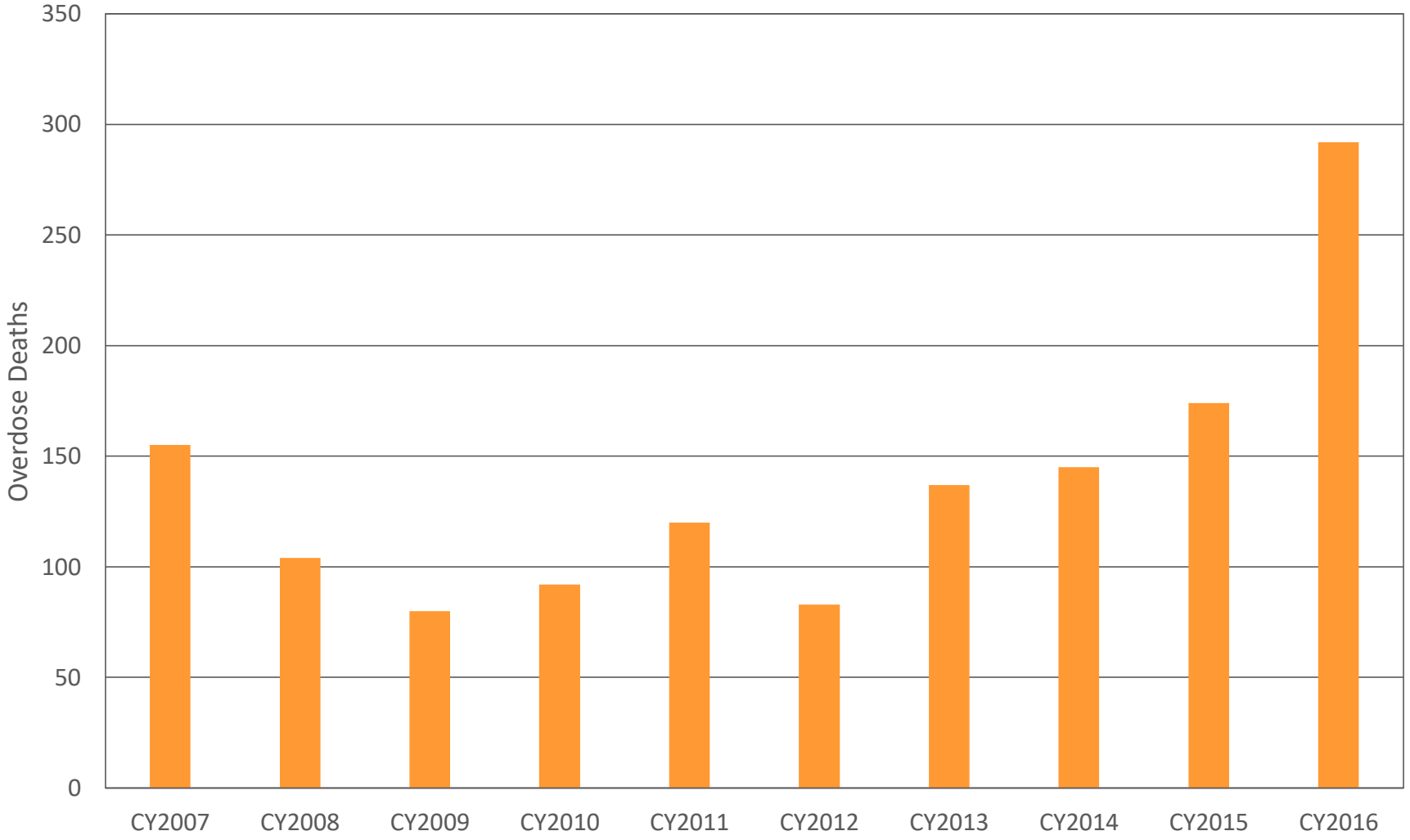
Figure 63: Cocaine Eradication & Production in Colombia

Drug Enforcement Administration, 2007-2016



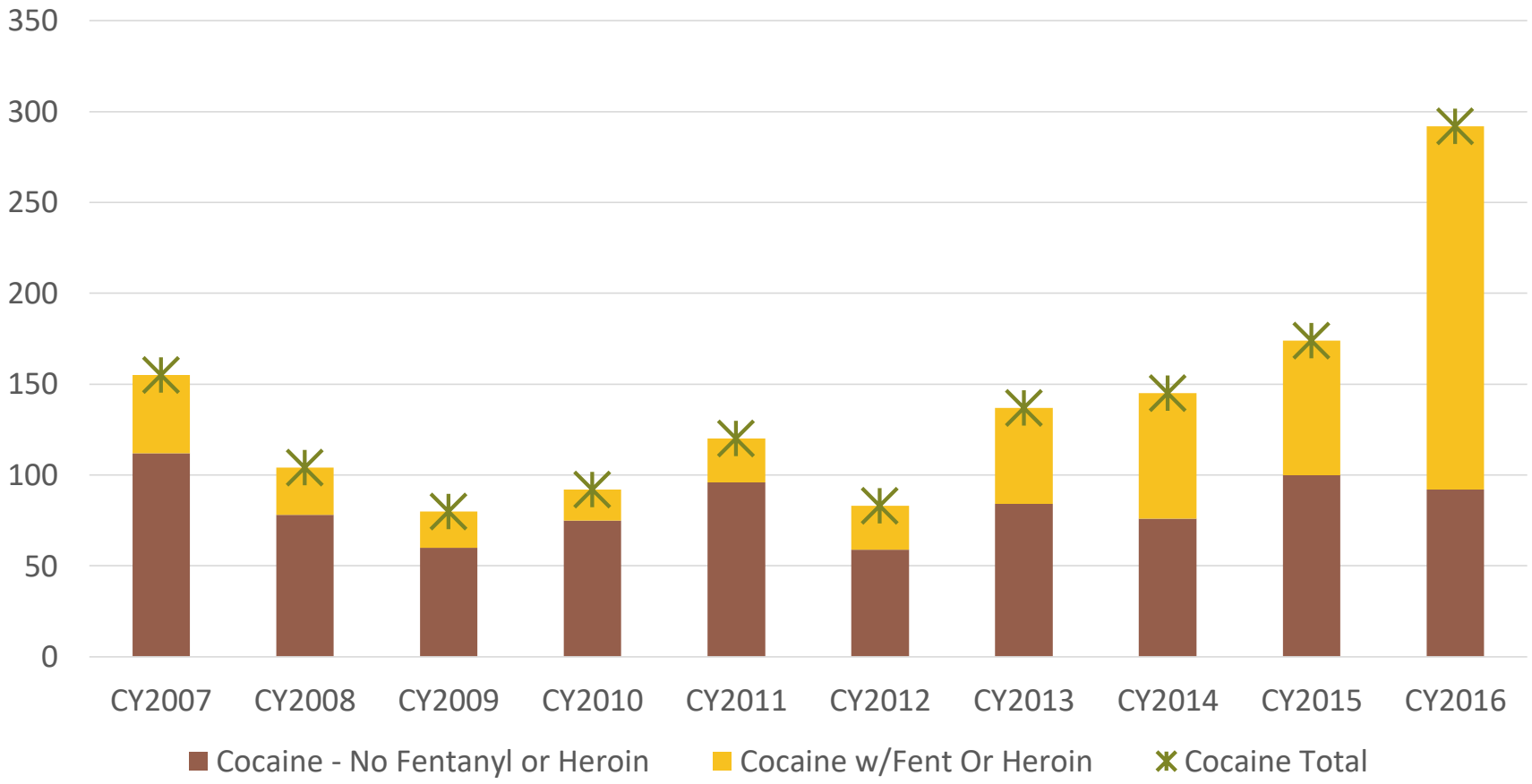
Data Sources: DEA Intelligence Brief August 2017 https://www.dea.gov/docs/DIB-014-17%20Colombian%20Cocaine%20Production%20Expansion.pdf

Figure 64: Cocaine Overdose Fatalities
CY2007-2016



Data Sources: OCME Fatal Drug Overdose Quarterly Report (2017 data are preliminary) http://www.vdh.virginia.gov/medical-examiner/forensic-epidemiology/

Figure 65: Cocaine Fatalities Involving Fentanyl and/or Heroin
Virginia, CY2007-2016



Between CY 2013 and 2016, cocaine overdose fatalities involving fentanyl and/or heroin increased 277%, while fatalities not involving fentanyl and/or heroin increased 10%

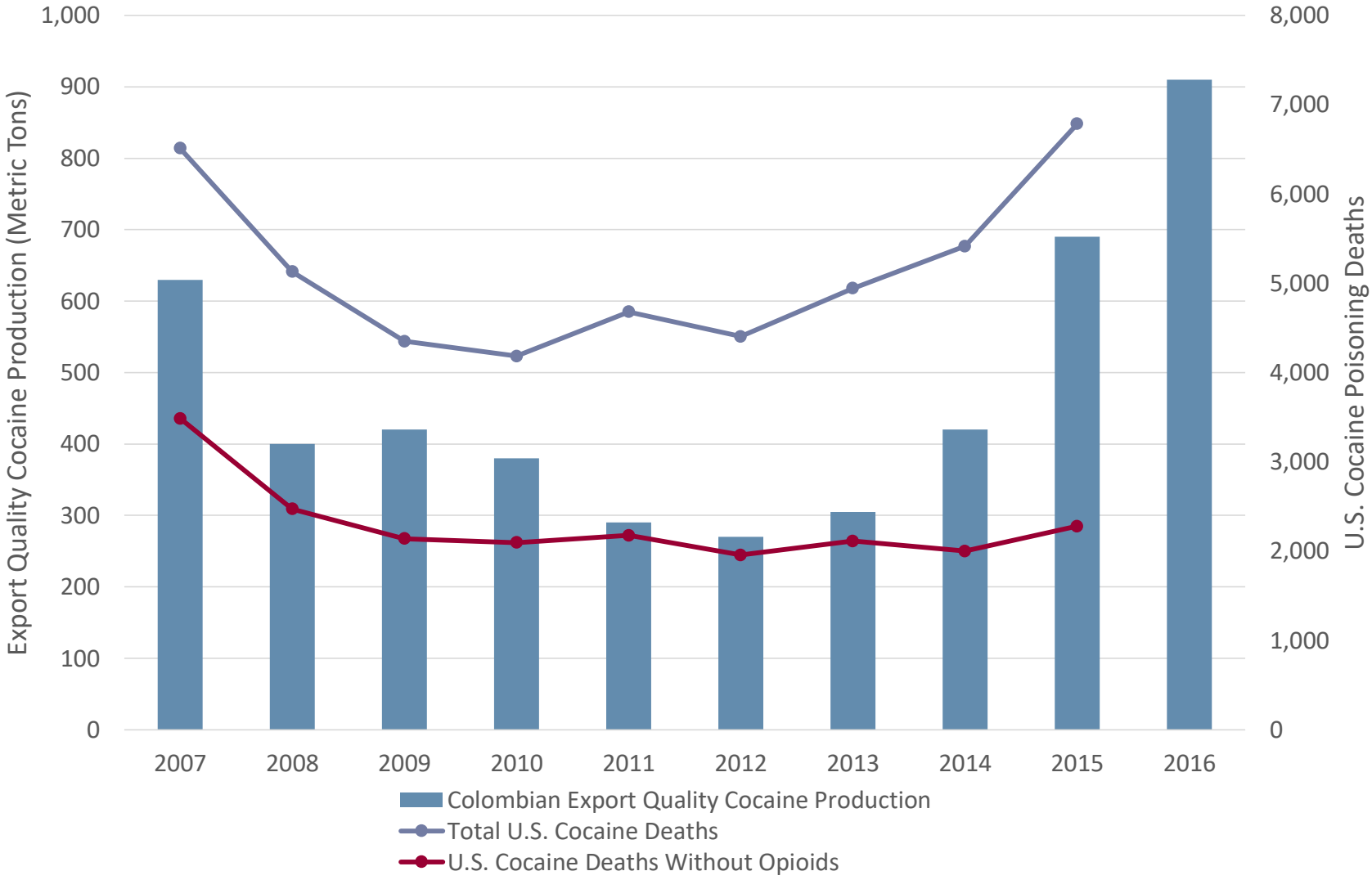
In 2016, 68% of cocaine fatalities also involved fentanyl and/or heroin.

"Fentanyl" includes fentanyl and fentanyl analogs.

Data Source: OCME. Response to data request October 11, 2016

Figure 66: Opioids & National Cocaine Overdose Fatalities

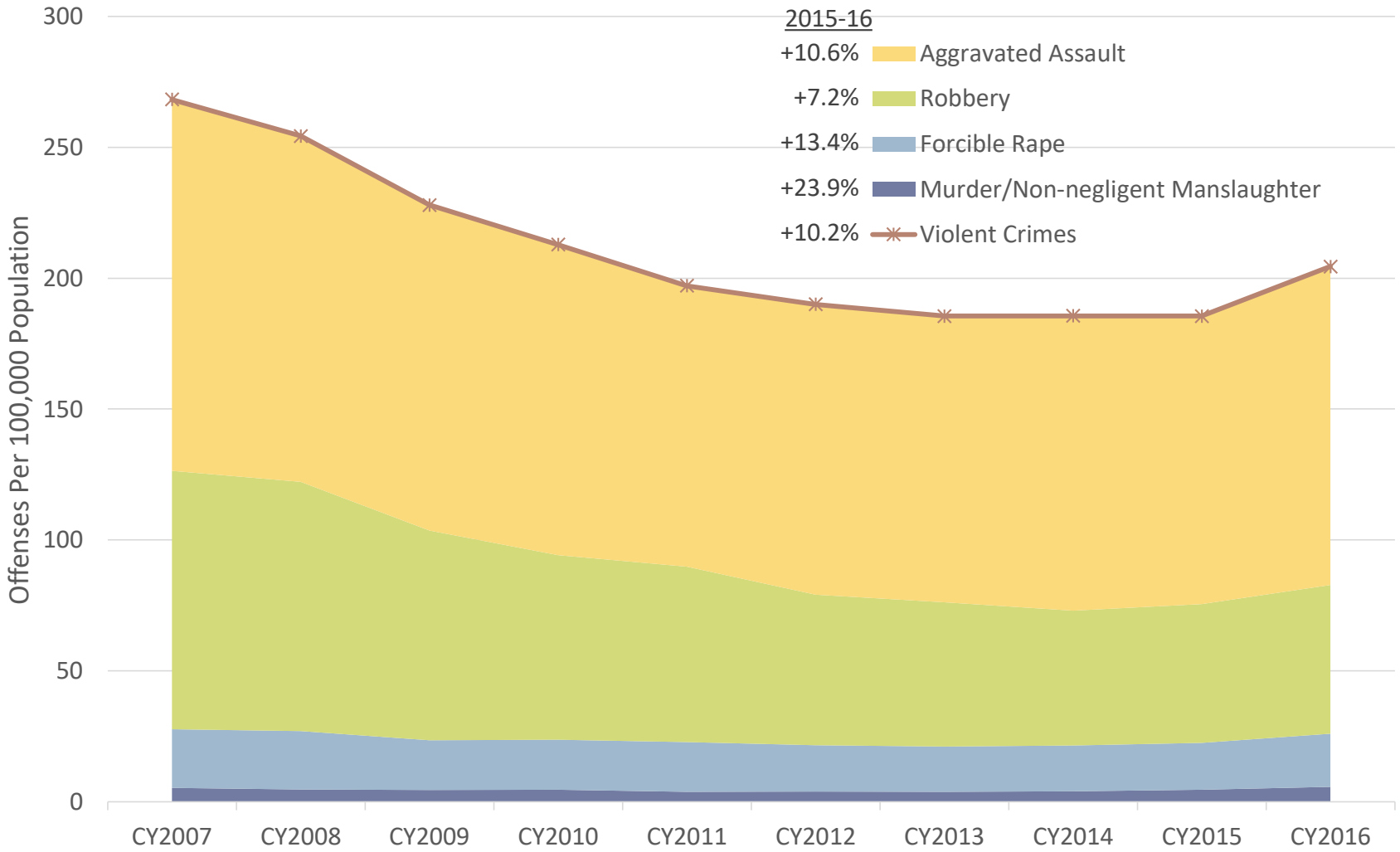
Drug Enforcement Administration, 2007-2016



Data Sources: DEA Intelligence Brief August 2017 https://www.dea.gov/docs/DIB-014-17%20Colombian%20Cocaine%20Production%20Expansion.pdf

Figure 67: Violent Index Offense Rate

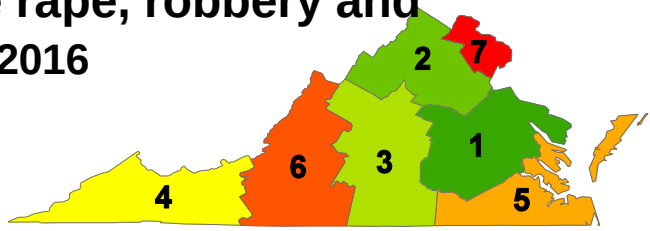
Includes murder/non-negligent manslaughter, forcible rape, robbery and aggravated assault, CY2007-2016

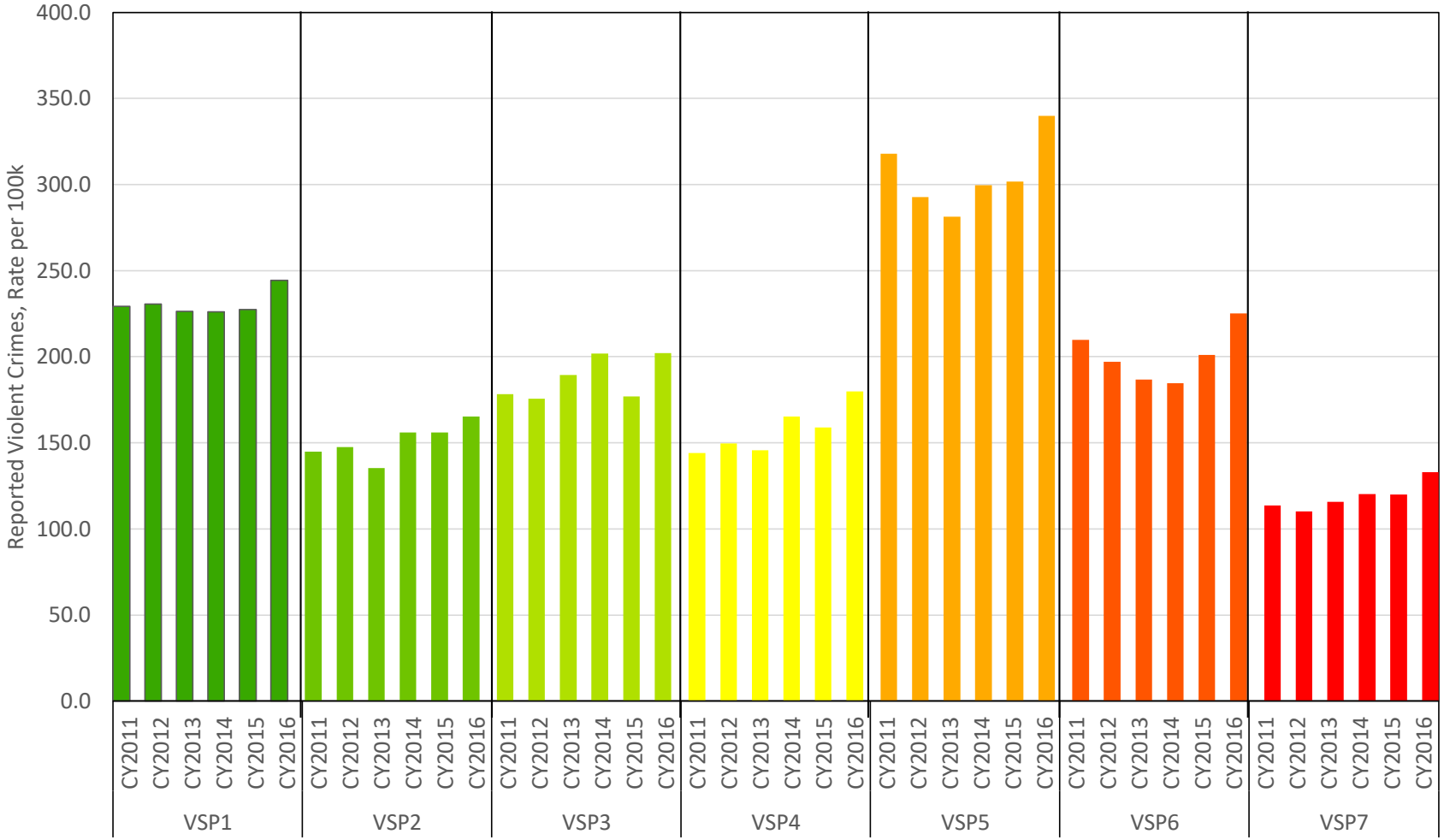


Data source: Uniform Crime Reports (UCR) Incident-Based Reporting System Repository electronic data files from Virginia State Police; Population data (for rates) retrieved from the U.S. Census Bureau

Figure 68: Violent Index Offense Rate

Includes murder/non-negligent manslaughter, forcible rape, robbery and aggravated assault, Rate Per 100,000 Population, CY2011-2016

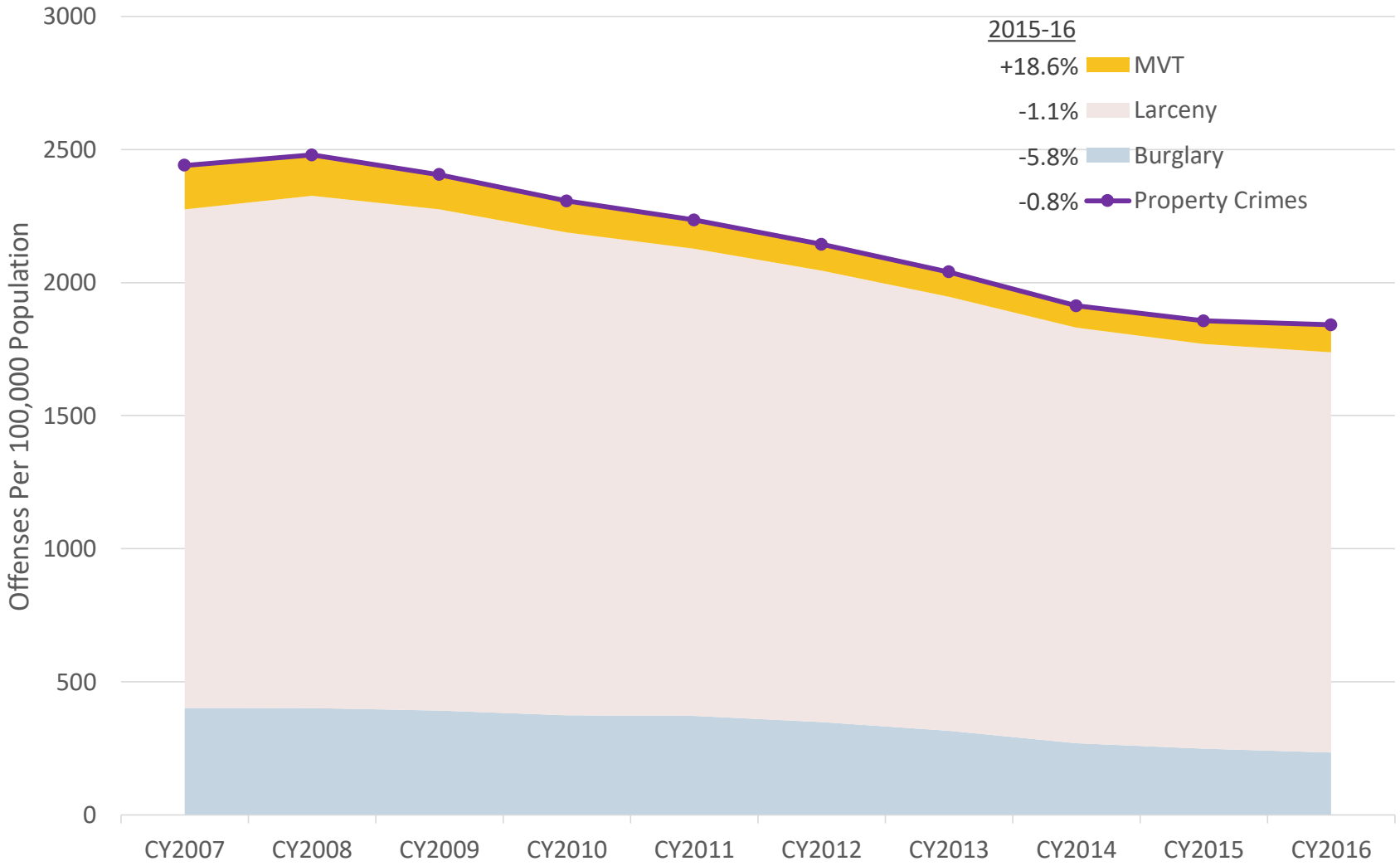




Data Sources: DFS monthly submission to NFLIS

Figure 69: Property Index Offense Rate

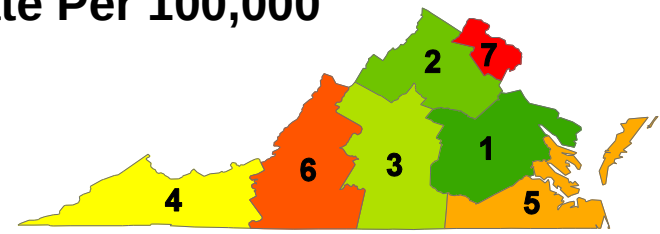
Includes burglary, larceny, and motor vehicle theft, CY2007-2016

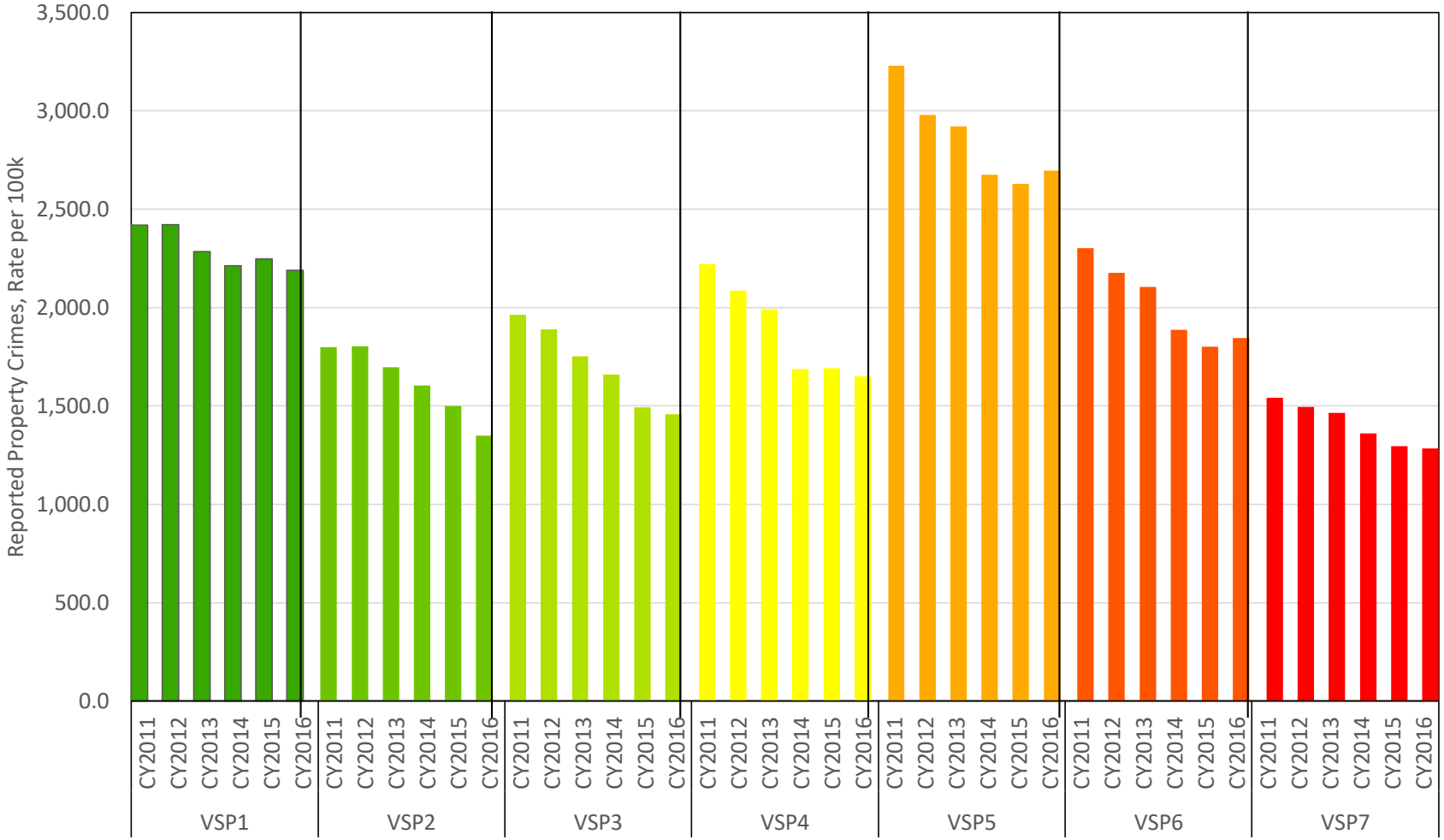


Data source: Uniform Crime Reports (UCR) Incident-Based Reporting System Repository electronic data files from Virginia State Police; Population data (for rates) retrieved from the U.S. Census Bureau

Figure 70: Property Index Offense Rate

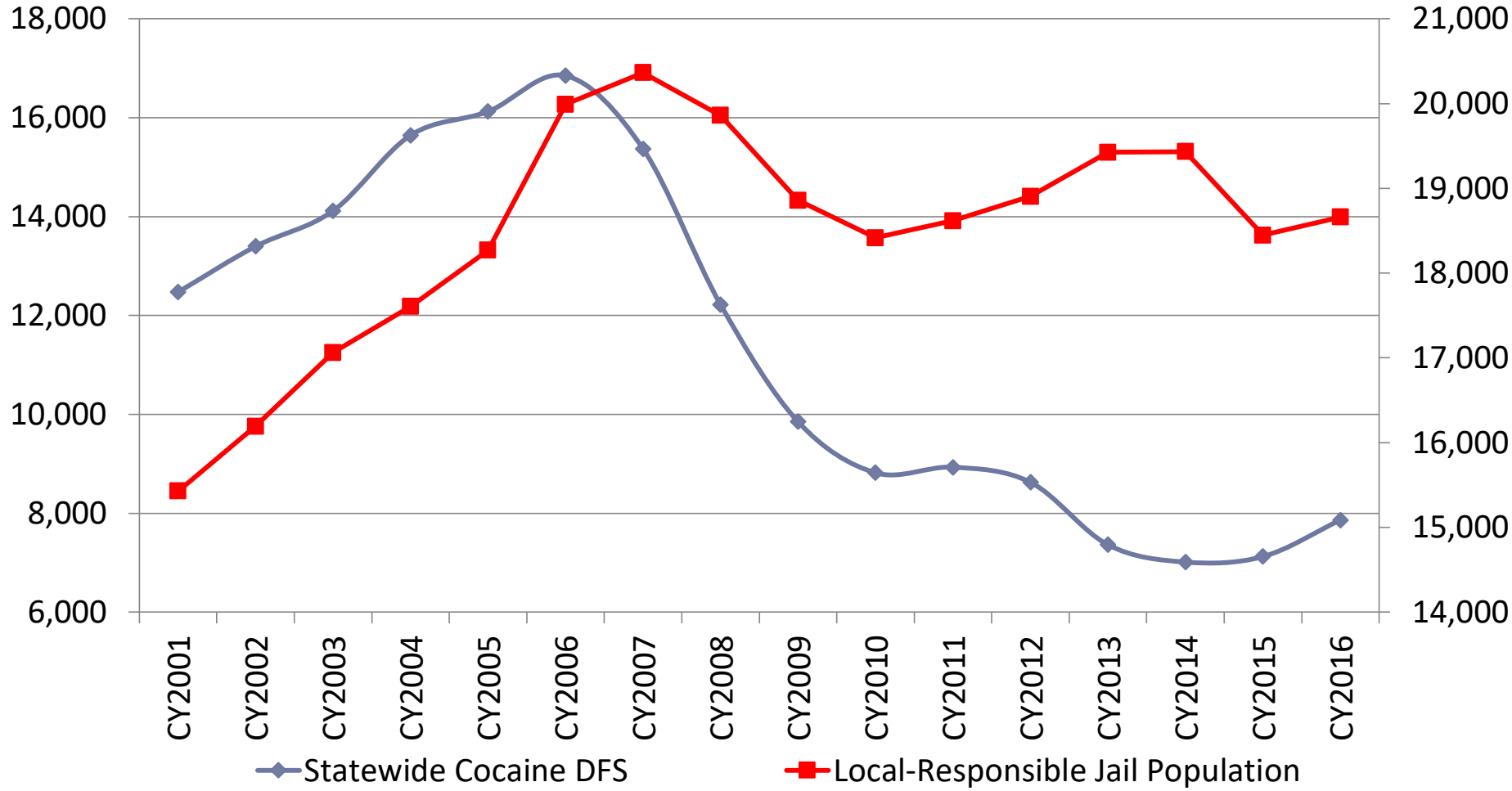
Includes burglary, larceny, and motor vehicle theft Rate Per 100,000 Population, CY2011-2016





Data Sources: DFS monthly submission to NFLIS

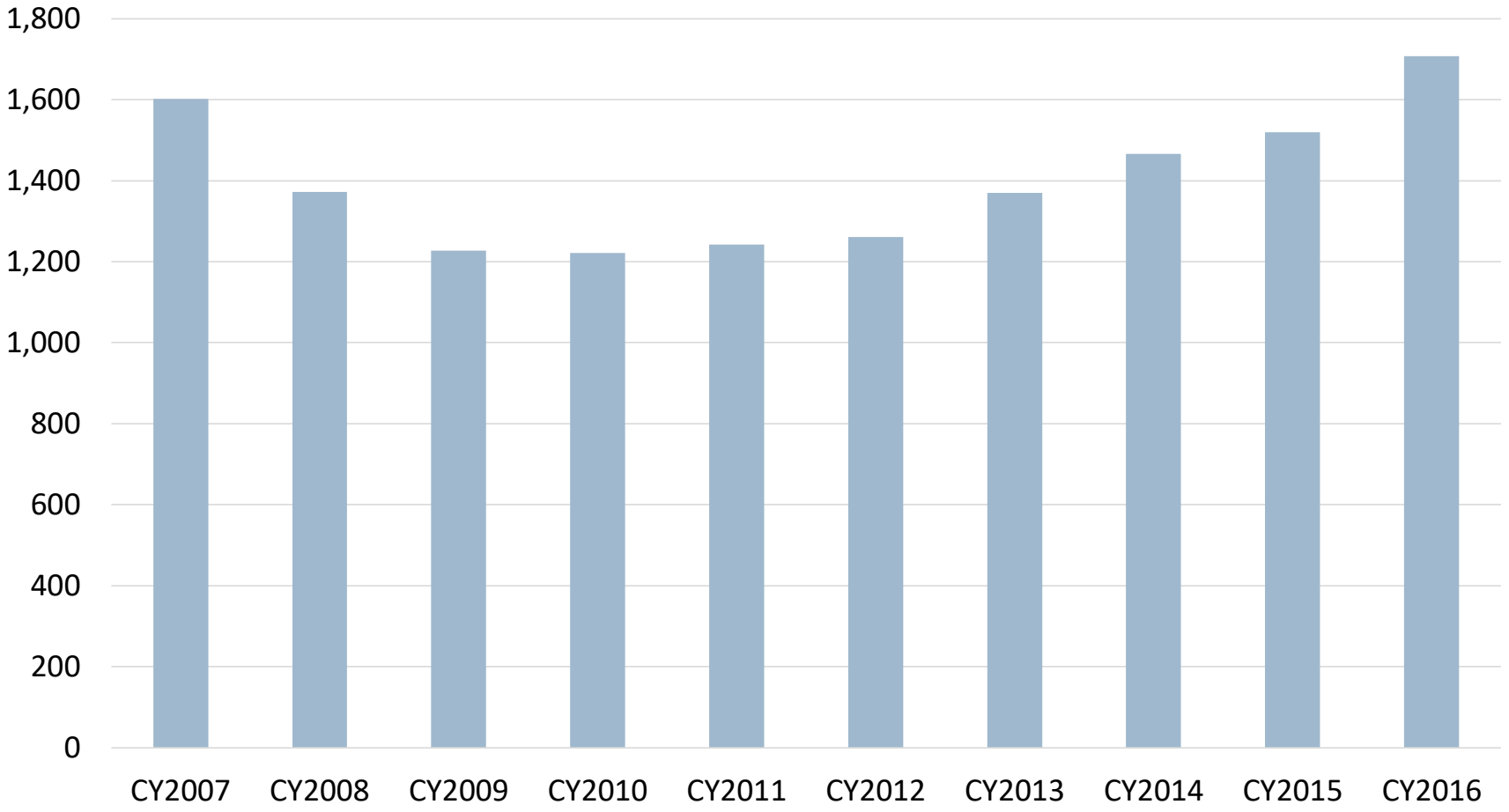
Figure 71: DFS Cocaine Submissions & the Jail Population
CY2011-2016



Data Sources: DFS monthly submission to NFLIS; Jail data provided by the Compensation Board as part of the offender forecasting process.

Figure 72: Pretrial Jail Commitments for Drug Felonies

Monthly Average, Most Serious Committing Offense is Drug Felony, CY2007-2016

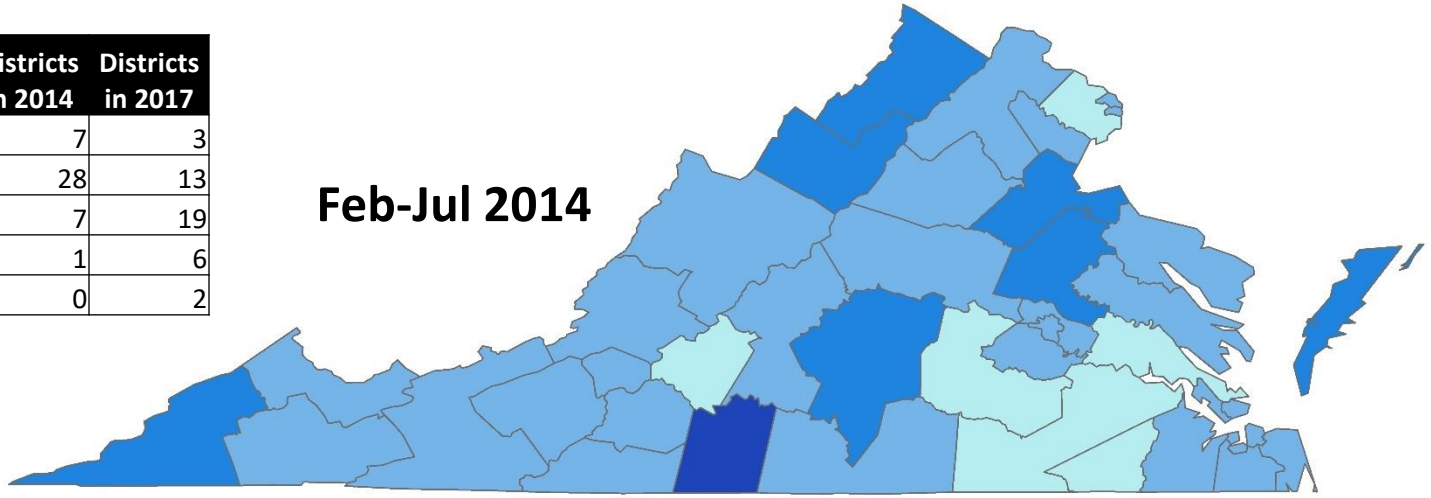


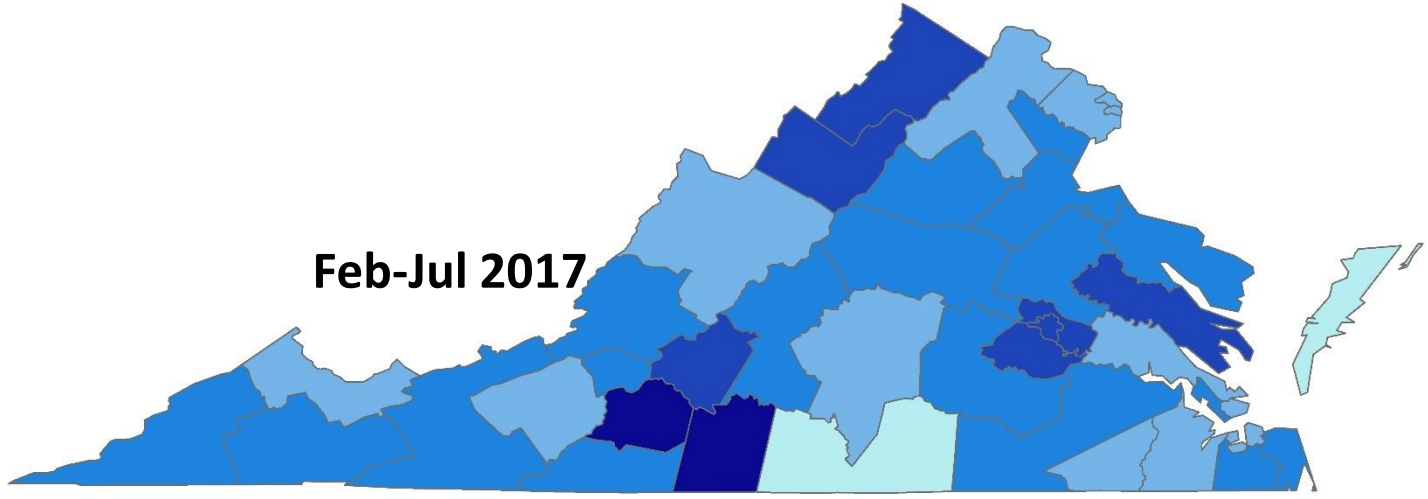
Data Source: Compensation Board's LIDS database; CY2016 data are preliminary

Figure 73: DOC Community Corrections

Percent of Offenders with Major Violation Reports Citing Drug Use By Probation and Parole District, Feb-Jul 2014 & 2017

Color	Value	Districts in 2014	Districts in 2017
	Less than 3.0%	7	3
	3.0% - 5.9%	28	13
	6.0% - 8.9%	7	19
	9.0% - 11.9%	1	6
	12.0% or More	0	2





Data Source: Department of Corrections

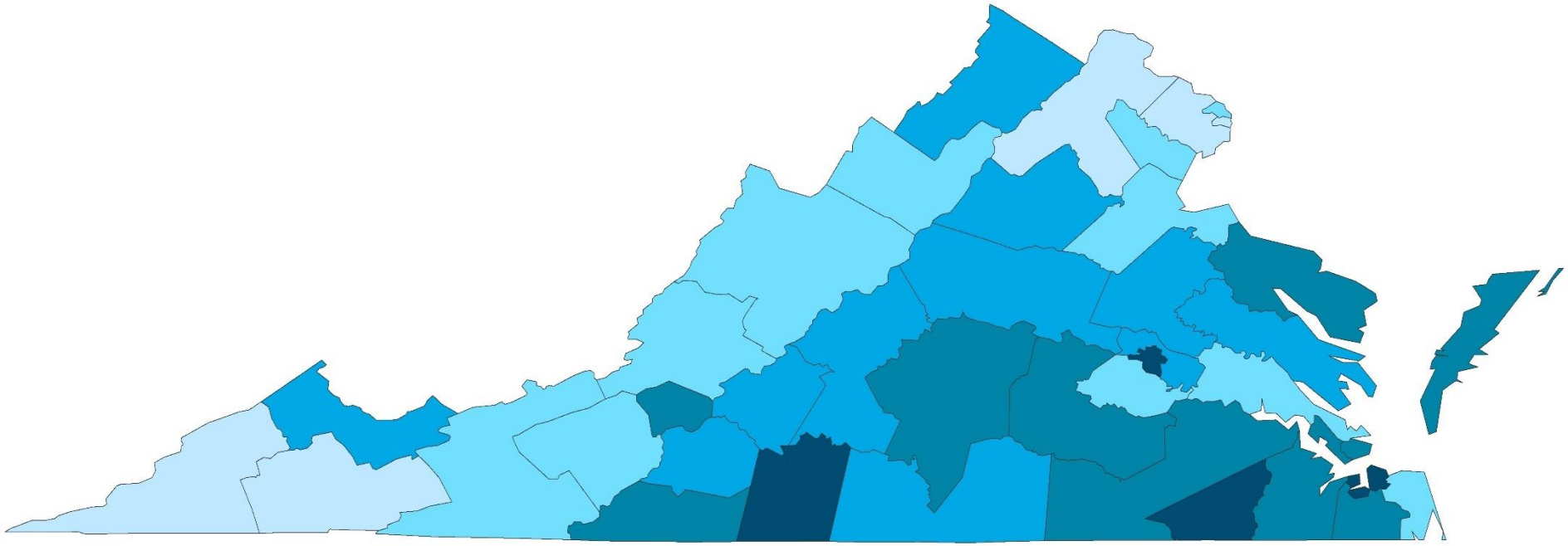
Figure 74: Regional Distribution of Community Corrections Offenders Testing Positive for Cocaine

Rate per 10,000, By Probation and Parole District, CY2016

Color	Value	Districts
	Up to 2.11 per 10k	5
	2.12 to 6.89 per 10k	11
	6.90 to 11.59 per 10k	11
	11.60 to 21.49 per 10k	11
	21.50 or more per 10k	5

Top Five:
1. Richmond
2. Portsmouth
3. Danville
4. Franklin
5. Norfolk

Bottom Five:
1. Abingdon
2. Fairfax
3. Norton
4. Leesburg
5. Alexandria



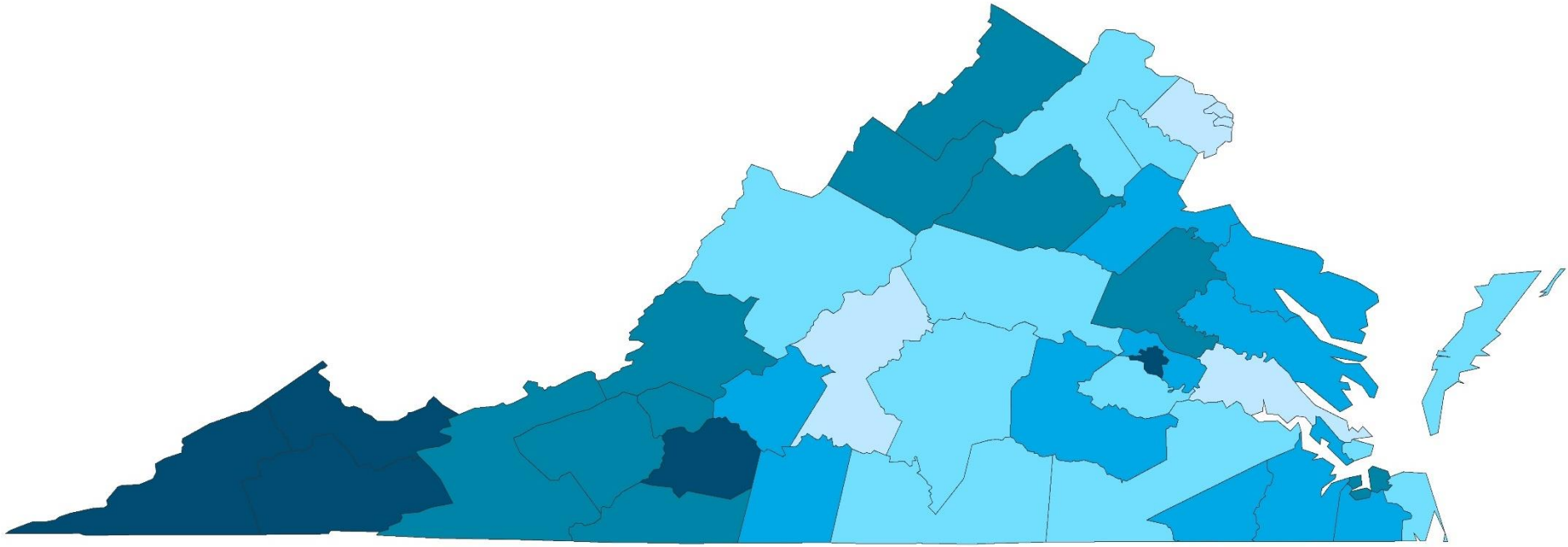
Data Source: Department of Corrections

Figure 75: Regional Distribution of Community Corrections Offenders Testing Positive for Opioids

Rate per 10,000, By Probation and Parole District, CY2016

Color	Value	Districts
	Up to 3.02 per 10k	5
	3.03 to 7.31 per 10k	11
	7.32 to 12.02 per 10k	11
	12.03 to 20.99 per 10k	11
	21.99 or more per 10k	5

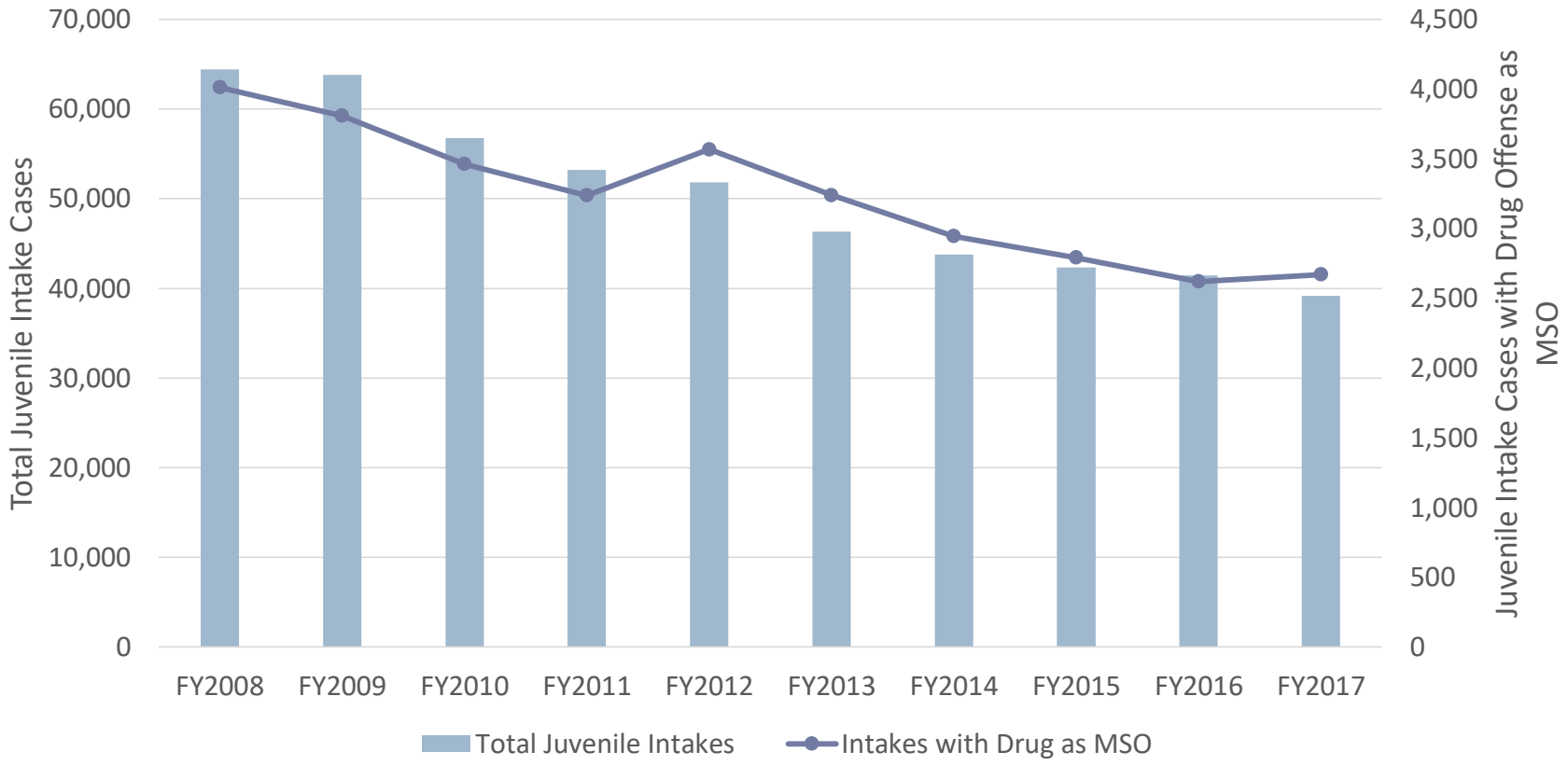
Top Five:	Bottom Five:
1. Tazewell	1. Fairfax
2. Norton	2. Arlington
3. Abingdon	3. Alexandria
4. Rocky Mount	4. Williamsburg
5. Richmond	5. Lynchburg



Data Source: Department of Corrections

Figure 76: Juvenile Intake Cases

Total Cases vs Cases with Drug Crime as Most Serious Offense (MSO), FY2008-2017

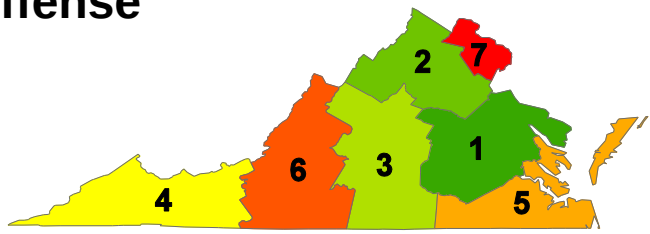


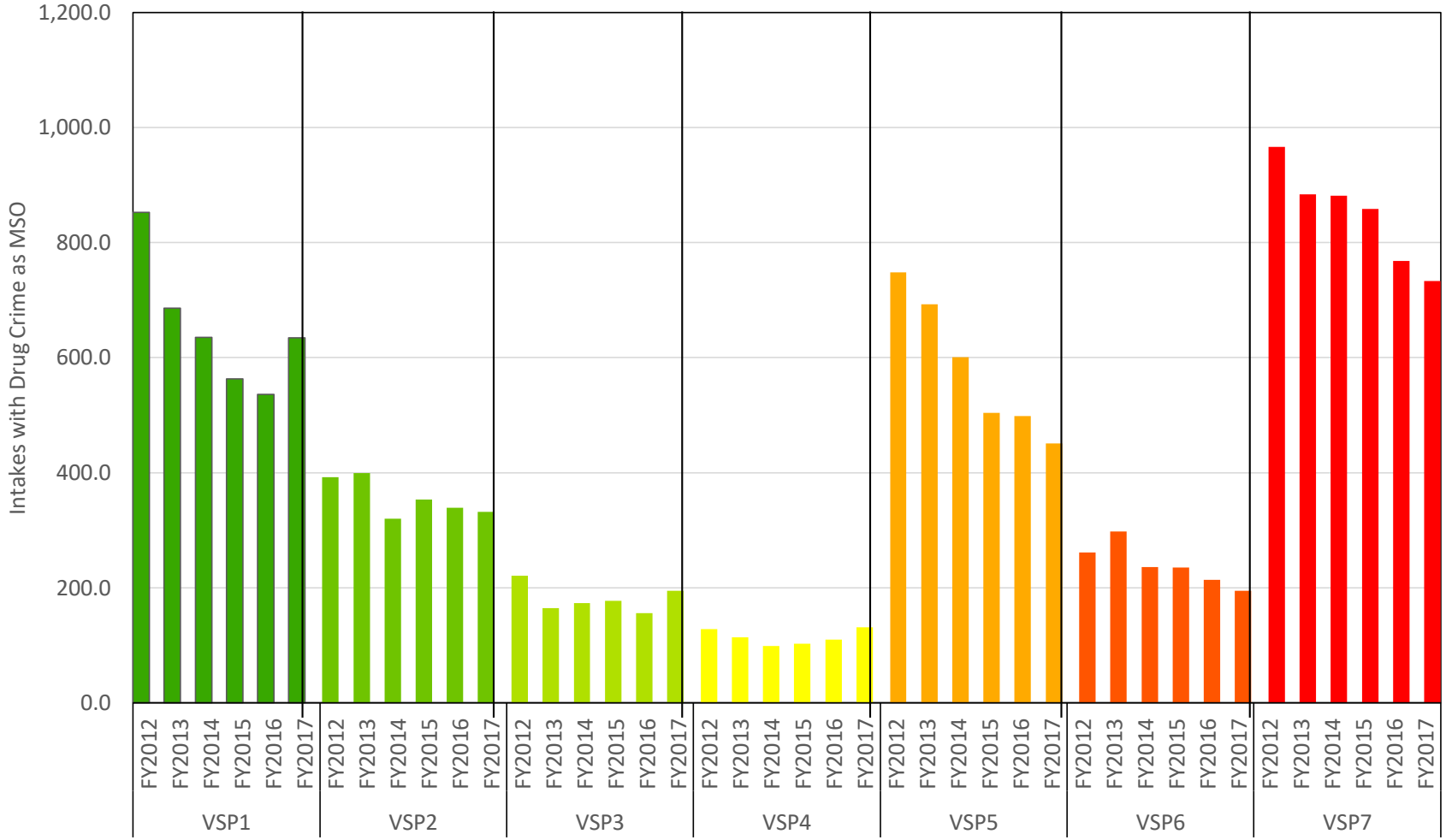
Overall, total juvenile intakes dropped 5.5% in FY2017. However, after declining 26.5% between FY2012 and 2016, juvenile intakes with a drug crime as the most serious offense increased 1.9% in FY2017.

Data Source: DJJ response to data request, August 2017

Figure 77: Regional Distribution of Intakes for Drug Offenses

Juvenile Intakes with a Drug Crime as Most Serious Offense
FY2012-2017





Data Source: DJJ response to data request, August 2017

Appendix B

Health & Criminal Justice Data Committee Membership

Baron Blakley – Co-Chair
Virginia Department of Criminal Justice Services

Rosie Hobron – Co-Chair
Virginia Department of Health, Office of the Chief Medical Examiner

Josh Brevard
Virginia Department of Juvenile Justice

Elizabeth Carter
Virginia Department of Health Professions, Healthcare Workforce Data Center

Tama Celi
Virginia Department of Corrections

Katya Herndon
Virginia Department of Forensic Science

Major Tim Lyon
Virginia State Police

Warren McGehee
Virginia Department of Corrections

Alexander Miller
Virginia Department of Corrections

Ralph Orr
Virginia Department of Health Professions, Prescription Monitoring Program

Gail Taylor
Virginia Department of Behavioral Health and Developmental Services

Anne Zehner
Virginia Department of Health, Office of Family Health Services

The Committee would like to thank Kristi Wright, from the Office of the Executive Secretary of the Supreme Court of Virginia, for providing data on case filings in General District Court, and for serving as a resource when the Committee had questions about the data.