Report of the
Health and Criminal Justice Data Committee

October 15, 2016

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Executive Summary

The Health and Criminal Justice Data Committee was created to provide a multidisciplinary perspective on issues that impact both the health and criminal justice spheres. The immediate focus of the Committee is to mitigate harm from prescription drug and heroin abuse. Drug abuse is both a criminal justice problem and a public health problem, but typically it is only examined from one perspective. This report looks at trends from a variety of sources, including drug overdose fatalities and hospitalizations, drug seizures by law enforcement, court case filings, reported crimes, jail population, drug testing for probationers, prescribing practices, and more. Data trends are compared over time and across regions.

Despite successes in reducing prescription opioid abuse, opioid fatalities continue to rise.

- **Opioid overdose fatalities increased 4% in 2015, and are projected to rise another 25% in 2016.**
- The rise in opioid overdose fatalities is being driven by a sharp rise in two particular drugs: fentanyl and heroin. The rise in fentanyl fatalities is due to illicitly produced fentanyl and fentanyl analogs. **Overdose fatalities for heroin and fentanyl (combined) increased 34% in 2015, while overdose fatalities for prescription opioids other than fentanyl dropped 21%.**
- **Efforts to reduce prescription opioid abuse appear to be working.** The average daily dosage prescribed to patients using prescription opioids dropped 9% in 2015, and 23% between 2010 and 2015. However, efforts that have been successful in responding to prescription opioid fatalities (such as the Prescription Monitoring Program, and drug take-back events) may not be successful in responding to heroin and illicit fentanyl and fentanyl analogs.
- Illicit fentanyl and fentanyl analogs are often pressed into counterfeit pills or mixed into heroin. **Users may not even know they are using fentanyl, which has a much higher potency heroin.**
- **Fentanyl and fentanyl analogs pose a risk to law enforcement.** Fentanyl can be lethal in doses as small as 2 milligrams, and can be absorbed through the skin. The DEA advises that law enforcement professionals should be trained and outfitted before handling any substance suspected to contain fentanyl or fentanyl analogs.
- Buprenorphine is used in medication-assisted treatment for opioid addiction. **The rising prescription rate for buprenorphine indicates an increased response to opioid addiction.** Buprenorphine is particularly concentrated in Southwest Virginia, which has had the highest opioid fatality rate for years.
- **The rate of fatal overdoses of heroin and fentanyl has been highest in the Tidewater, Central Virginia, and Shenandoah Valley regions.**
- After dropping for years, **cocaine arrests, DFS cases, and fatalities are on the rise.**
- **Prescription fraud cases in district court have been dropping steadily for years.**
- **Opioid and cocaine use are also up for offenders under probation and parole supervision** by the Department of Corrections

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 initial report from the Committee should be submitted by January 15, 2016. Subsequent annual reports should be submitted annually by October 15.

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 on October 15 to the Secretaries of Public Safety & Homeland Security and Health & Human Resources. An interim report was produced in January 2016; a summary of that report can be found in Appendix C.

HCJD Committee

The individual members of the HCJD Committee are listed in Appendix B. The agencies involved, and the acronyms by which they are identified throughout the report, include:

Department of Criminal Justice Services (DCJS)
Department of Corrections (DOC)
Department of Juvenile Justice (DJJ)
Department of Health, Office of Family Health Services (OFHS)
Department of Health, Office of the Chief Medical Examiner (OCME)
Department of Behavioral Health and Developmental Services (DBHDS)
Department of Health Professions, Healthcare Workforce Data Center (HWDC)
Department of Health Professions, Prescription Monitoring Program (PMP)
Department of Forensic Science (DFS)

Statewide Trends Related to Prescription Drug and Heroin Overdose

The figures referenced in the text below are included in Appendix A.

Opioid Overdose Fatalities Continue to Rise

Figure 1 shows the growth in opioid overdose fatalities. Fatal overdoses of opioid drugs – prescription and illicit combined – increased 62% between CY 2010 and 2015, totaling over 800 deaths in 2015. Based on preliminary data, fatal overdoses are projected to increase another 25% in 2016 (OCME 2016).

Overdose Fatalities Are Not Rising for All Opioids

However, when the various types of opioids are examined separately, a different picture emerges. Figure 2 presents the number of fatal opioid overdoses, broken out by drug name, for CY 2010-2015, and a projection for 2016.

Here it can clearly be seen that prior to 2012, the opioid that contributed to the greatest number of fatal overdoses was oxycodone. In 2013 heroin fatalities surpassed oxycodone, and fentanyl fatalities doubled (fentanyl fatalities includes fentanyl and fentanyl analogs, unless otherwise noted). Fentanyl and heroin fatalities continued to increase dramatically each year. Between 2012 and 2015, heroin fatalities increased 153%, and fentanyl fatalities increased 348%. In 2016, based on fatality data from the first two quarters of the year, heroin fatalities are projected to increase 17% in 2016, and fentanyl fatalities are projected to increase 118%.

As Figure 3 demonstrates, although total opioid fatalities overall have increased every year since 2012, that increase has been driven by the rise in heroin and fentanyl fatalities. In 2015, overdose fatalities for prescription drugs other than fentanyl actually dropped 21%, while overdose fatalities for fentanyl and heroin increased 34%.

Sharp Rise in Fentanyl Overdose Fatalities is Due to Illicitly-Produced Fentanyl

Historically, when fentanyl has been identified as contributing to a fatality, it has been categorized as a prescription opioid. However, the dramatic rise in fentanyl cases, nationally as well as in Virginia, is due to the illicit production of fentanyl and fentanyl analogs (compounds with a similar chemical structure).

Fentanyl is a synthetic opioid that is estimated to be 80 to 100 times more potent than morphine, and 25 to 40 times more potent than 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. 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)

As reported by the Drug Enforcement Agency (www.dea.gov/docs/Counterfeit%20Prescription%20Pills.pdf):

> *Hundreds of thousands of counterfeit prescription pills, some containing deadly amounts of fentanyls [fentanyl and related variants] have been introduced into*

> *U.S. drug markets, exacerbating the fentanyl and opioid crisis. The sudden arrival of wholesale amounts of counterfeit prescription drugs containing fentanyls will result in an increase in overdoses, deaths, and opiate-dependent individuals. Motivated by enormous profit potential, traffickers exploit high consumer demand for prescription medications by producing inexpensive, fraudulent prescription pills containing fentanyls. The equipment and materials necessary to produce these counterfeit drugs are widely available online for a small initial investment, greatly reducing the barrier of entry into production for small-scale drug trafficking organizations (DTOs) and individual players.*

The map in Figure 4 is taken from the DEA Intelligence Brief, *Counterfeit Prescription Pills Containing Fentanyls: A Global Threat,* released in July 2016. The DEA reports that fentanyls and precursors for manufacturing fentanyl are largely produced in China. These are shipped (primarily) to Mexico where they are processed for distribution, either mixed with heroin or pressed into pills. In the U.S., users are often unaware that the drug they are using contains fentanyl. (DEA, July 2016)

Data from the Virginia Prescription Monitoring Program database supports the contention that the rise in fentanyl fatalities is caused by the illicit versions of the drug. Figure 5 reports the proportion of total opioid prescriptions represented by the various drug names, for the first quarter of each year 2010-16. The most commonly prescribed opioids in Virginia have been hydrocodone and oxycodone. Fentanyl has consistently represented about 2% of total opioid prescriptions, both before and after the rise in fentanyl overdose fatalities. That is consistent with the frequency with which fentanyl prescriptions are dispensed nationally (NFLIS, February 2016).

Fentanyl and Heroin vs. Prescription Opioids

Fentanyl trends do not follow trends for other prescription opioids; instead, they are similar to trends for heroin. To demonstrate, it is first helpful to try to distinguish fentanyl cases that involve the prescription drug from those that involve the illicitly produced drug.

In overdose fatality data prior to 2016, illicit fentanyl cannot be distinguished from the prescription version (though fentanyl analogs are separately identifiable). Starting in 2016, an additional field in the OCME drug fatality database was added to allow doctors to indicate whether the fentanyl appeared to be illicit or prescription, based on examination of the decedent, patient prescription history, law enforcement reports, etc. It appears that in 2016 to date, approximate 95% of fentanyl fatalities involve an illicit version.

In the analysis of the DFS data, prescription fentanyl is distinguished from illicit fentanyl according to the form of the substance. As Figure 6 demonstrates, in the years prior to 2013, the overwhelming majority (75%) of fentanyl cases submitted to DFS were in the form of a transdermal patch. But since the increase in overdose fatalities in 2013, that has changed. As Figure 7 shows, that change has been dramatic. By 2015, only 9% of DFS fentanyl cases were in the form of a transdermal patch. Therefore, in the analysis of the DFS data, fentanyl in the form of a transdermal patch is counted as a prescription opioid, while

fentanyl or fentanyl analogs in any other form are counted as illicit fentanyl. While this is not a perfect system of distinguishing prescription from illicit fentanyl, it appears to be useful.

Using this method, Figure 8 compares the number of DFS cases received for illicit fentanyl, heroin, and prescription opioids (including prescription fentanyl). As the chart shows, prescription opioid cases submitted to DFS have actually been dropping for several years. In contrast, heroin and illicit fentanyl submissions have increased dramatically.

Geographic trends also show illicit fentanyl cases to be more similar to heroin than to prescription opioids. Figure 9 compares the rate of DFS cases across Virginia, broken out by Health District. As the maps show, prescription opioid cases are submitted at a higher rate in the southwestern portion of the state, while heroin cases are submitted at a higher rate in the northern districts, Central Virginia, and the Tidewater area. The map showing the rate of fentanyl cases in the form of a transdermal patch is generally similar in concentration to the map for prescription opioids, while the map showing the rate of other fentanyl cases is generally similar in concentration to the map for heroin cases. Again, illicit fentanyl seems to follow trends for heroin.

Returning to overdose fatality data, Figure 10 demonstrates the similarity in trends for heroin and fentanyl, and their distinction from prescription opioids.

Prescription opioids are measured slightly differently in Figure 10 than in Figure 3, and the distinction needs to be explained. In Figure 3, the category “Prescription Opioids (excluding fentanyl)” includes every case in which a prescription opioid caused or contributed to the victim’s death, but excludes cases in which the only “prescription” opioid was fentanyl. Therefore, cases with both fentanyl and a separate prescription opioid are *included*. In Figure 10, the category “RxOpioid (No Fentanyl Present)” includes only those prescription opioid fatalities in which fentanyl was not present. Therefore, cases with both fentanyl and a separate prescription opioid are *excluded*. The patterns for the two measures are similar, but separate over time.

Figure 11 demonstrates the different trend lines that result depending on how fentanyl cases are counted, with regard to prescription opioid fatalities. The black line, on top, indicates the trend if fentanyl overdoses were counted as prescription opioid overdoses. These cases increased 25% between 2012 and 2015, and are projected to increase 42% in 2016. The green line, in the middle, indicates the trend if fentanyl were not counted as a prescription opioid, but all prescription opioid fatalities in which fentanyl was involved as an *additional* substance are included. These cases dropped 9% between 2012 and 2015, but are projected to increase 11% in 2016. Finally the blue line, on the bottom, indicates the trend in prescription opioid fatalities if all cases involving fentanyl (even as an additional substance) were removed. These cases dropped 14% between 2012 and 2015, and are projected to drop another 5% in 2016.

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 illicit drugs (heroin and fentanyl). Figures 12, 13, and 14 together, demonstrate this difference. Figure 12 compares overdose fatalities, overdose hospitalizations, and DFS case submissions for prescription opioids. As the chart shows, there is no clear,

consistent pattern across the data sources. After a gradual trend upward between CY2007 and 2014, in 2015 the number of prescription opioid fatalities (in which no fentanyl was found) was essentially back to the 2007 level. In DFS prescription opioid cases (excluding all fentanyl cases other than those in the form of a transdermal patch), there was a stronger trend upward from CY2007 to 2012, but the number of cases declined each following year. Hospitalization overdoses of prescription opioids have trended upward consistently, though 2015 data are not available, and fentanyl cases could not be excluded. Note also that for prescription opioids, hospitalizations outnumber fatal overdoses about 2:1.

Figure 13 presents data from the same sources, but for heroin. In contrast to the prescription opioid data, the trends for heroin overdose fatalities, overdose hospitalizations, and DFS case submissions are clearly similar. Also, the ratio of hospitalizations to fatalities for heroin overdoses is about 1:1. Fentanyl data, in Figure 14, also shows similar trends for data from health (overdose fatalities) and criminal justice (DFS cases) sources. Hospitalization data for fentanyl cannot be separated from hospitalizations for prescription opioids, and so is not included on Figure 13.

The charts and maps in Figures 8-14 demonstrate that the distribution patterns for prescription opioids are different from heroin, and illicit fentanyl. They also suggest that the patterns for these two illicit drugs are similar to each other. This suggests that methods that may have been successful in reducing the harm of prescription opioids (such as the prescription monitoring program, and drug take-back events) may not be successful in addressing the two drugs that are responsible for the current rise in overdose deaths. From the July 2016 DEA report:

> *Expansion of the counterfeit pill market, to include pills containing fentanyls, threatens to circumvent efforts by law enforcement and public health officials to reduce the abuse of opioid medications. Efforts to reduce the amount of opioid pills available on the market for abuse include DEA's National Take-Back Initiative, and education for doctors on the dangers of opioid medications. The arrival of large amounts of counterfeit prescription drugs containing fentanyls on the market threatens to devalue such initiatives and replaces opioid medications taken off of the street. Although not all controlled prescription drug users eventually switch to heroin, fentanyl-laced pills give [drug trafficking organizations] broader access to the large controlled prescription drug user population, which is reliant upon diversion of legitimate pills. This could undermine positive results from the state Prescription Drug Monitoring Programs, as well as from legislative and law enforcement programs.*

Signs of a Drop in Prescription Opioid Overdose Fatalities

Efforts to combat prescription opioid overdose do appear to be having some success. As noted previously, and shown in Figure 11, CY2015 saw a drop in overdose fatalities for prescription opioids when fentanyl is excluded.

Data from the prescription monitoring program may explain that decline. Figure 15 demonstrates the recent drop in the average opioid dosage prescribed to patients. The measure used is the mean daily

dosage per patient, given in morphine milligram equivalents (MMEs). The MME is used to allow comparisons of the varying types and dosage levels of prescription opioids. The mean daily dosage prescribed to Virginia patients dropped slightly each year between 2010 and 2013, resulting in 6% decline overall. Then it dropped 10% in 2014 and another 9% in 2015, for an overall decline of 23% between 2010 and 2015. Early 2016 data (not shown) indicate that the mean daily dosage in the first quarter of 2016 is down slightly from the same period in 2015. (Brandeis University, July 2016)

Furthermore, the rate at which opioids are prescribed in Virginia has dropped. Figure 16 presents the number of opioid prescriptions per thousand residents in the first quarter of the years 2010 to 2016. As the chart shows, the opioid prescription rate peaked in 2012, an 11% increase over the previous year. Each year since then the rate has dropped, for an overall decline of 18% between 2012Q1 and 2016Q1.

In October 2016, the DEA announced an action to further reduce the availability of prescription opioids, outside of legitimate use. "The United States Drug Enforcement Administration has reduced the amount of almost every Schedule II opiate and opioid medication that may be manufactured in the United States in 2017 by 25 percent or more" (DEA, October 2016). The limitation is intended to allow the amount of a controlled substance needed to meet legitimate medical needs, while limiting the amount available to be diverted for illicit use.

However, the data from DFS and OCME demonstrate that there are still a large number of individuals using prescription opioids non-medically. These individuals are at risk of overdose death through the prescription drugs they are currently using, but they are also at a higher risk of using heroin in the future. Although only a small percentage of individuals who abuse prescription opioids move on to heroin, a high percentage of heroin users report that their first opioid was a prescription drug (https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/). Additionally, non-medical users of prescription opioids may seek to acquire those drugs illegally, putting themselves at risk of purchasing and using counterfeit pills made with fentanyl and fentanyl analogs.

Fentanyl & Law Enforcement Safety

An additional concern with regard to fentanyl is the risk the drug poses to law enforcement. The lethal dose for fentanyl analogs is unknown, but fentanyl itself can be lethal in doses as small as 2 milligrams. Because fentanyl and fentanyl analogs can be absorbed through the skin, they pose a serious risk to law enforcement and other first responders, as well as to the users of the drugs themselves. The DEA advises, "Only properly trained and outfitted law enforcement professionals should handle any substance suspected to contain fentanyl or a fentanyl-related compound." (DEA, September 2016)

Southwest Virginia & Buprenorphine

One of the tools used to reduce opioid overdose fatalities is the drug buprenorphine. Buprenorphine is technically a prescription opioid as well, but it is used in medicated-assisted treatment to help opioid-addicted people reduce or quit their use of opioids. Buprenorphine has a lower overdose risk and less abuse potential than methadone (Melton and Melton, 2011). As the Substance Abuse and Mental Health Services Administration (SAMSHA) states, "buprenorphine represents the latest advance in

medication-assisted treatment (MAT). Medications such as buprenorphine, in combination with counseling and behavioral therapies, provide a whole-patient approach to the treatment of opioid dependency. When taken as prescribed, buprenorphine is safe and effective." (www.samsha.gov)

Buprenorphine use has increased in recent years. Figure 17 shows the number of buprenorphine prescriptions per thousand residents in the first quarter of the years 2010 to 2016. The rate of buprenorphine prescriptions has increased every year. Between 2012Q1 and 2016Q1, a period in which the rate for all prescription opioids combined dropped 18% (see Figure 16), buprenorphine prescriptions increase 61%.

Despite the low abuse potential of buprenorphine, there are reports of buprenorphine abuse in Southwest Virginia. An article in the Richmond Times-Dispatch, dated August 6, 2016, quotes the Russell County Commonwealth's Attorney, "We don't have a heroin problem. We don't have an oxycodone problem anymore. We have a buprenorphine problem." (Ramsey, 2016)

Data from DFS and the OCME support the contention that buprenorphine is disproportionately found in Southwest Virginia. Through the period of CY2013-2015, 54% of buprenorphine DFS cases submitted statewide were from Virginia State Police Division 4, Southwest Virginia. For the same period, 59% of overdose fatalities in which buprenorphine was present were from Division 4. Figure 18 clearly demonstrates that buprenorphine is showing up in disproportionately high numbers.

However, Southwest Virginia has also consistently had the highest rate of fatal overdoses for prescription opioids. Figure 19 shows the overdose fatality rate for oxycodone, hydrocodone, methadone, and buprenorphine, for the seven Virginia State Police divisions. The Division 4 (Southwest) rate of overdose fatalities for oxycodone, hydrocodone, and methadone has consistently been substantially higher than any other division, and several times the statewide rate (not shown). Since the purpose of buprenorphine is to treat opioid addiction in order to reduce opioid overdose, it is not surprising to find more buprenorphine cases in an area with a high rate of opioid overdose fatalities. As Figure 19 makes clear, the 2015 fatal overdose rate for buprenorphine in the Southwest Division was well below the fatality rate for oxycodone, hydrocodone, and methadone. In 2014 and 2015, almost every locality in Division 4 that had a buprenorphine fatality also had one or more fatalities for oxycodone, hydrocodone, or methadone.

Regional Trends Related to Prescription Drug and Heroin Overdose

Prescription Opioids Are Highest in Southwest Virginia

The regions used in this section are Virginia State Police divisions. Please refer to the map here to see the locations of each division.

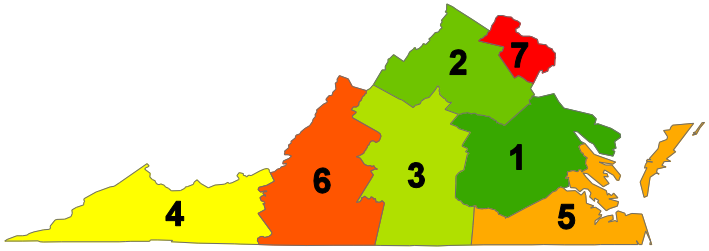

Figure 20 shows the developing trends, over time and region, for prescription opioid cases submitted to DFS. As noted earlier, Division 4

has consistently had the highest rate of prescription opioid submissions. In 2015, the rate for Division 4 (382.9 per 100,000) was more than five times the statewide rate (67.2). For all divisions, although the rates in 2015 are down in comparison to recent years, they remain well above the 2005 rates.

Figure 21 shows the rate of overdose fatalities for prescription opioids (excluding fentanyl), for the same regions. Again, rates are highest in Division 4. In 2015, the Division 4 fatality rate (12.6) was three times the statewide rate (4.2). However, between 2011 and 2015, Division 4 also saw the greatest reduction in the prescription opioid fatality rate.

Benzodiazepines are often secondary drugs involved in fatal opioid overdoses. Figure 22 shows that Division 4 has the highest rate of benzodiazepine submissions (113.2) to DFS as well, over four times the statewide rate (26.2).

Figure 23 shows the rate of overdose fatalities for benzodiazepines, for the same regions. Again, Division 4's 2015 rate (5.4) was over twice the statewide rate (2.1), and again Division 4 saw the greatest reduction in fatalities between 2011 and 2015.

Heroin and Illicit Fentanyls are Highest in Tidewater and Shenandoah Valley

The geographic and regional trends for heroin and illicit fentanyl are quite different from prescription opioids. Figure 24 presents the trends in heroin submissions to DFS. While Division 4 had the highest rate of prescription opioid and benzodiazepine cases, it has the lowest rate of heroin cases (10.6). The rates in Division 1 (116.4), and Division 2 (116.2), are both almost double the statewide rate (61.3). Division 5 has the next highest rate (64.0).

Figure 25 shows the rate of overdose fatalities for heroin, for the same regions. As with DFS cases, the rate of overdose fatalities are highest in Divisions 1 (7.1), 2 (6.6), and 5 (5.4).

These patterns are similar to the patterns for illicit fentanyl cases submitted to DFS, shown in Figure 26. Divisions 2 and 5 have the highest rates (11.6 for each), twice the statewide rate of 5.8. Division 1 has the next highest rate, 6.2.

Figure 26 shows the rate of overdose fatalities for fentanyl, for the same regions. As with DFS cases, the rates of overdose fatalities are highest in Divisions 5 (4.8), 2 (3.9), and 1 (3.2).

Reversal of Cocaine Trends

Rise in Cocaine Cases

After dropping for years, cocaine-related arrests and cocaine cases submitted to DFS are rising. Comparing data for the first quarter of each year, between 2007Q1 and 2015Q1, cocaine arrests dropped every year and dropped 64% over the total period. Preliminary data suggest cocaine arrests increased 24% in 2016Q1 over the previous year.

Cocaine submissions to DFS show a similar pattern, as can be seen in Figure 28. Since 2007Q1, the number of cases dropped for the first quarter of almost every year through 2015, though there were

increases in 2011Q1 and 2012Q1 for DFS cocaine submissions. Over the total period, 2007Q1 to 2015Q1, DFS cocaine submissions dropped 63%. Submissions increased 20% in 2016Q1 over the previous year. As Figure 29 shows, the increase was highest in Virginia State Police Divisions 5 and 1; 82% of the increase was in these two divisions.

Cocaine overdose fatalities are also rising at an alarming rate, as shown in Figure 30. After dropping steadily from 2007Q1 to 2013Q1, cocaine overdoses increased 50% in 2014Q1, and 3% in 2015Q1. In 2016Q1, cocaine overdose fatalities were up 124% from the 2015Q1.

Cocaine overdose fatalities, while a serious concern, have not reached the high levels seen for opioids. Cocaine's 169 overdose fatalities in 2015 were below that of fentanyl (224), heroin (342), or prescription opioids other than fentanyl (389). In fact, fentanyl and heroin are often involved in cocaine overdose fatalities. The proportion of cocaine fatalities that involve fentanyl and/or heroin has increased along with the number of overall cocaine fatal overdoses (Figure 32). In 2007, 28% of cocaine fatalities included either fentanyl, heroin, or both. That percentage remained below 30% through 2012, then began rising. In 2015, 43% of cocaine fatalities included fentanyl, heroin, or both. In the first quarter of 2016, that rose to 70%. In fact, 88% of the growth in cocaine fatalities between 2015Q1 and 2016Q1 was due to cocaine fatalities in which fentanyl and/or heroin was involved.

However, cocaine use has a greater tendency to lead to other criminal activity, particularly violence. Figure 32 shows the trends in cocaine submissions to DFS and the local-responsible jail population. During the period of 2001 to 2006, the number of cocaine cases submitted to DFS increased 35%, and the average daily population (ADP) of the local-responsible offender population in jails increased 30%. After cocaine submissions dropped, the local-responsible offender population dropped as well. Not all of the change in the jail population is driven by the presence of cocaine, but cocaine does appear to have an impact.

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 33 shows data from the United Nations Office on Drugs and Crime. Within the most recent decade, the area in Colombia dedicated to cultivation of the coca bush was at its highest in 2007, at 99,000 hectares (over 244 thousand acres). After dropping more than 50% between 2007 and 2012, the cultivation area remained flat in 2013. But then, between 2013 and 2015, the cocaine cultivation area doubled, to almost the same level as in 2007. Similarly, potential cocaine production dropped 56% between 2006 and 2013, but then reversed directions and increased 123% by 2015. (UNODC World Drug Report 2016)

Figure 34 shows the geographic trends in cocaine submissions to DFS. The rate of submissions dropped significantly in each division between 2005 and 2015. However, when comparing Figures 32 and 24, one can see that despite the drop in cocaine and rise in heroin submissions, the rate of submissions is still higher for cocaine in each division, with the exception of Division 2. Division 2 saw a 60% drop in cocaine cases between 2005 and 2015, and a corresponding 928% increase in heroin cases.

Other Relevant Trends

Crime Data Suggest a Drop in Larcenies, Fraud, etc. From Drug Stores, Doctor's Offices, and Hospitals

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 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 (Figure 35). 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.

Reported forgery and fraud (combined) offenses occurring at a drug store, doctor's office, or hospital had been trending downward for several years until increasing 6% in 2015 (Figure 36). However, the 2015 total was still below that of 2013. 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.

The rise in forgery and fraud, while small, could be a concern. However, district court filings for prescription fraud (§ 18.2-258.1) have been dropping steadily since 2011 (Figure 37). Looking at the first three quarters of the year, the number of case filings for prescription fraud in 2016 was 20% below the total for the same period in 2015, and 62% below 2011.

Opioid and Cocaine Use by Offenders in DOC Community Corrections

Offenders under probation and parole supervision by the Virginia Department of Corrections must submit to drug testing as required by their supervision officer. Figure 38 compares the number of unique individuals testing positive for opioids each month to the number testing positive for cocaine. There are consistently two to three times as many individuals testing positive for opioids. In August 2016, the number testing positive for opioids was 35% higher than in August 2015, and the number testing positive for cocaine was 36% higher than August 2015.

Figure 39 presents the regional distribution of community corrections offenders testing positive for opioids, in FY2014, by DOC Probation and Parole District. Figure 40 presents the regional distribution of positive tests for cocaine.

Other Regional Data

Appendix D includes maps of opioid and cocaine data using smaller, more detailed regions, including Virginia Department of Health districts, and Virginia Department of Corrections Probation and Parole districts.

Summary

Despite successes in reducing prescription opioid abuse, opioid fatalities continue to rise.

- Opioid overdose fatalities increased 4% in 2015, and are projected in rise another 25% in 2016.
- However, the rise in opioid overdose fatalities is being driven by a sharp rise in two particular drugs: fentanyl, and heroin. The rise in fentanyl fatalities is due to illicitly produced fentanyl and fentanyl analogs. Overdose fatalities for heroin and fentanyl (combined) increased 34% in 2015, while overdose fatalities for prescription opioids other than fentanyl dropped 21%.
- Efforts to reduce prescription opioid abuse appear to be working. The average daily dosage prescribed to patients using prescription opioids dropped 9% in 2015, and 23% between 2010 and 2015. However, efforts that have been successful in responding to prescription opioid fatalities (such as the Prescription Monitoring Program, and drug take-back events) may not be successful in responding to heroin and illicit fentanyl and fentanyl analogs.
- Illicit fentanyl and fentanyl analogs are often pressed into counterfeit pills or mixed into heroin. Users may not even know they are using fentanyl, which has a much higher potency heroin.
- Fentanyl and fentanyl analogs pose a risk to law enforcement. Fentanyl can be lethal in doses as small as 2 milligrams, and can be absorbed through the skin. The DEA advises that law enforcement professionals should be trained and outfitted before handling any substance suspected to contain fentanyl or fentanyl analogs.
- Buprenorphine is used in medication-assisted treatment for opioid addiction. The prescription rate for buprenorphine has been rising, indicating an increased response to opioid addiction. Buprenorphine is particularly concentrated in Southwest Virginia, which has had the highest opioid fatality rate for years.
- The rate of fatal overdoses of heroin and fentanyl has been highest in the Tidewater, Central Virginia, and Shenandoah Valley regions.
- After dropping for years, cocaine arrests, DFS cases, and fatalities are on the rise.
- Prescription fraud cases in district court have been dropping steadily for years.
- Opioid and cocaine use are also up for offenders under probation and parole supervision by the Department of Corrections.

References

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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 OFHS – 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.

General district court filings data from the OES – Data were extracted from the General District Court Case Management System and reflect the data as entered by the clerks of the General District Courts as of November 30, 2015.

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.

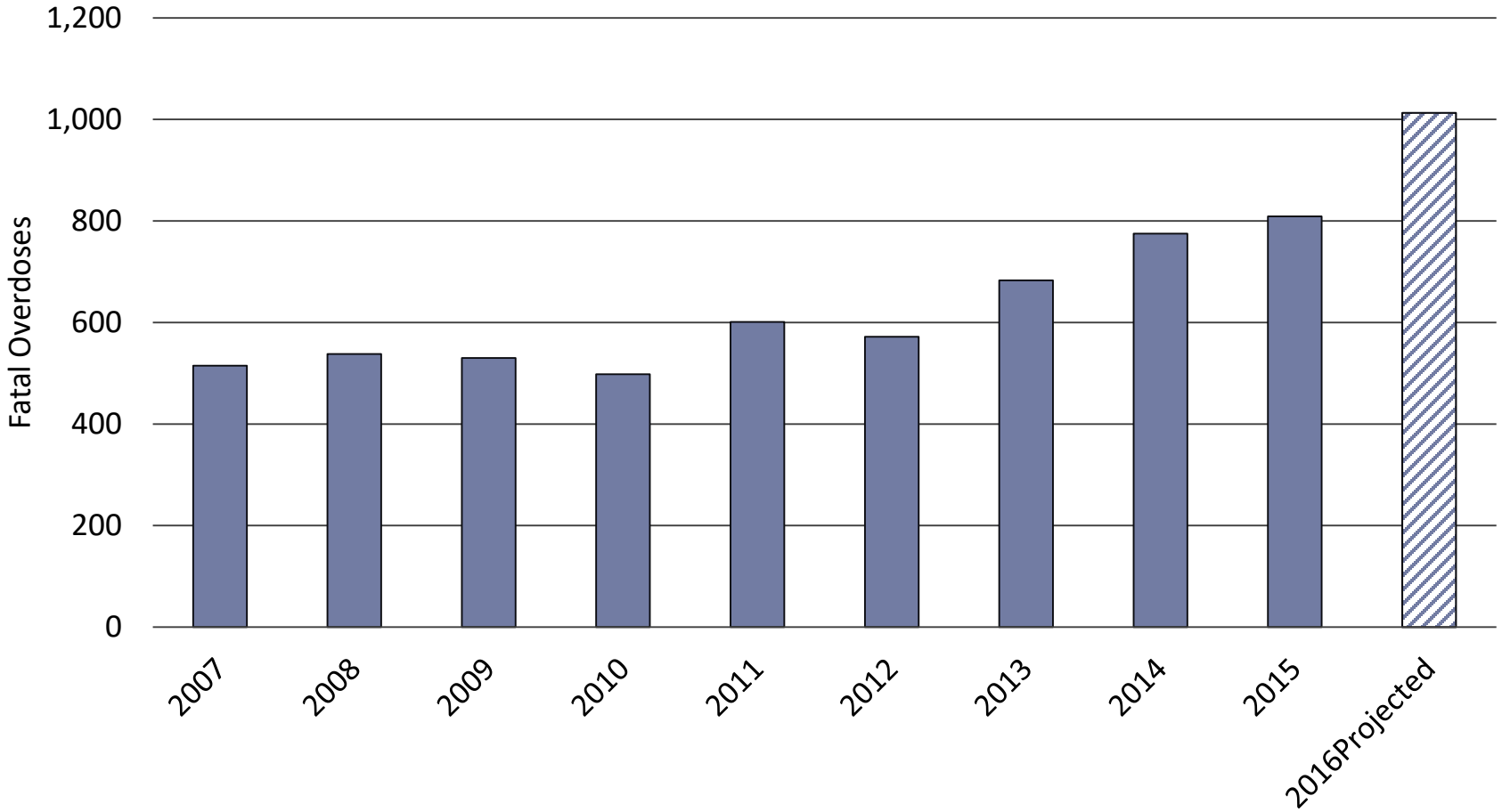
Community Corrections data from DOC – The Virginia Department of Corrections' Statistical Analysis and Forecast Unit provided data on the number of individuals on probation and parole supervision who tested positive for drugs.

Appendix A

Figures 1-40

Figure 1: Opioid Overdose Fatalities

Data for 2016 is a predicted total for the year



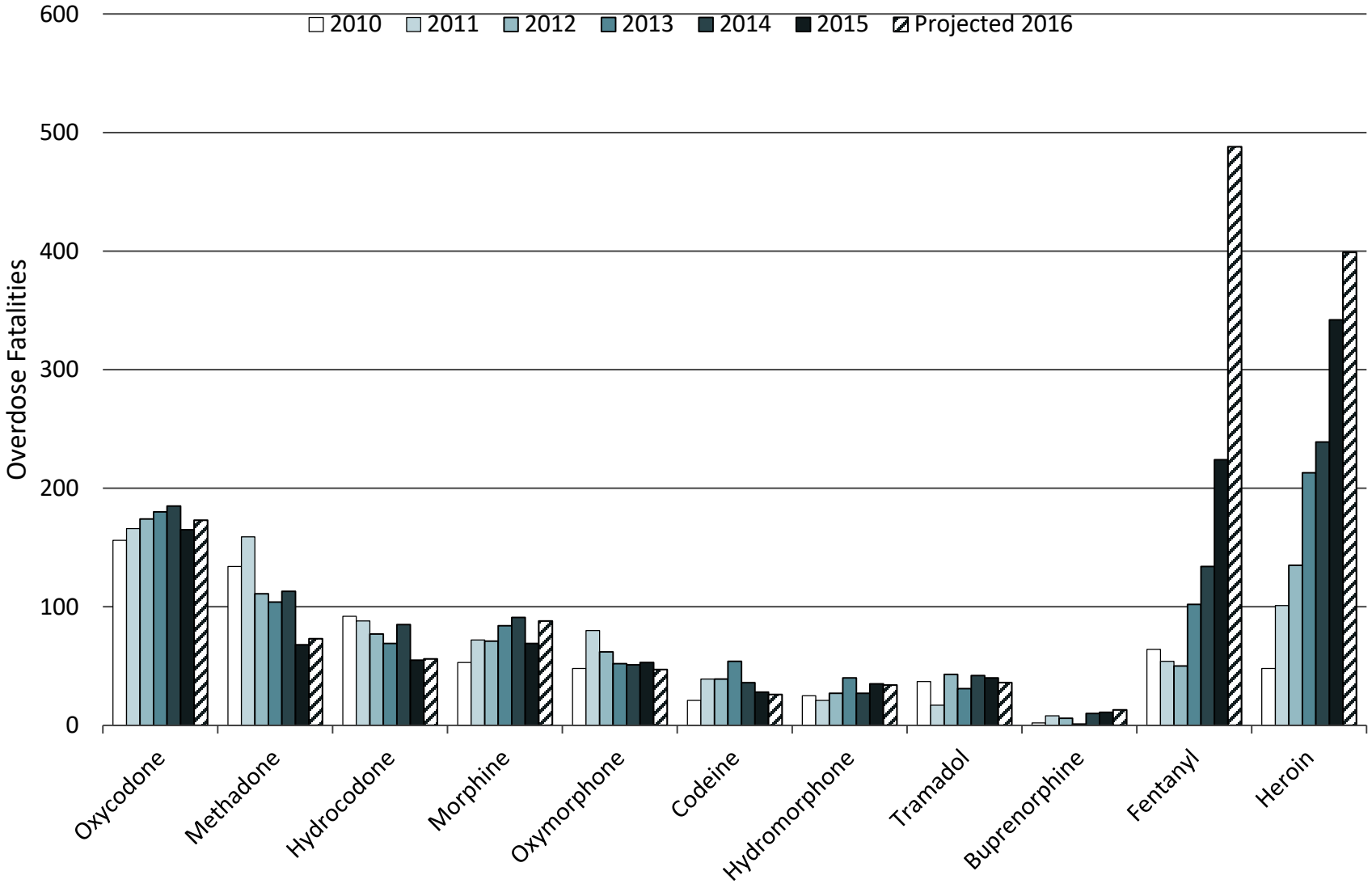
Data for 2016 is a predicted total for the year.

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

Data for 2016 is a predicted total for the year

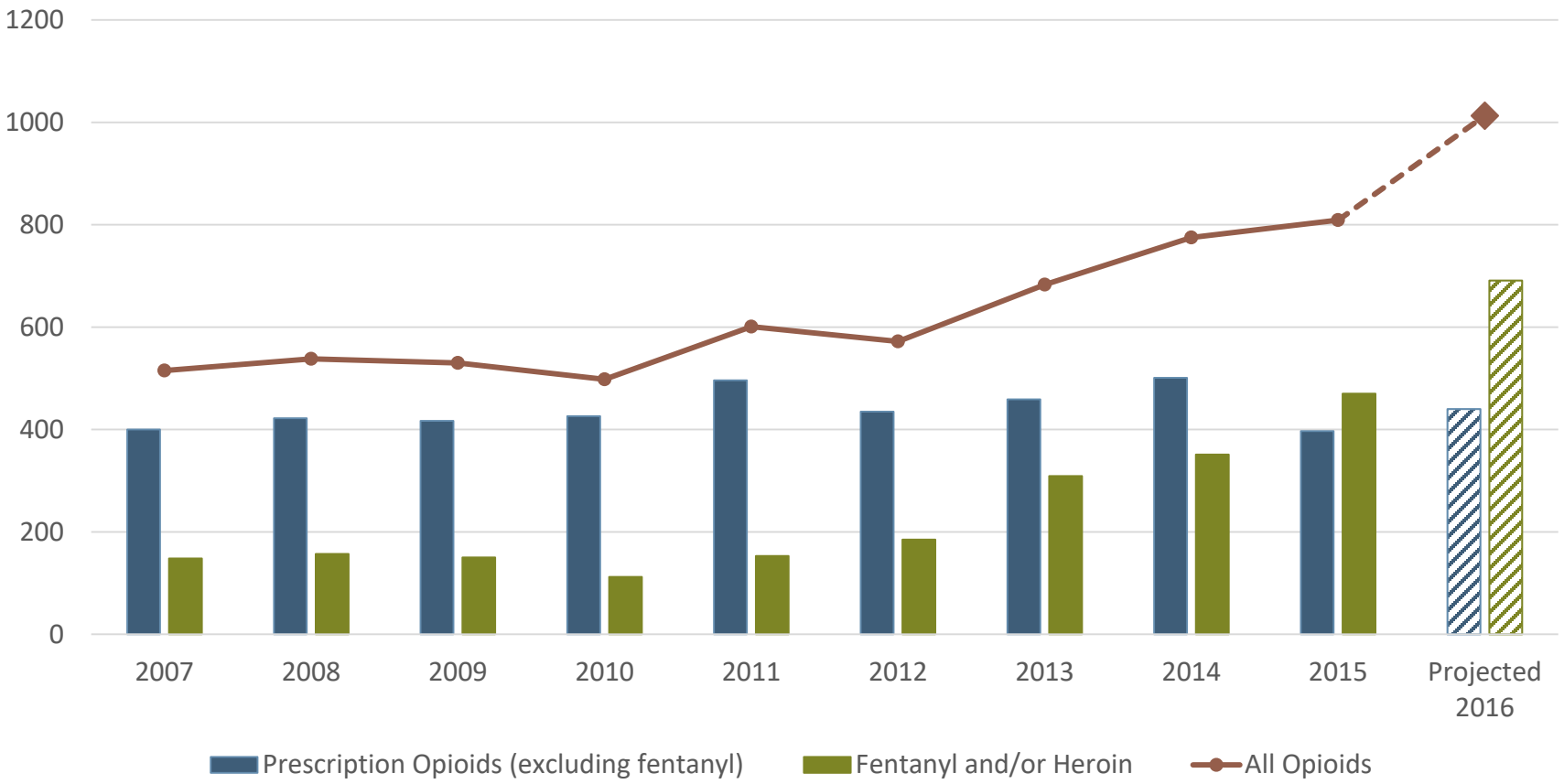


"Fentanyl" includes fentanyl and fentanyl analogs.

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

Figure 3: Changing Makeup of Opioid Overdose Fatalities

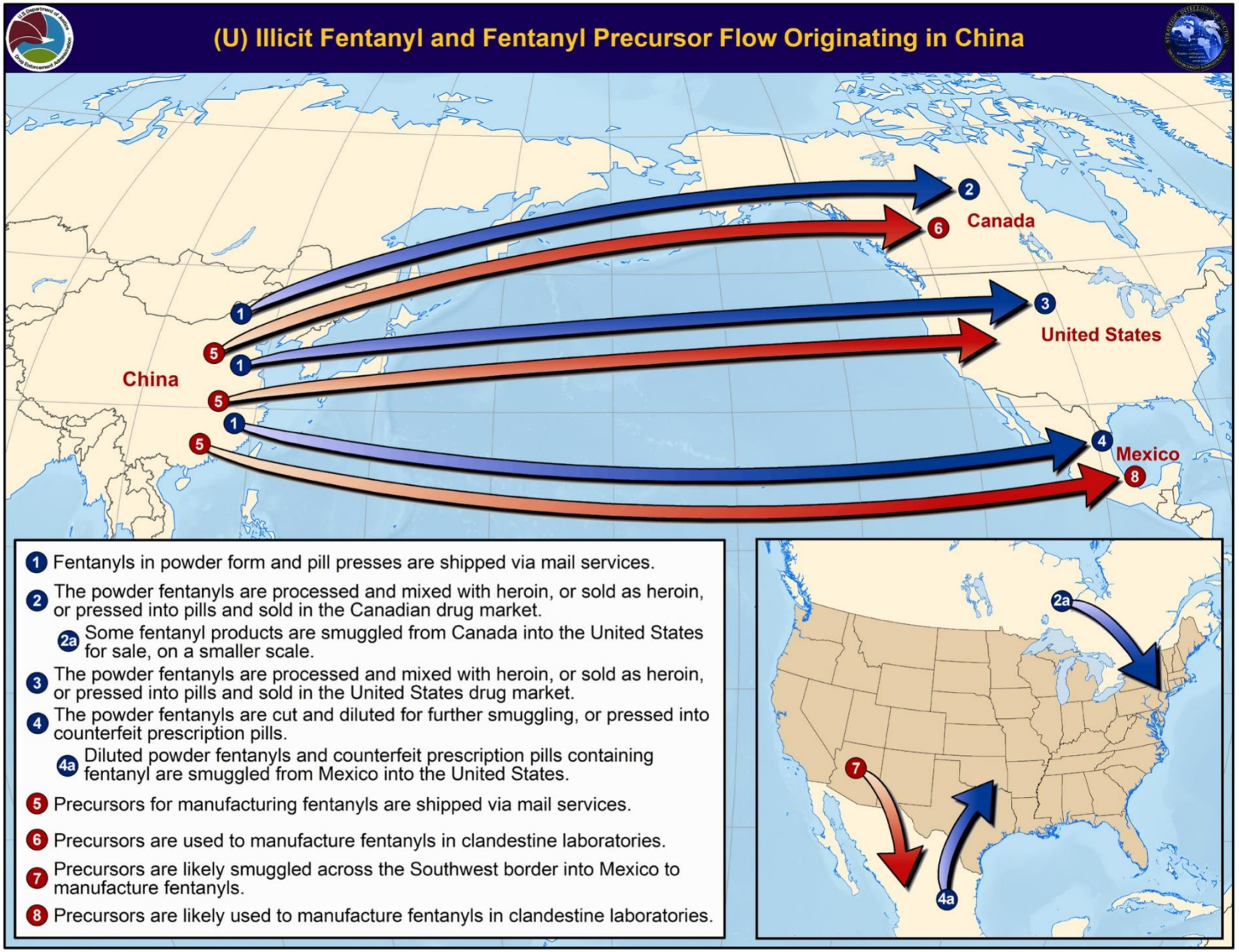
Data for 2016 is a predicted total for the year



"Prescription opioids (excluding fentanyl)" includes all fatalities that included a prescription opioid other than fentanyl. However, many fatalities involve multiple substances. In some cases, fatalities that involve another prescription opioid also include fentanyl. Because the fatalities also involve one or more other prescription opioids, they are counted here. In comparison, the chart in Figure 10 excludes all cases involving fentanyl, even if another prescription opioid was present. In general, the patterns are similar; however, when cases involving another prescription opioid AND fentanyl are included (as above) fatalities are projected to increase 3% in 2016. When they are excluded (Figure 10), non-fentanyl prescription overdose fatalities are projected to decrease 7%. "Fentanyl" includes fentanyl and fentanyl analogs.

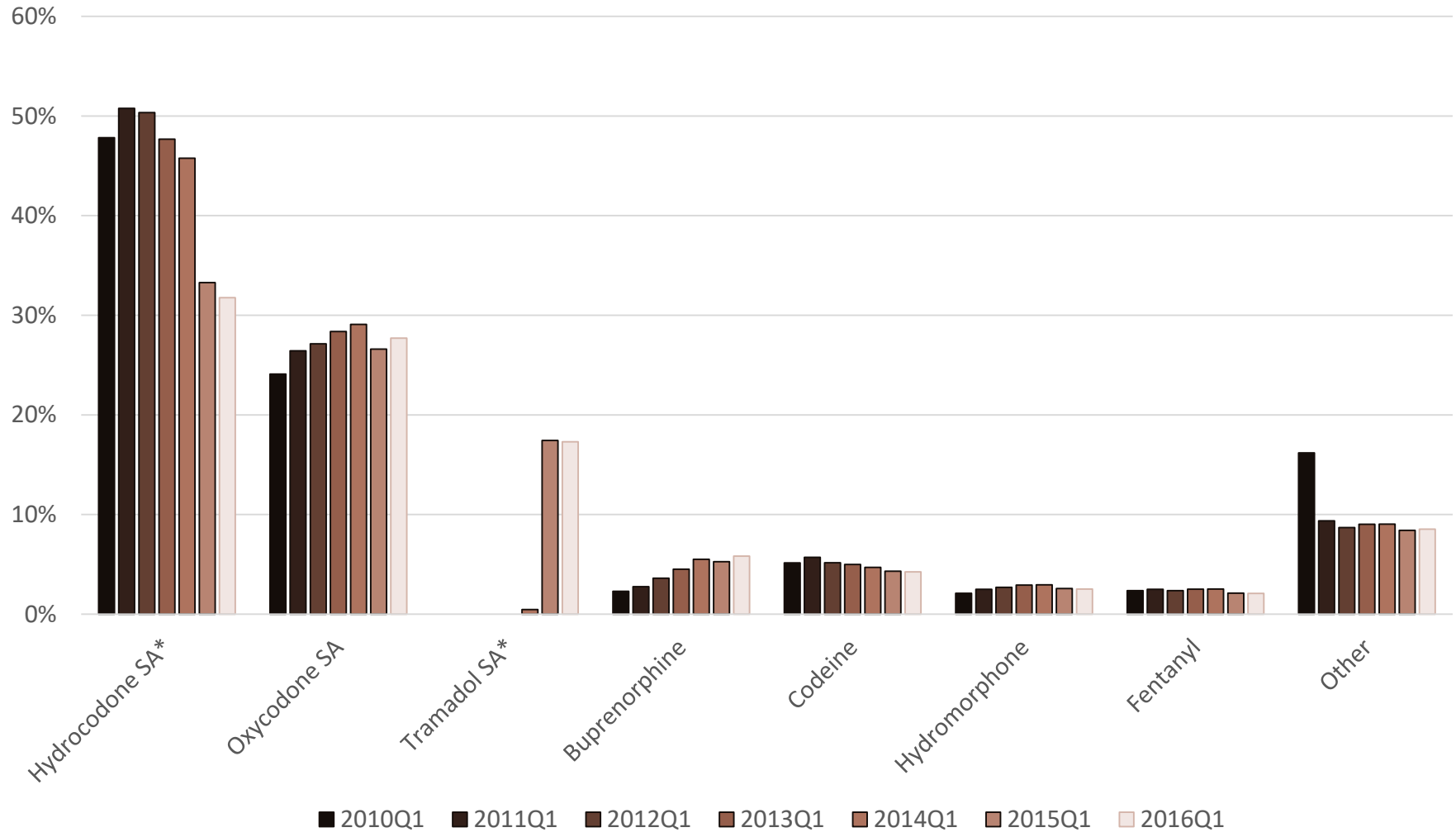
Data Source: OCME Fata Drug Overdose Quarterly Report http://www.vdh.virginia.gov/medExam/ForensicEpidemiology.htm

Figure 4: Illicit Fentanyl Production and Distribution



Source: DEA Intelligence Brief, *Counterfeit Prescription Pills Containing Fentanyls: A Global Threat* (www.dea.gov/docs/Counterfeit%20Prescription%20Pills.pdf)

Figure 5: Fentanyl has Consistently Represented a Small Proportion of Opioid Prescriptions in Virginia

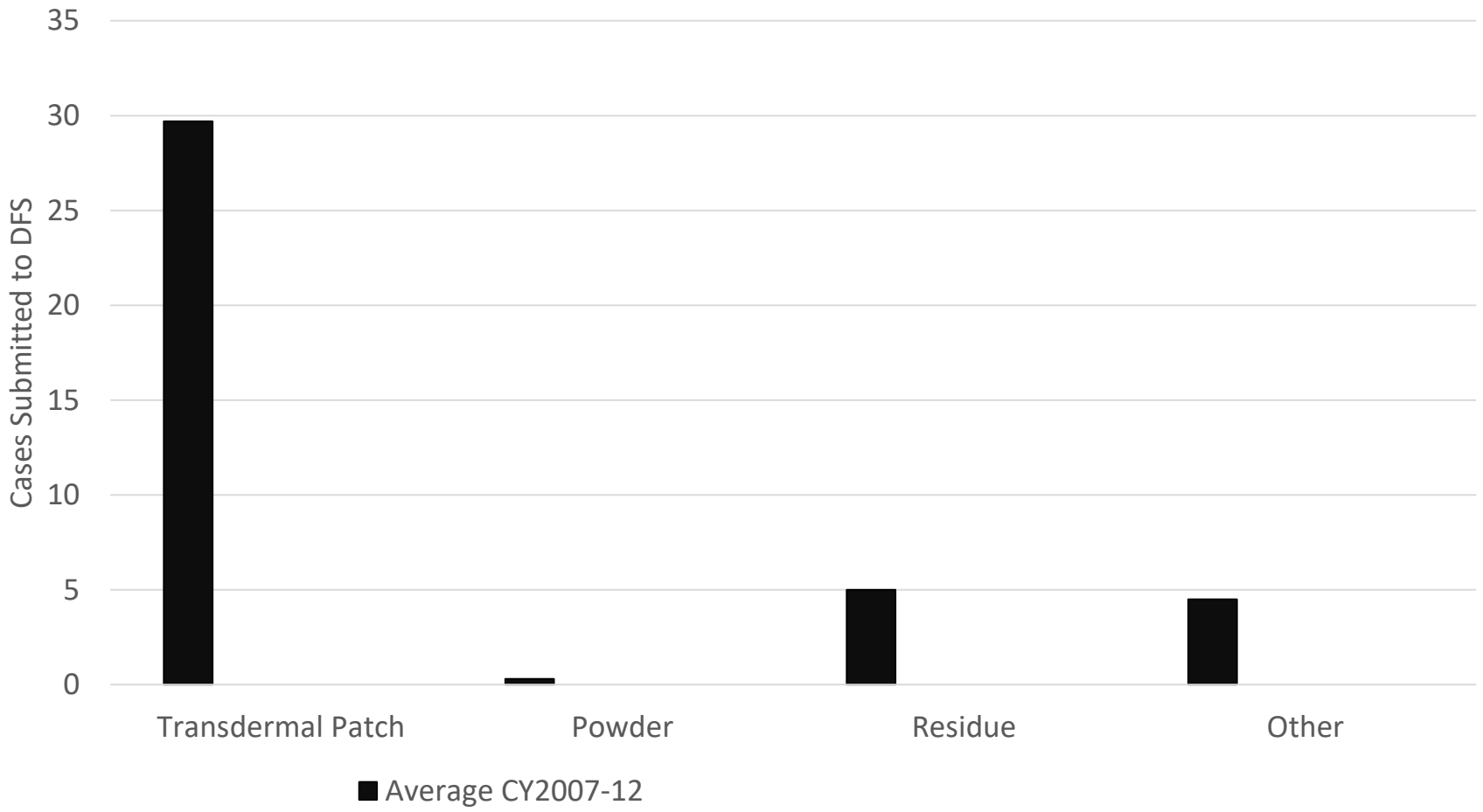


*Hydrocodone products were rescheduled from DEA Schedule III to Schedule II, as of October 6, 2014, making it more difficult to prescribe. Tramadol was not required to be entered in the PMP until it became scheduled on August 18, 2014.

Data Sources: Brandeis University report, 7/13/2016. That report used Virginia Prescription Monitoring Program database as its source.

Figure 6: Forms of Fentanyl – DFS Cases

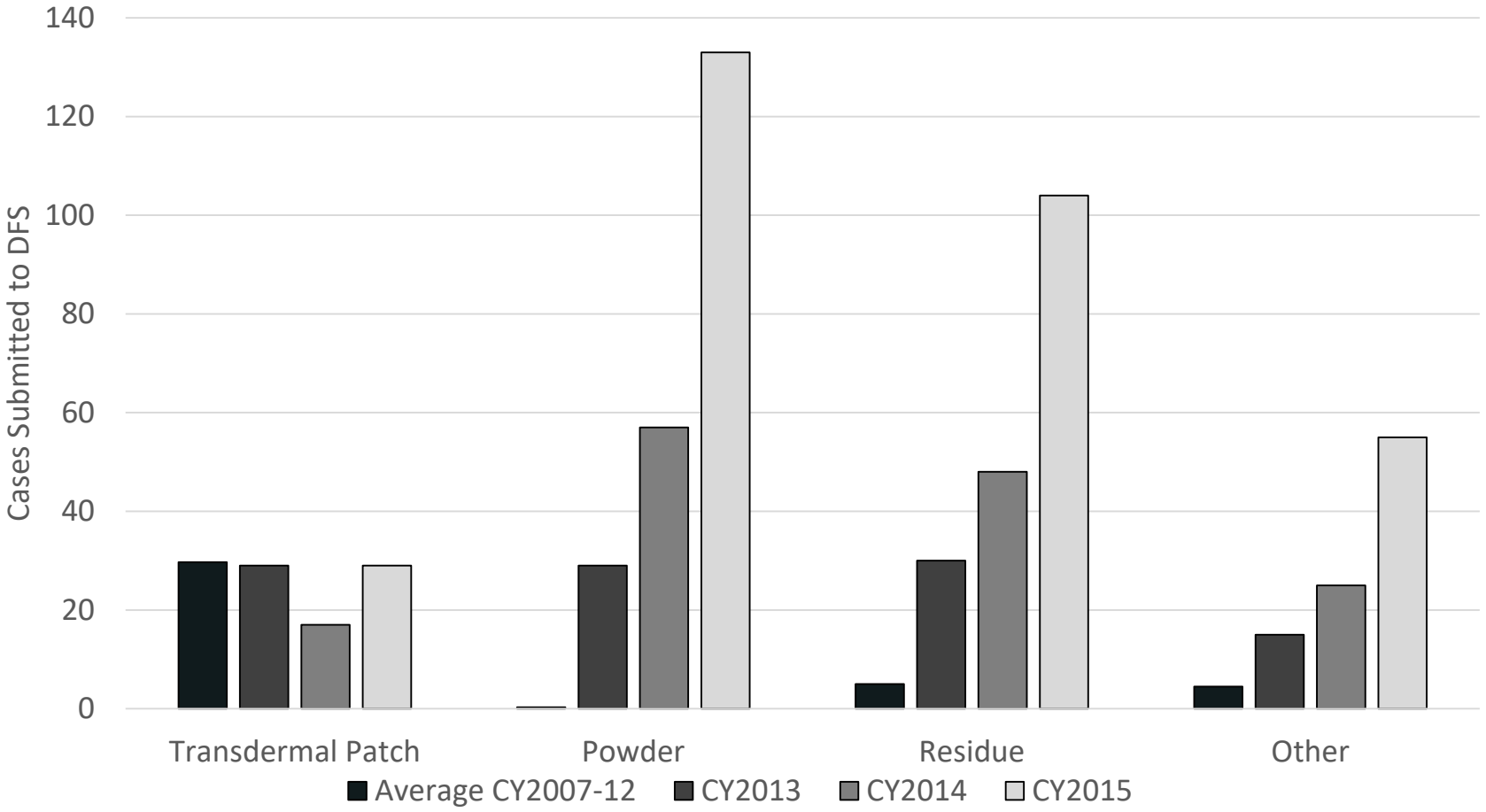
Prior to 2013, most Fentanyl samples were in the form of a transdermal patch



Data Source: DFS monthly submission to NFLIS

Figure 7: Forms of Fentanyl – DFS Cases

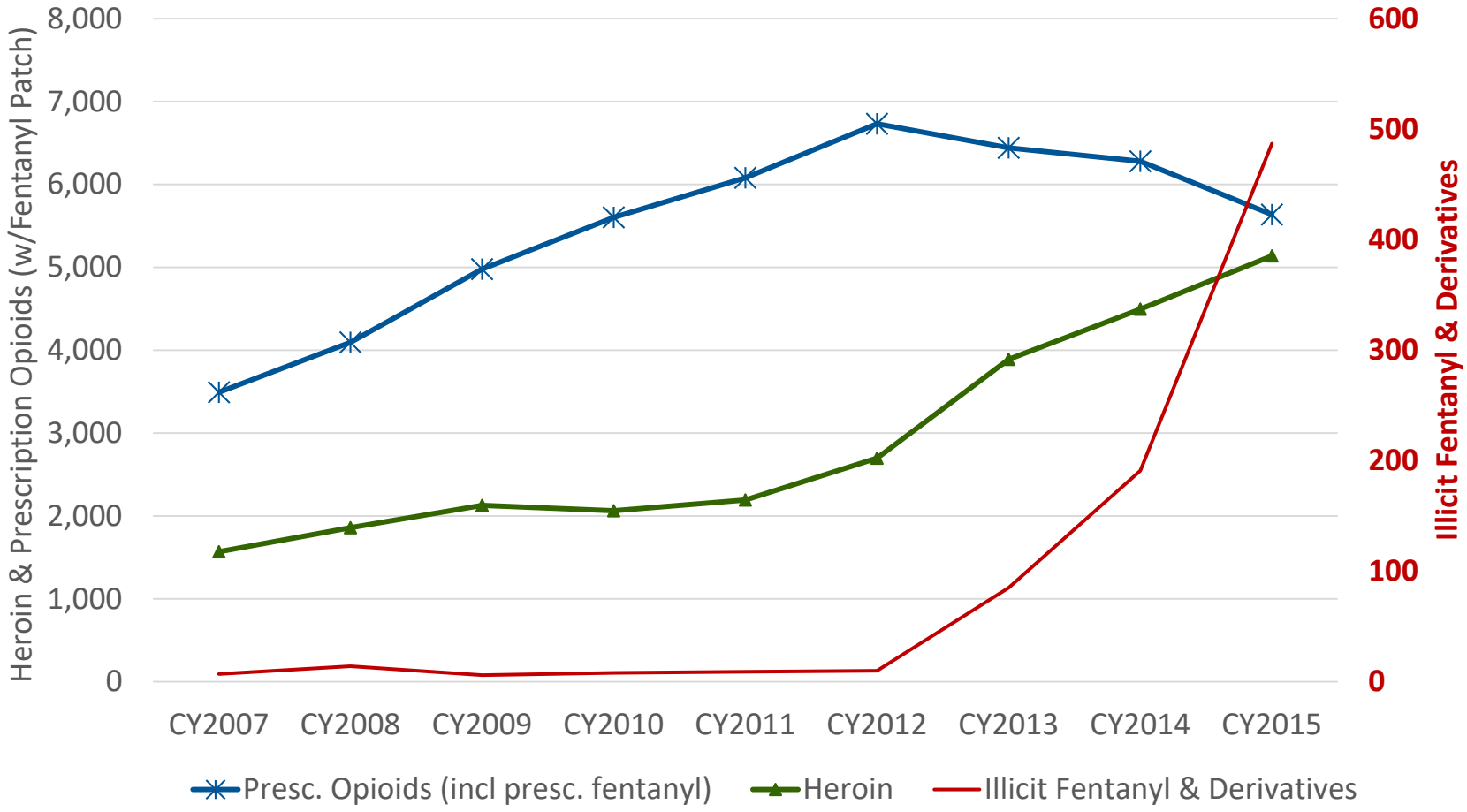
Beginning in late 2013, other forms of Fentanyl became much more common



Data Source: DFS monthly submission to NFLIS

Figure 8: Fentanyl vs. Other Opioids – DFS Cases

Heroin vs Prescription Opioids (Left Axis) vs. Illicit Fentanyl & Derivatives (Right Axis)

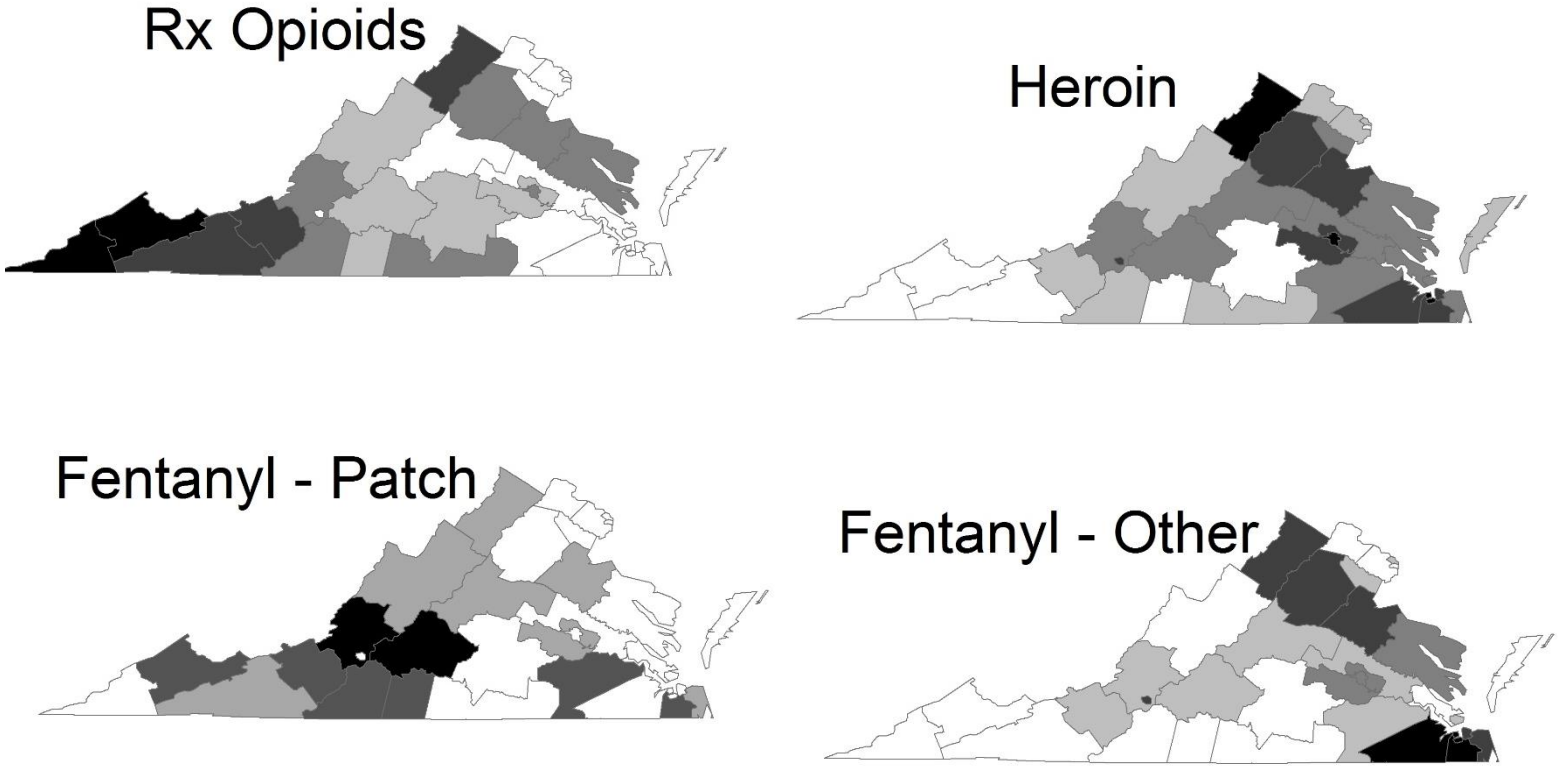


"Illicit Fentanyl & Derivatives" includes illicitly produced fentanyl and fentanyl analogs.

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

Figure 9: DFS Case Distribution Across Virginia

2015 Cases submitted to DFS, Rate per 100,000, By Health District
Darker areas indicate a higher rate of submissions.

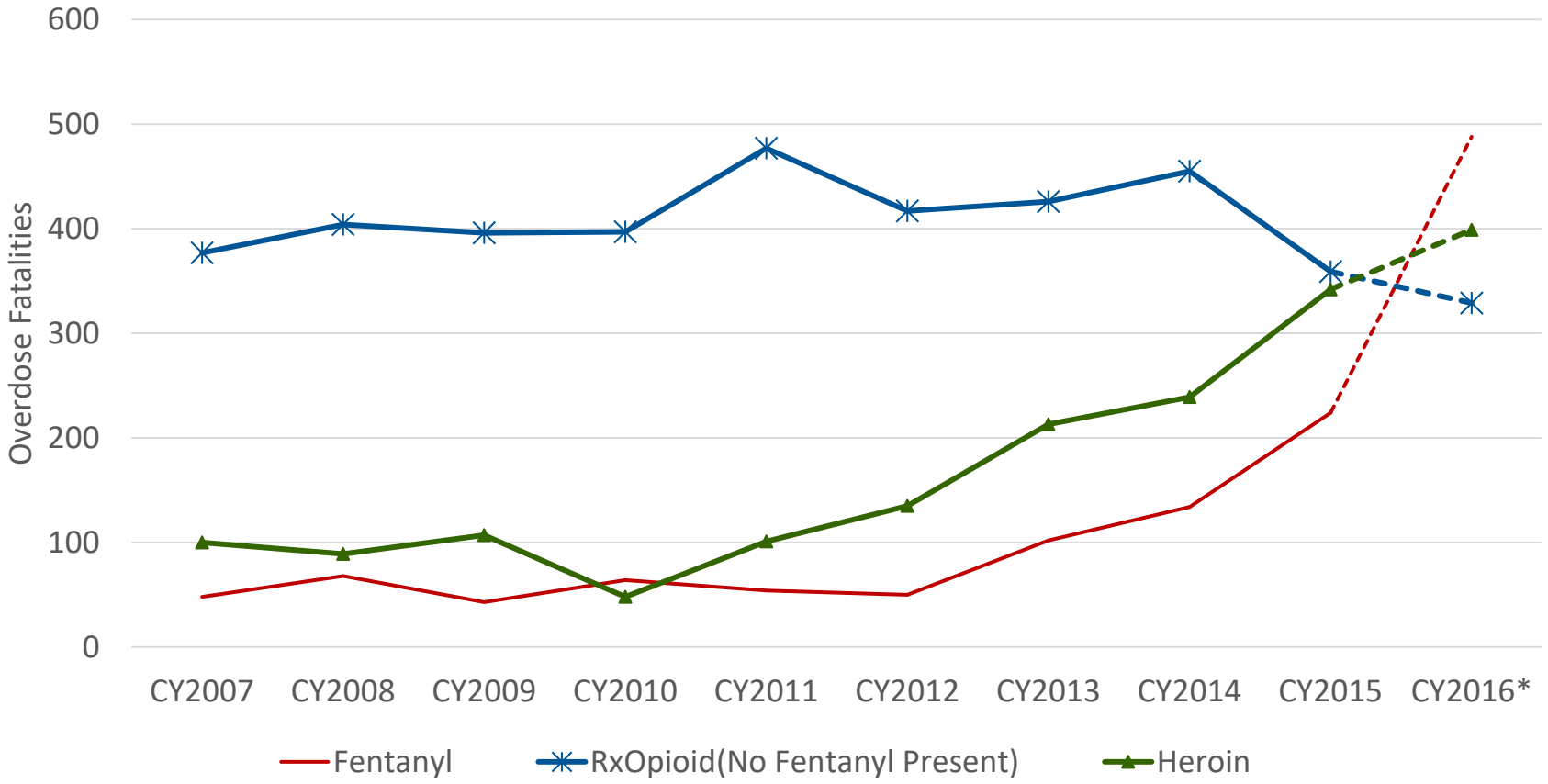


"Fentanyl - Other" includes illicitly produced fentanyl and fentanyl analogs.

Data Source: DFS monthly submission to NFLIS.

Figure 10: Fentanyl vs. Other Opioids – Overdose Fatalities

Heroin vs Prescription Opioids vs Fentanyl



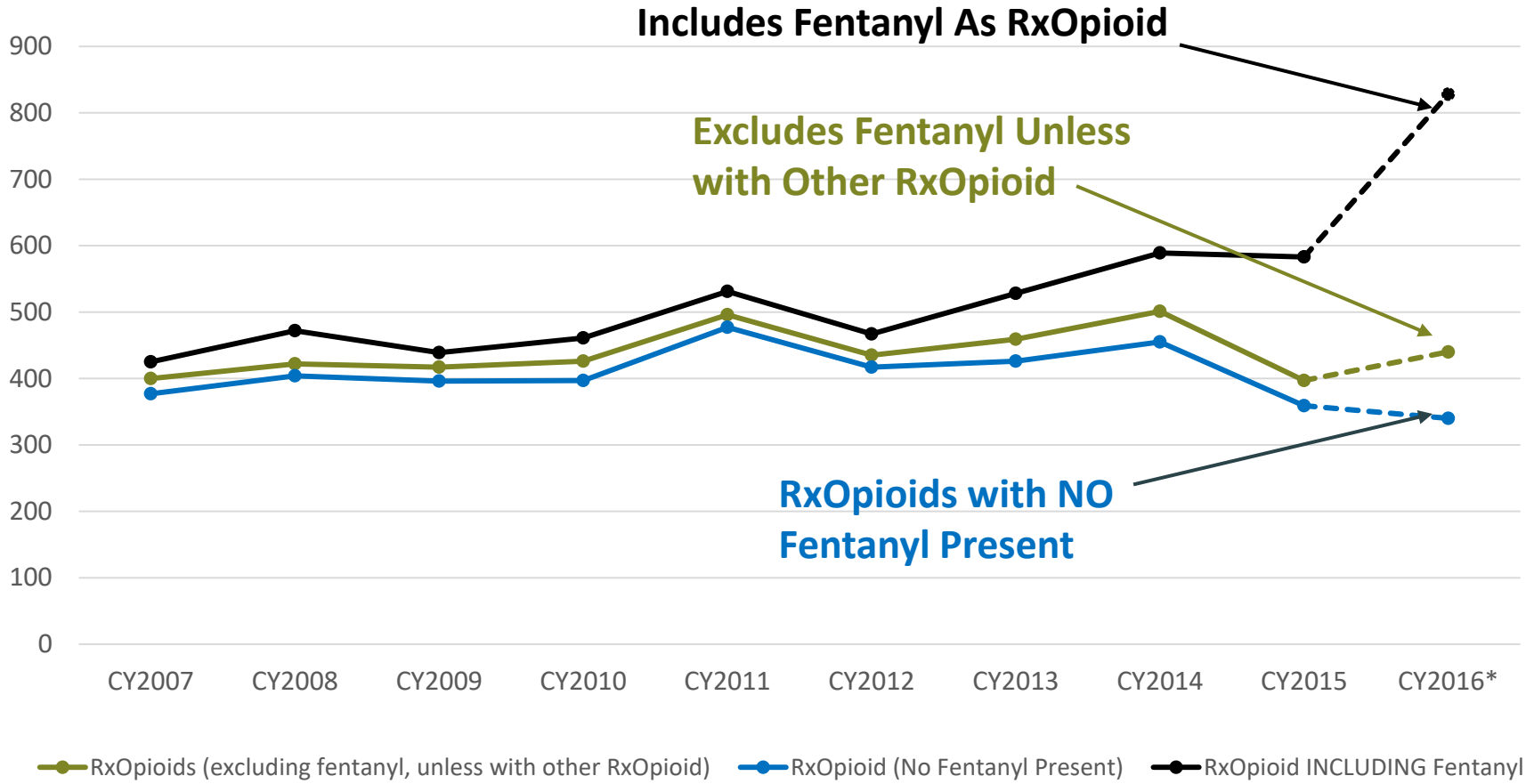
"RxOpioid(No Fentanyl Present) excludes ALL cases that involve fentanyl, even if another prescription opioid is also involved in the fatality. In comparison, the chart in Figure 3 includes all fatalities that included a prescription opioid other than fentanyl, even if fentanyl was also found. In general, the patterns are similar; however, when cases involving another prescription opioid AND fentanyl are included (Figure 3) fatalities are projected to increase 3% in 2016. When they are excluded (as above), non-fentanyl prescription overdose fatalities are projected to decrease 7%.

"Fentanyl" includes fentanyl and fentanyl analogs.

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

Figure 11: Prescription Overdose Fatalities

With and Without Fentanyl

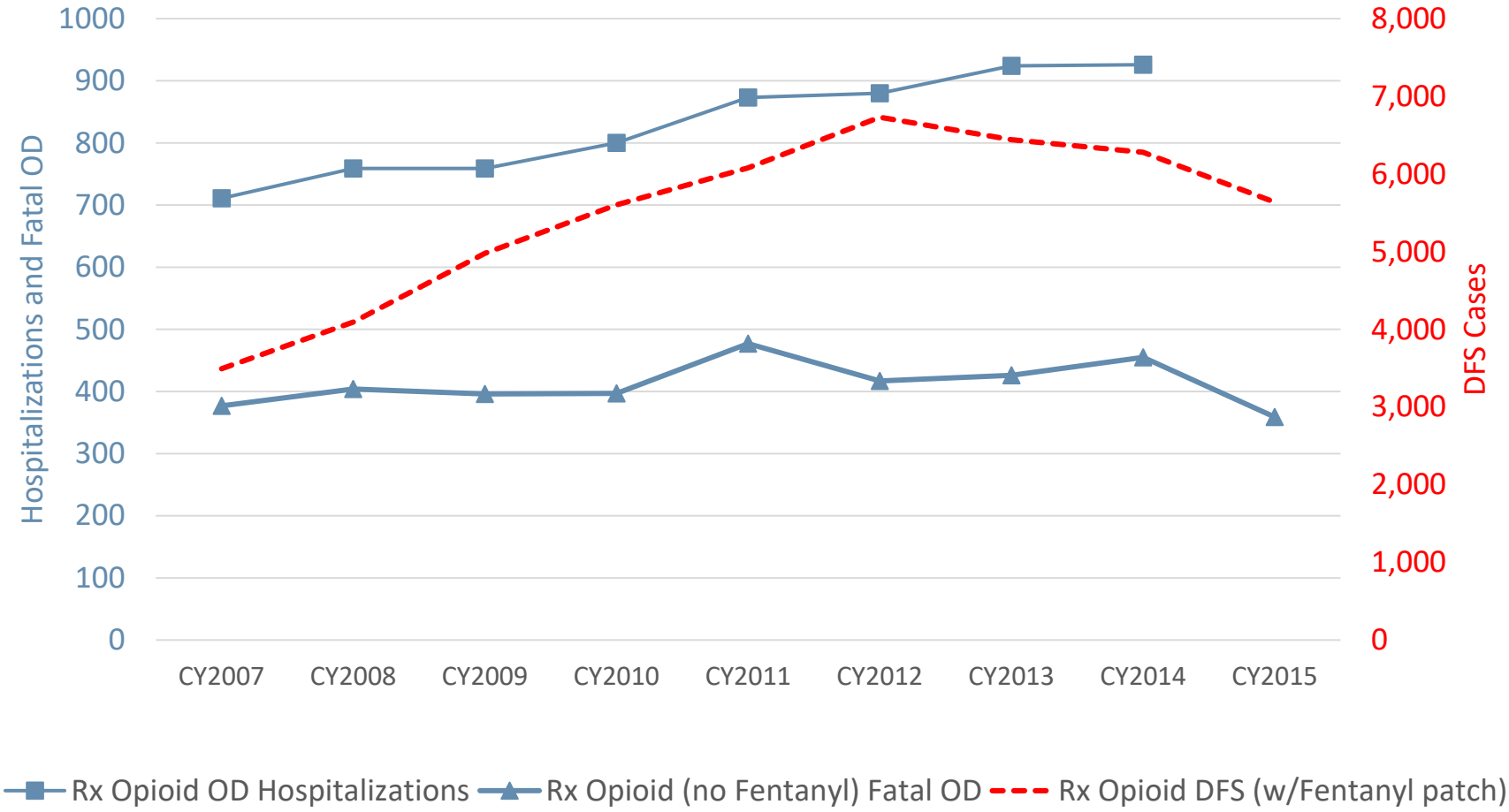


"Prescription opioids (excluding fentanyl)" includes all fatalities that included a prescription opioid other than fentanyl, even if fentanyl was also found. "RxOpioid(No Fentanyl Present) excludes ALL cases that involve fentanyl, even if another prescription opioid is also involved in the fatality. In general, the patterns are similar; however, when cases involving another prescription opioid AND fentanyl are included fatalities are projected to increase 3% in 2016. When they are excluded, non-fentanyl prescription overdose fatalities are projected to decrease 7%. "Fentanyl" includes fentanyl and fentanyl analogs. Illicit fentanyl cannot be distinguished from prescription fentanyl in overdose fatalities, though fentanyl analogs can.

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

Figure 12: Virginia Prescription Opioid Data

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

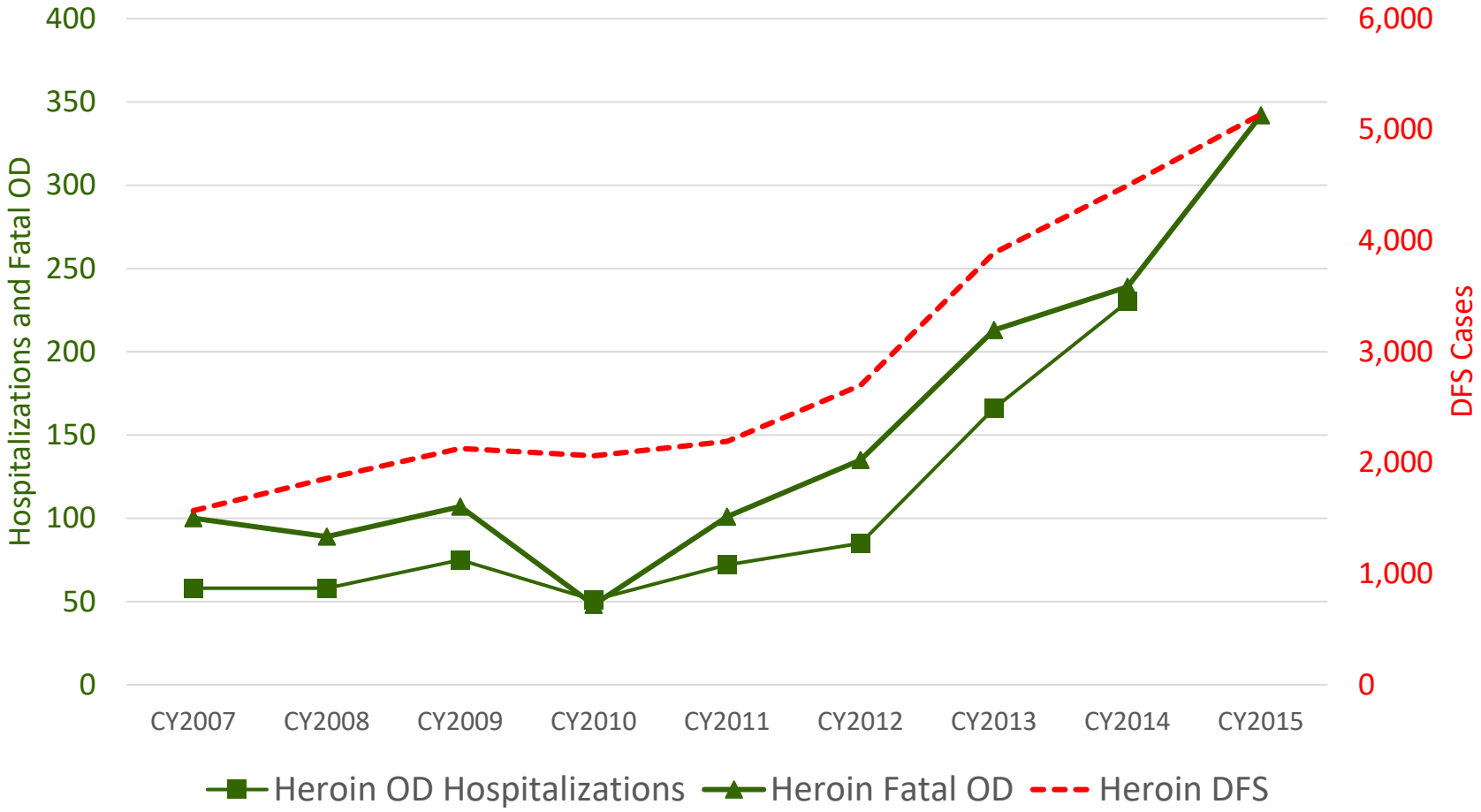


Hospitalization data cannot exclude fentanyl. Fatal overdose data excludes all cases with fentanyl and fentanyl analogs. DFS data only includes fentanyl if it was in the form of a transdermal patch.

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 13: Virginia Heroin Data

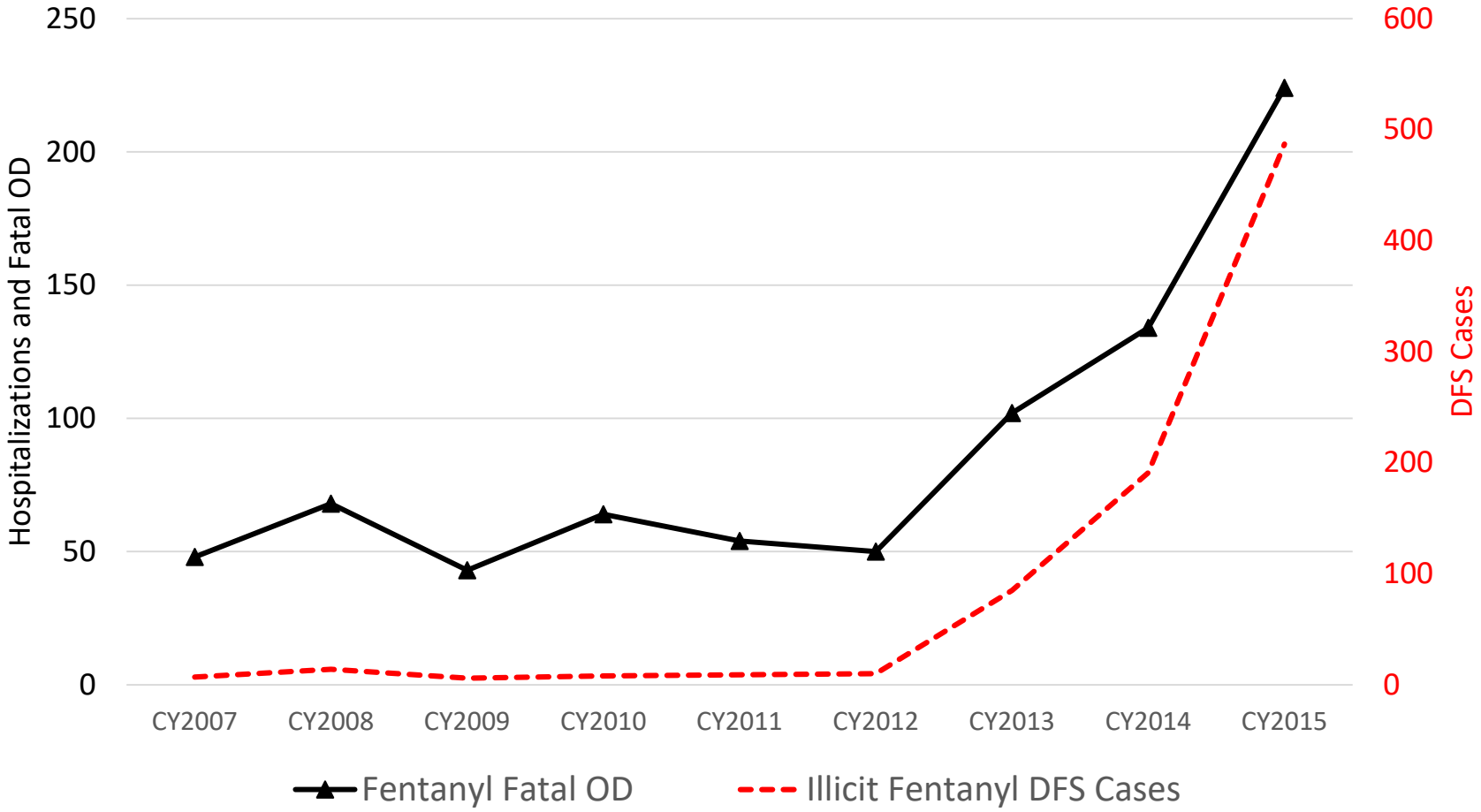
Hospital Discharges & Fatal Overdoses (Left Axis) and Cases Submitted to DFS (Right Axis)



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 14: Virginia Fentanyl Data

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

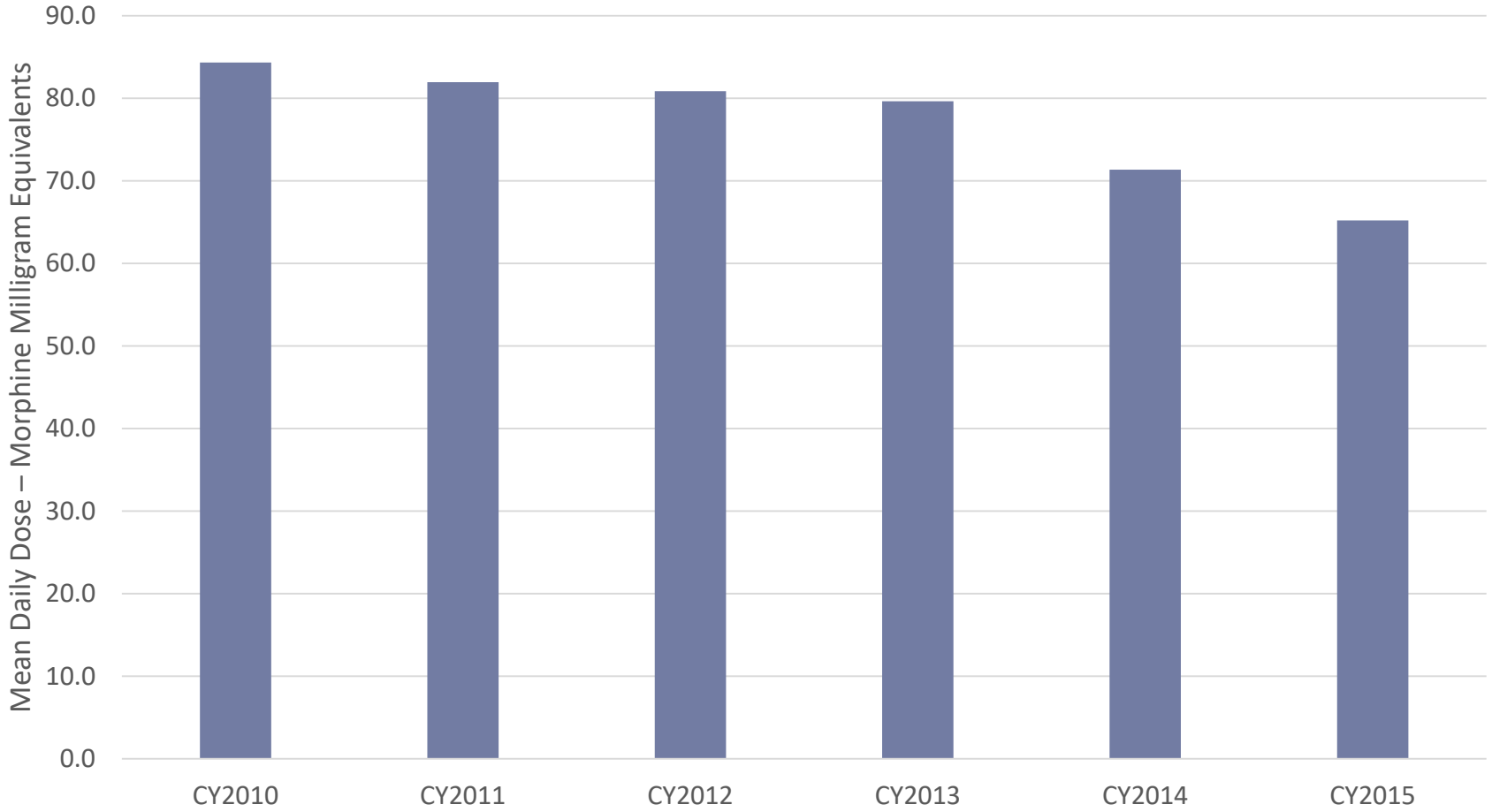


"Fentanyl Fatal OD" includes fentanyl and fentanyl analogs. "Illicit Fentanyl DFS Cases" includes fentanyl cases in which it was not submitted in the form of a transdermal patch, and fentanyl analogs.

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

Figure 15: Mean Daily Dosage of Prescribed Opioids in Virginia

Mean Daily Dosage per Patient, in Morphine Milligram Equivalents



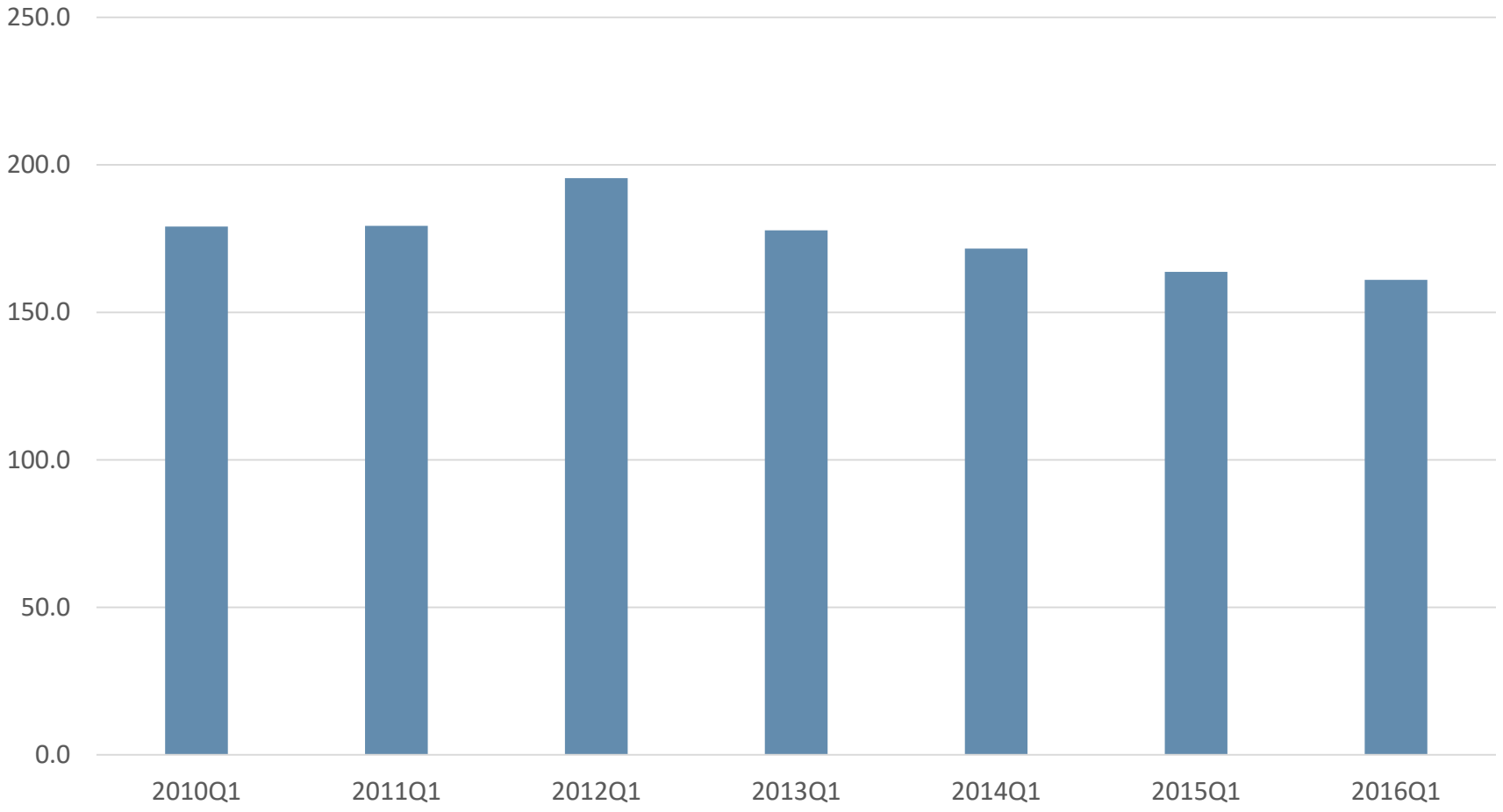
Daily morphine milligram equivalents (MMEs) is the daily dosage of morphine that would provide an equal amount of analgesia as the daily dosage of the opioid. Mean daily dosage is calculated for state residents in the PDMP that have an opioid prescription in a given quarter and refers to MMEs per day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

Data Sources: Brandeis University report, 7/13/2016. That report used Virginia Prescription Monitoring Program database as its source.

Figure 16: Rate of Opioid Prescriptions in Virginia

Opioids* Prescribed to State Residents, Per 1,000 Residents

One person may receive multiple prescriptions

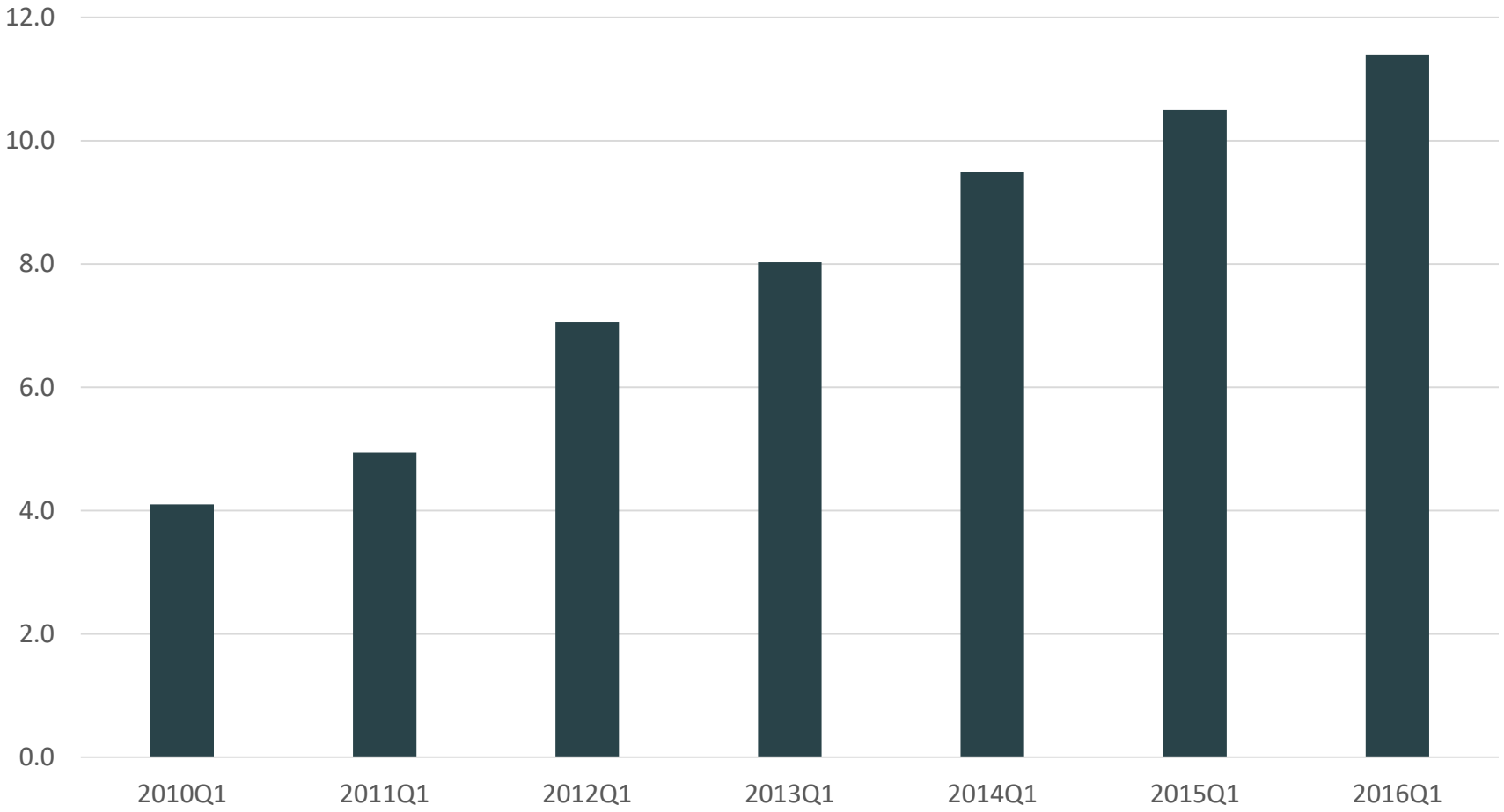


*Excludes Tramadol SA and Tramadol LA. Tramadol became a controlled substance (Schedule IV) in August 2014. Prior to that, it was not reported in the PMP. Tramadol (SA and LA combined) was prescribed at a rate of 36 per thousand in 2015Q1, and 35 per thousand in 2016Q1.

Data Sources: Brandeis University report, 7/13/2016. That report used Virginia Prescription Monitoring Program database as its source.

Figure 17: Buprenorphine Prescription Rate

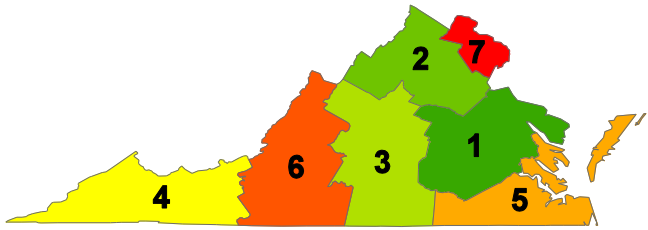
Buprenorphine Prescriptions to Virginia Residents, Per 1,000 Residents

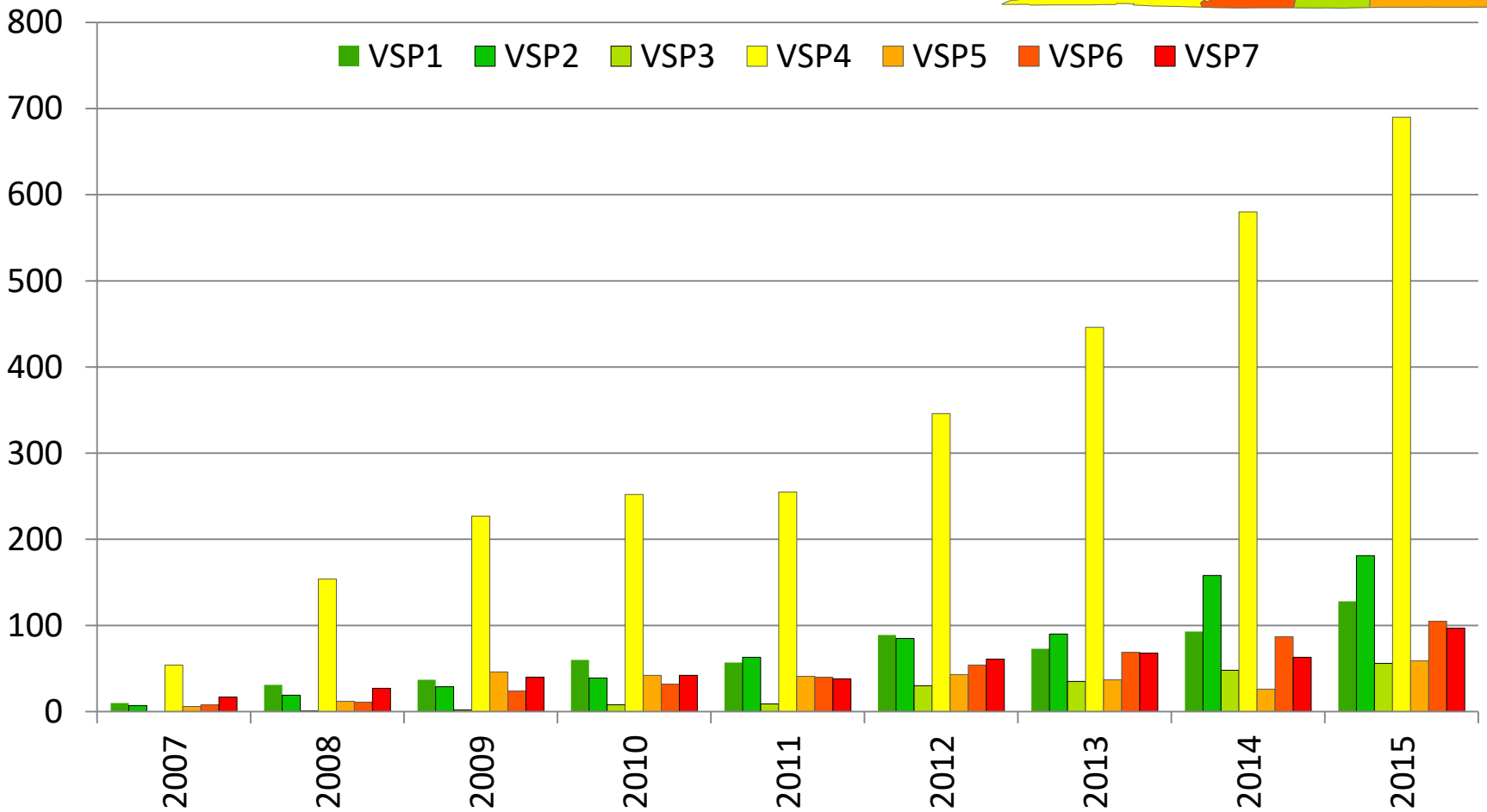


Data Sources: Brandeis University report, 11/23/2015. That report used Virginia Prescription Monitoring Program database as its source.

Figure 18: Regional Buprenorphine DFS Submissions

Cases submitted to DFS, calendar years 2007-2015

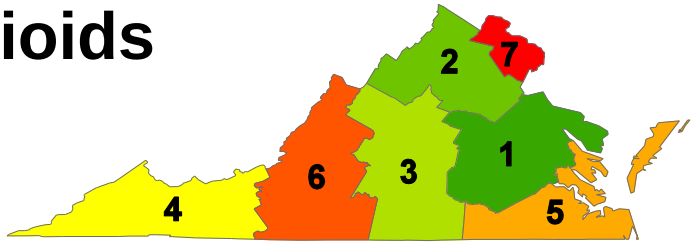


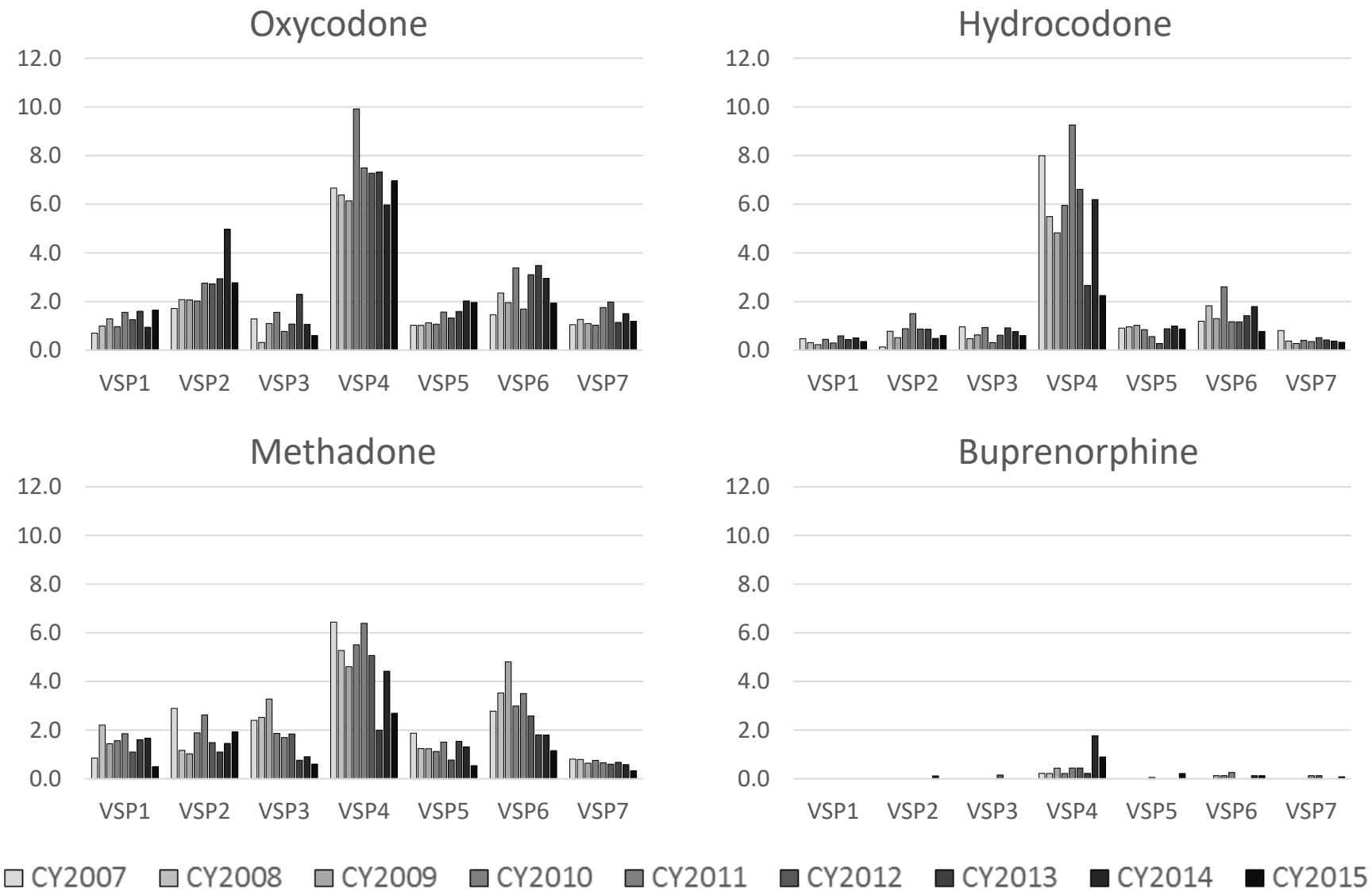


Data Sources: DFS monthly submission to NFLIS

Figure 19: Fatality Rate for Select Opioids

By Virginia State Police Division

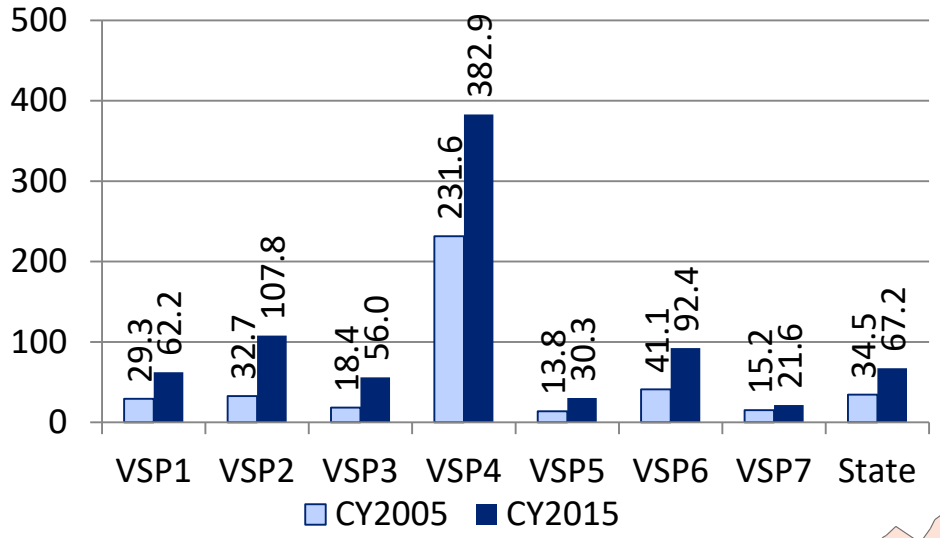


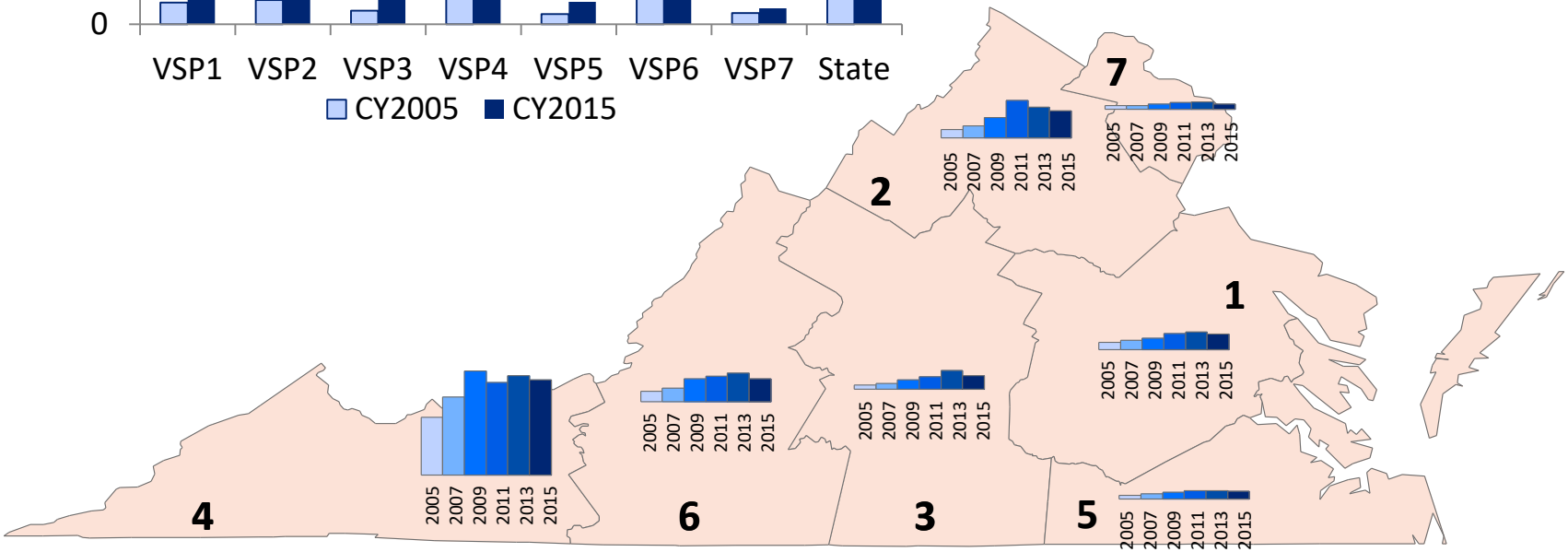


Data Sources: Brandeis University report, 11/23/2015. That report used Virginia Prescription Monitoring Program database as its source.

Figure 20: Regional Presc. Opioid DFS Submission Rate

Rate of submissions per 100,000 Population, calendar years 2005-2015



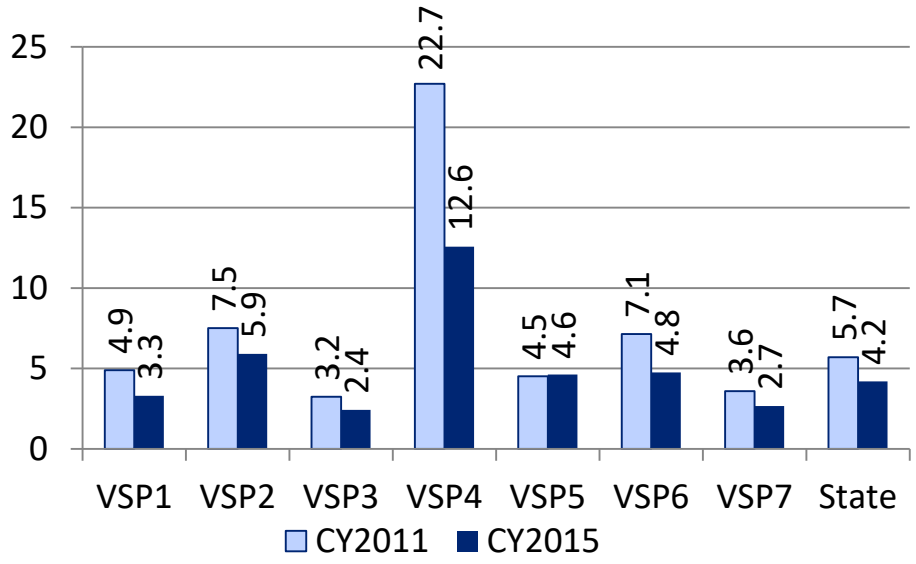


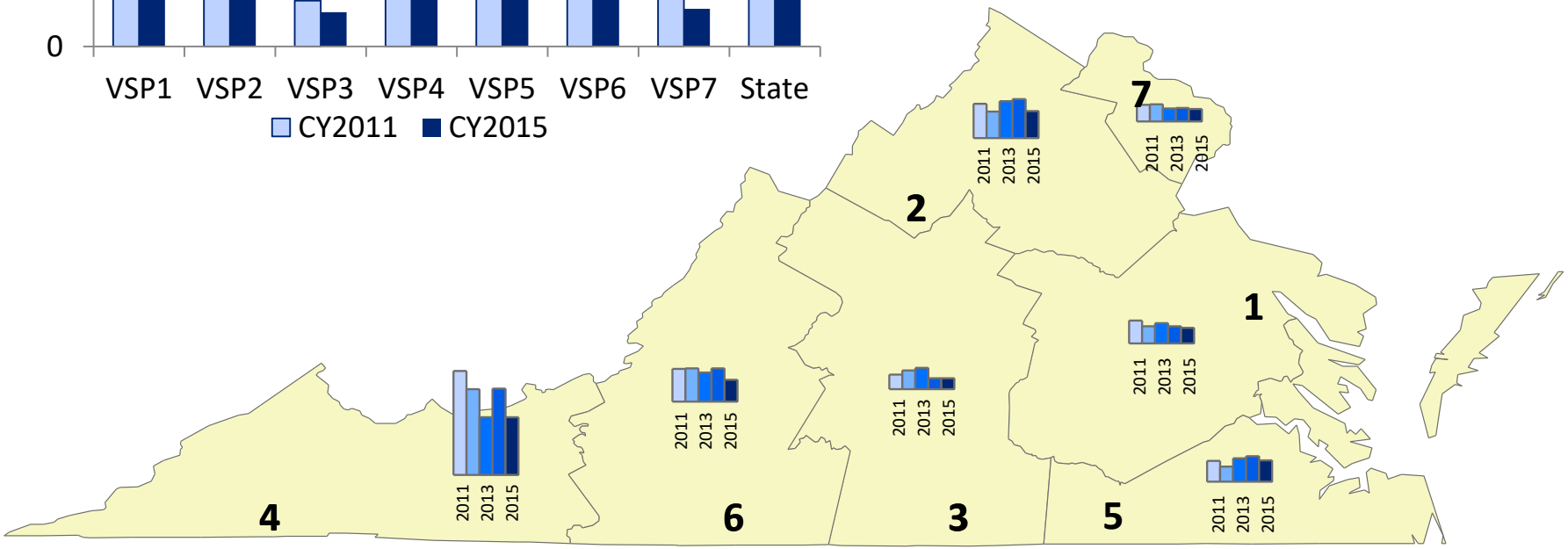
Only includes fentanyl if it was in the form of a transdermal patch.

Data Sources: DFS monthly submission to NFLIS

Figure 21: Regional Presc. Opioid* Overdose Fatality Rate

Rate of fatalities per 100,000 Population, calendar years 2011-2015



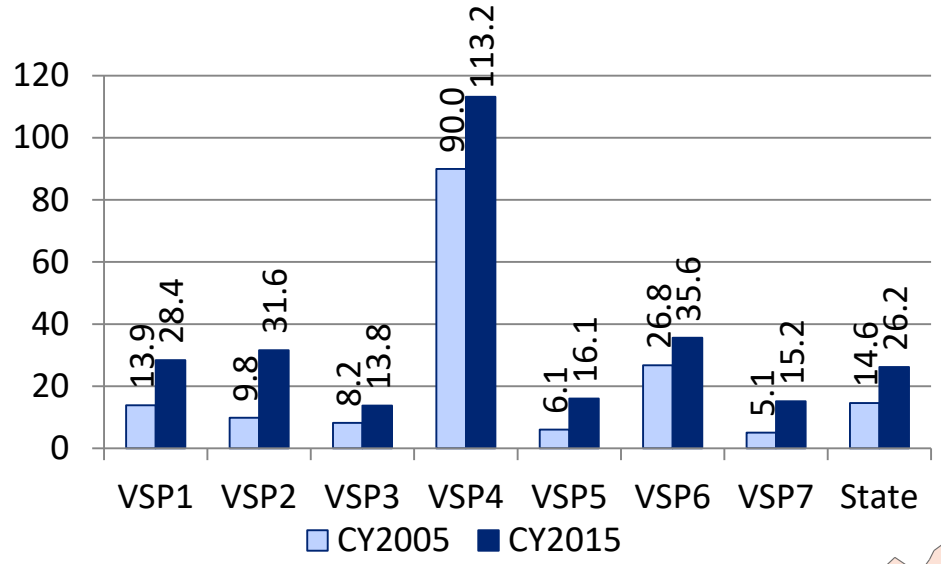


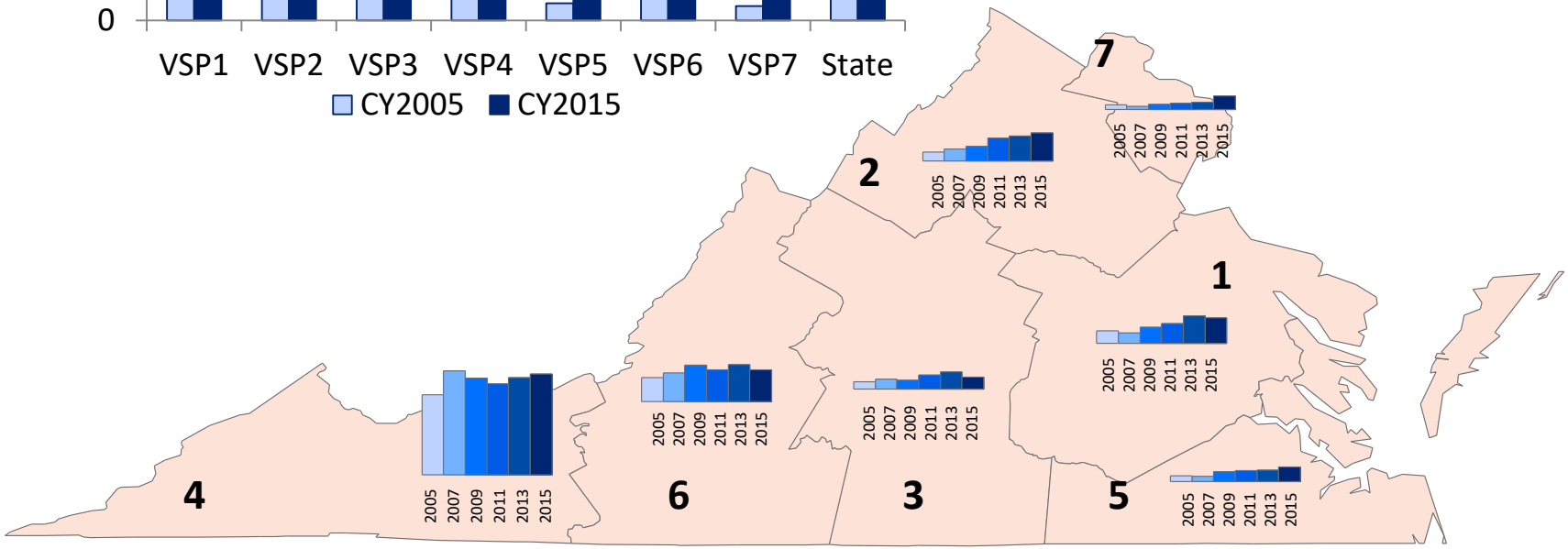
*Excludes ALL cases that involve fentanyl or fentanyl analogs, even if another prescription opioid is also involved in the fatality.

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

Figure 22: Regional Benzodiazepine DFS Submission Rate

Rate of submissions per 100,000 Population, calendar years 2005-2015

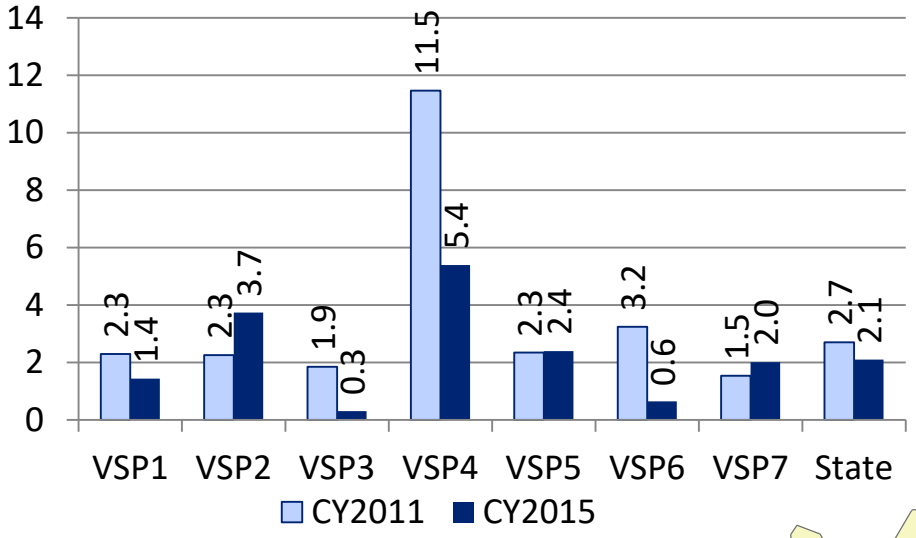


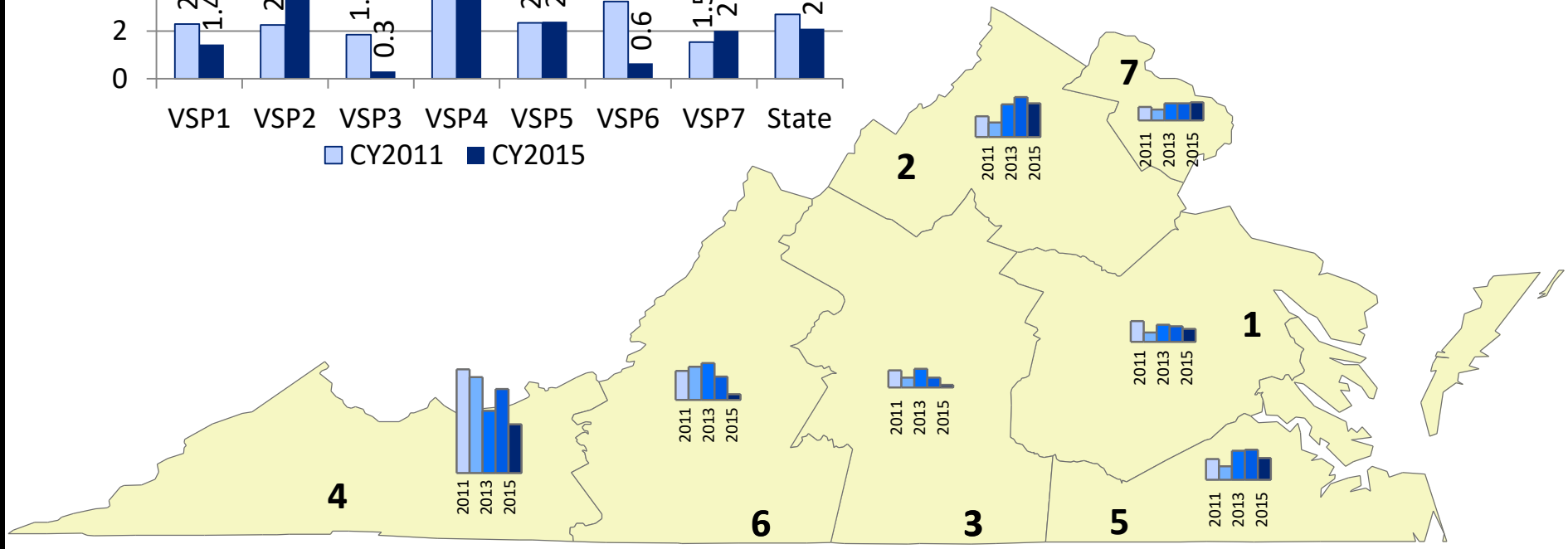


Data Sources: DFS monthly submission to NFLIS

Figure 23: Regional Benzodiazepine Overdose Fatality Rate

Rate of fatalities per 100,000 Population, calendar years 2011-2015

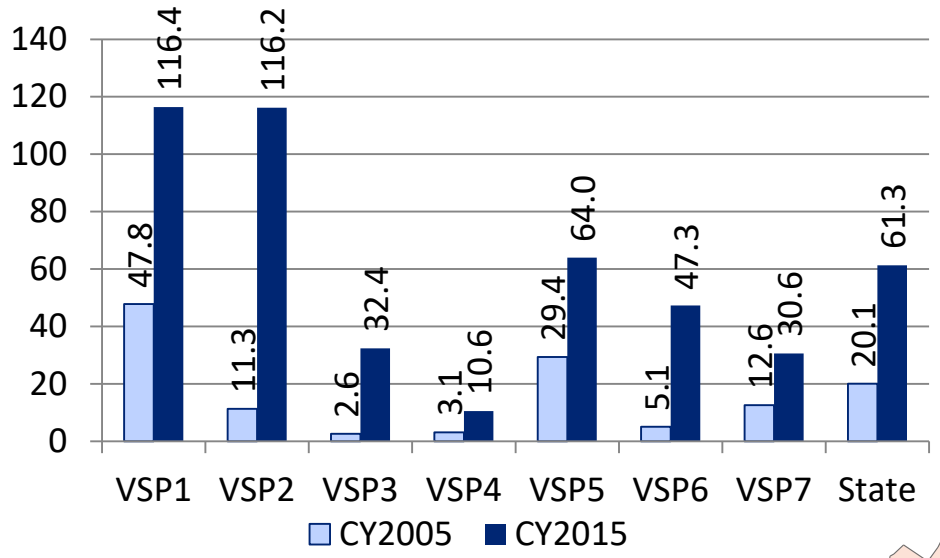


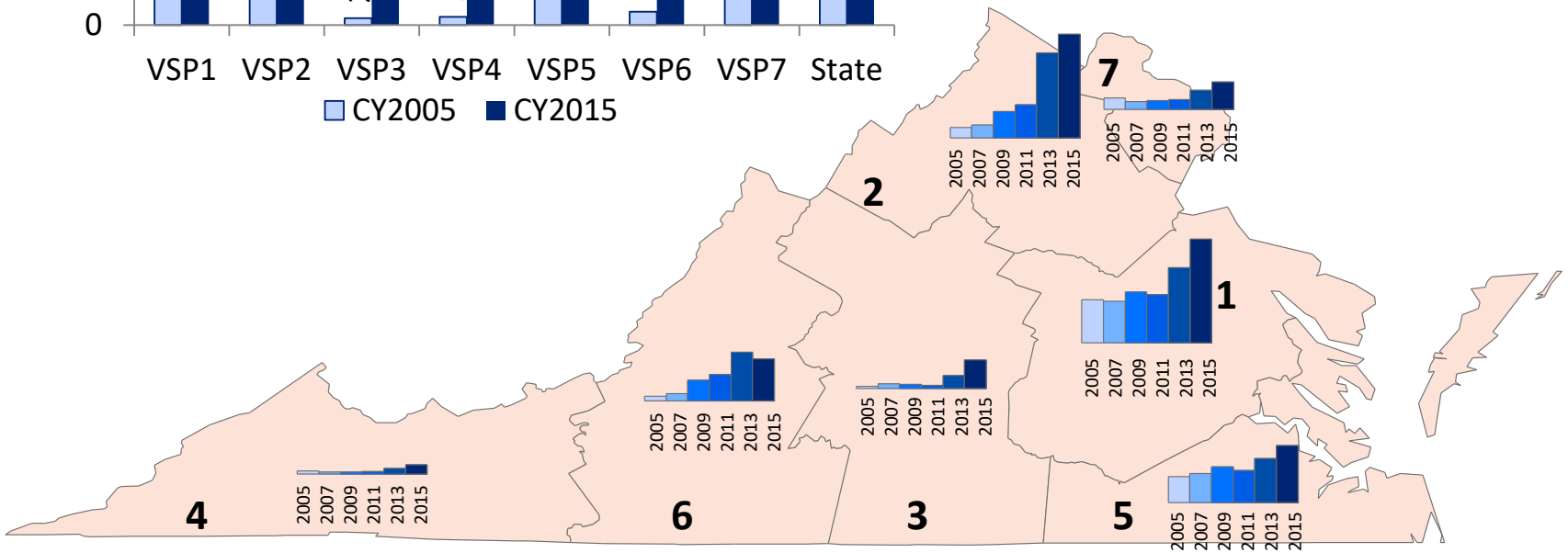


Data Sources: OCME Fatal Drug Overdose Quarterly Report, supplemental spreadsheets (www.vdh.virginia.gov/medical-examiner/forensic-epidemiology)

Figure 24: Regional Heroin DFS Submission Rate

Rate of submissions per 100,000 Population, calendar years 2005-2015

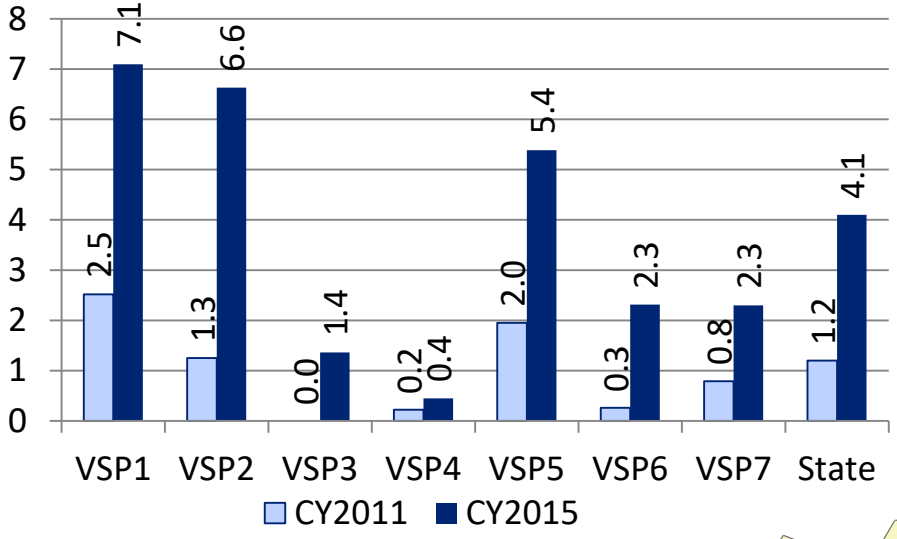


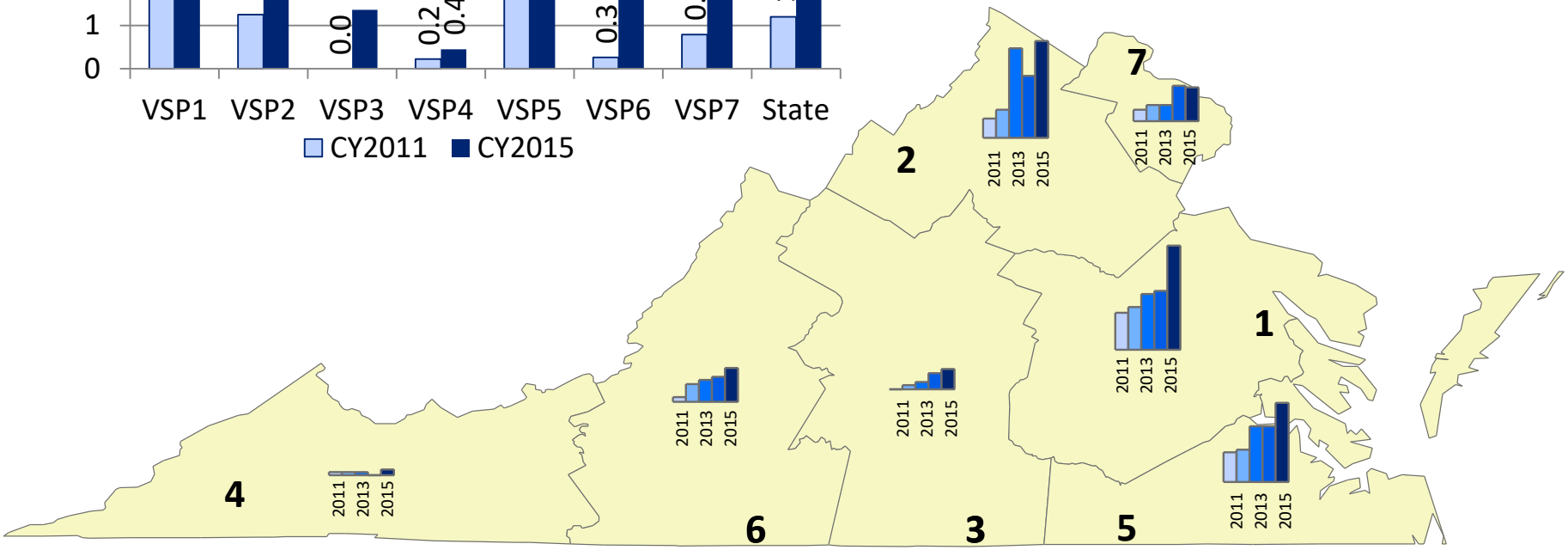


Data Sources: DFS monthly submission to NFLIS

Figure 25: Regional Heroin DFS Overdose Fatality Rate

Rate of fatalities per 100,000 Population, calendar years 2011-2015

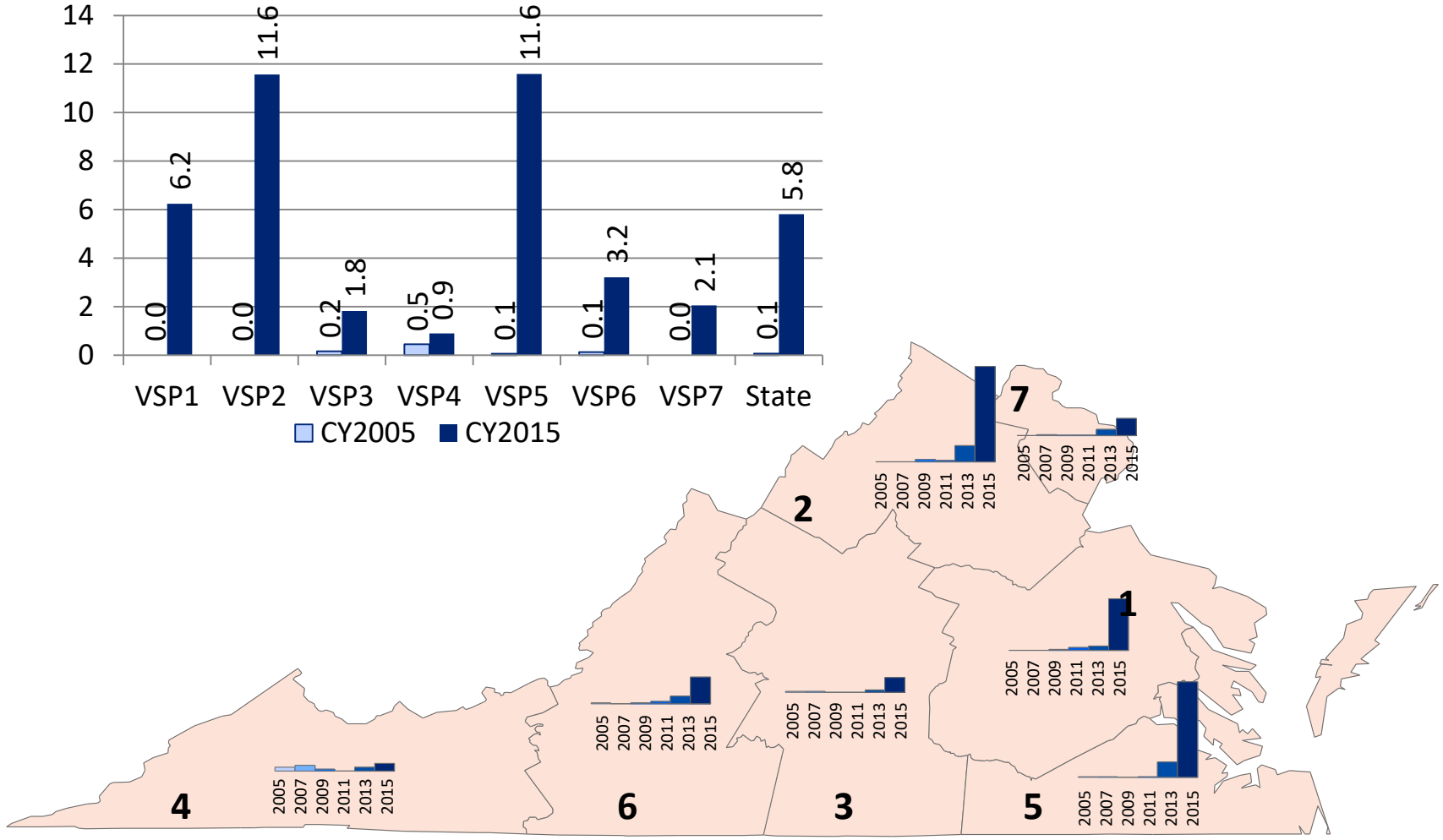




Data Sources: OCME Fatal Drug Overdose Quarterly Report, supplemental spreadsheets (www.vdh.virginia.gov/medical-examiner/forensic-epidemiology)

Figure 26: Regional Illicit Fentanyl DFS Submission Rate

Rate of submissions per 100,000 Population, calendar years 2005-2015

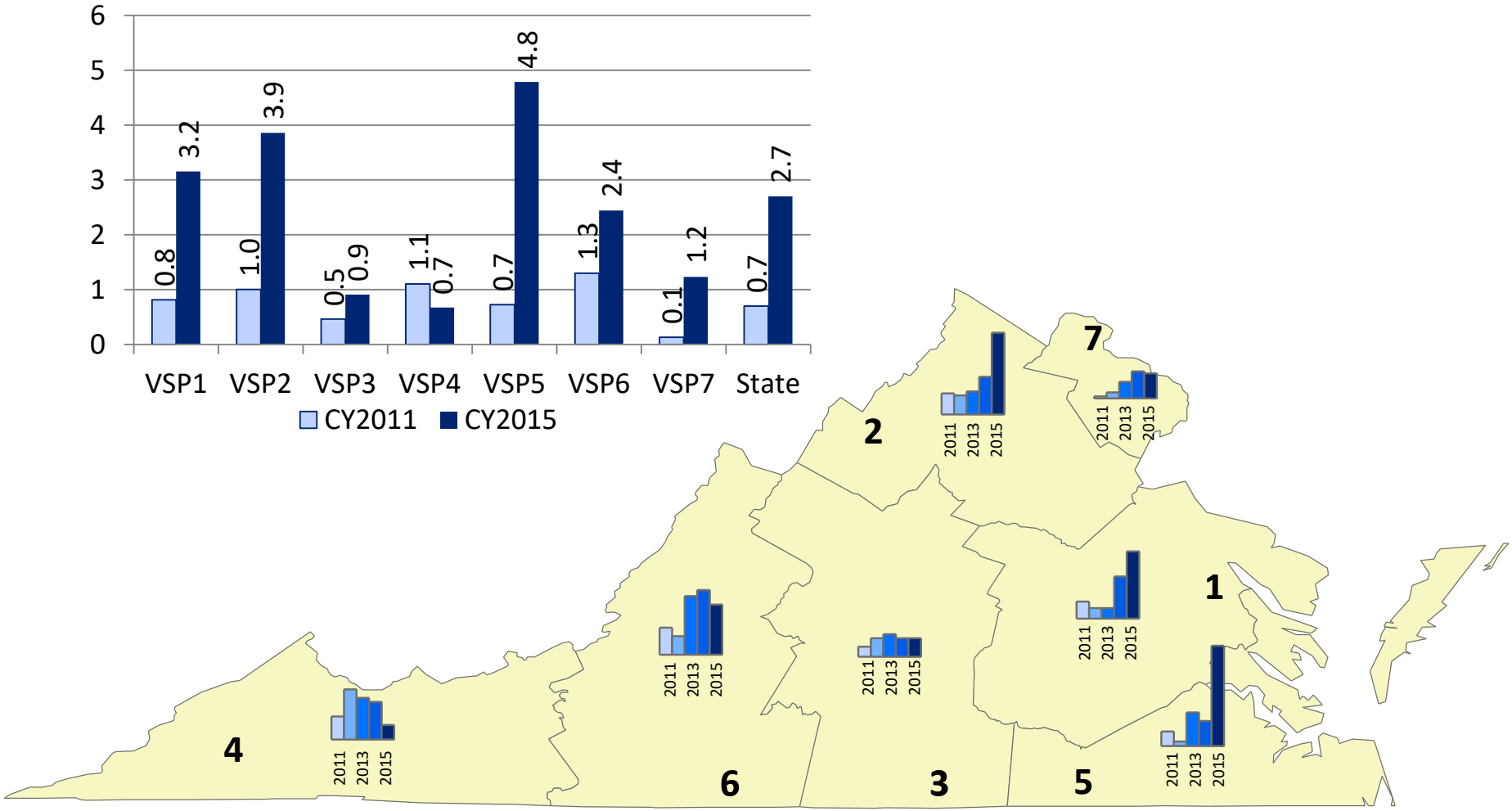


"Illicit Fentanyl" includes fentanyl cases in which it was not submitted in the form of a transdermal patch, and fentanyl analogs. Fentanyl submissions identified as being in the form of a transdermal patch are counted with other prescription opioids (Figure 20).

Data Sources: DFS monthly submission to NFLIS

Figure 27: Regional Fentanyl* Overdose Fatality Rate

Rate of submissions per 100,000 Population, calendar years 2005-2015

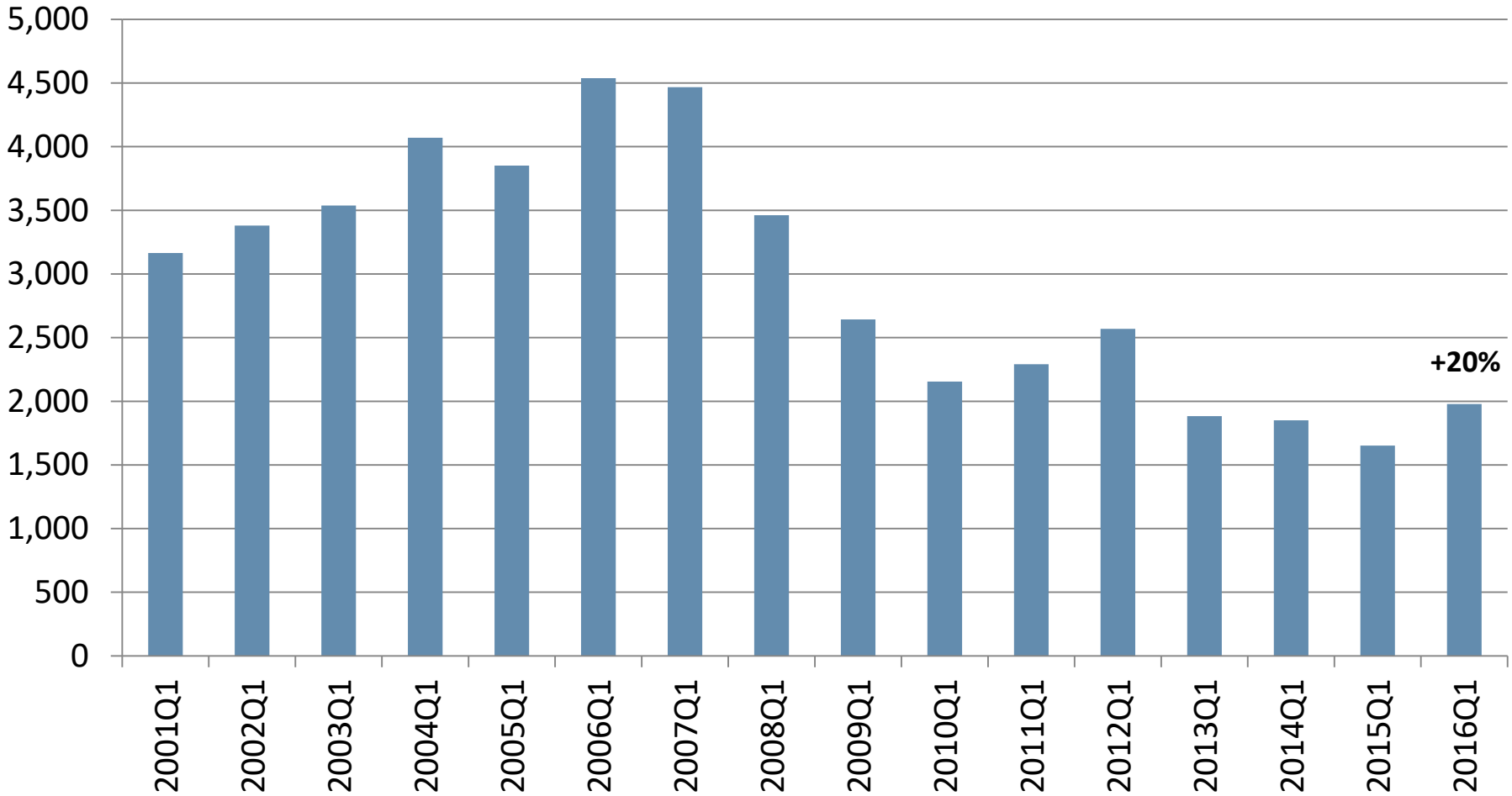


*"Fentanyl" includes fentanyl and fentanyl analogs.

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

Figure 28: Statewide DFS Cocaine Submissions

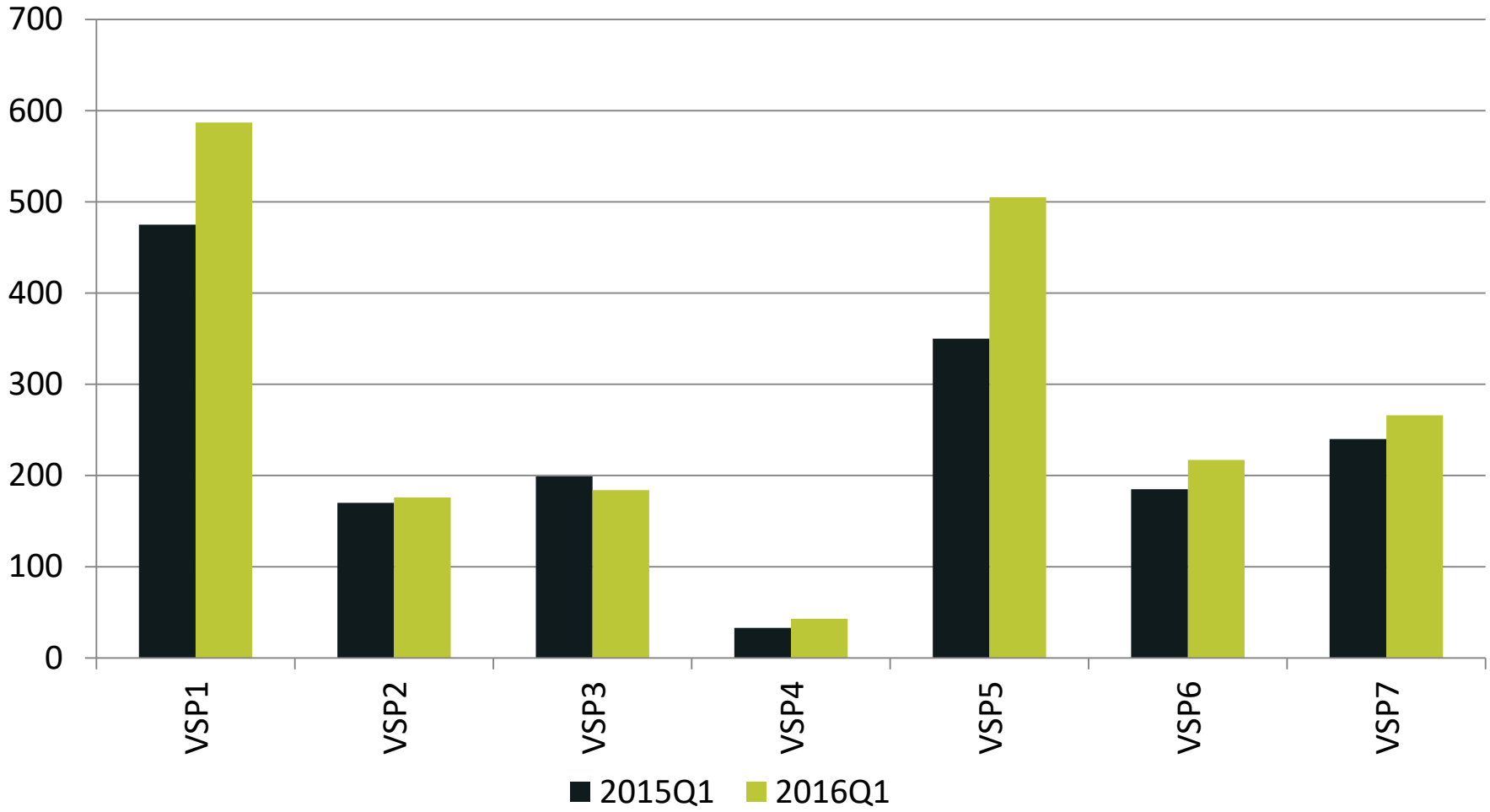
Cases submitted to DFS, First quarter 2001-2016



Data Sources: DFS monthly submission to NFLIS

Figure 29: Regional DFS Cocaine Submissions

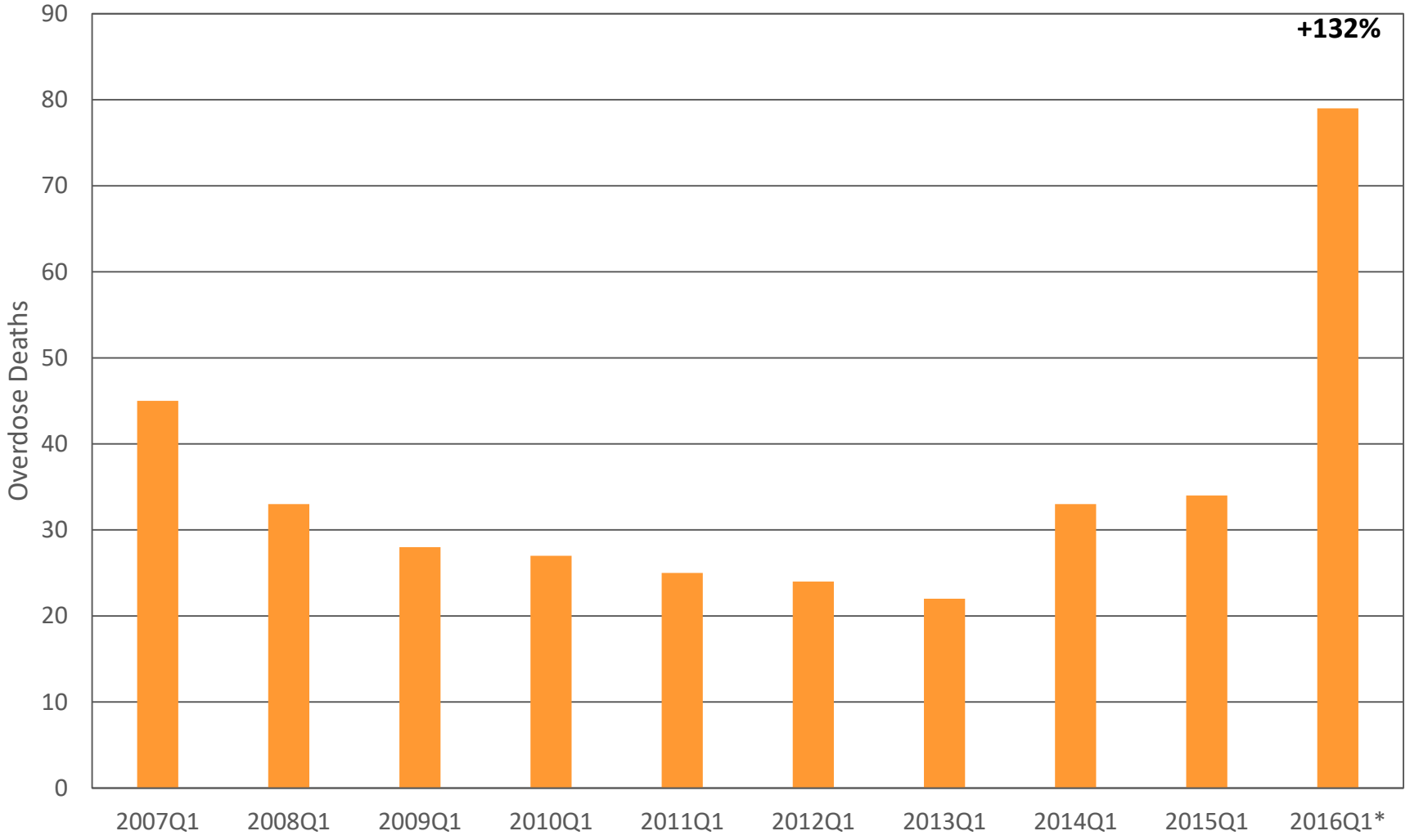
Cases submitted to DFS, First quarter 2015 & 2016



Data Sources: DFS monthly submission to NFLIS

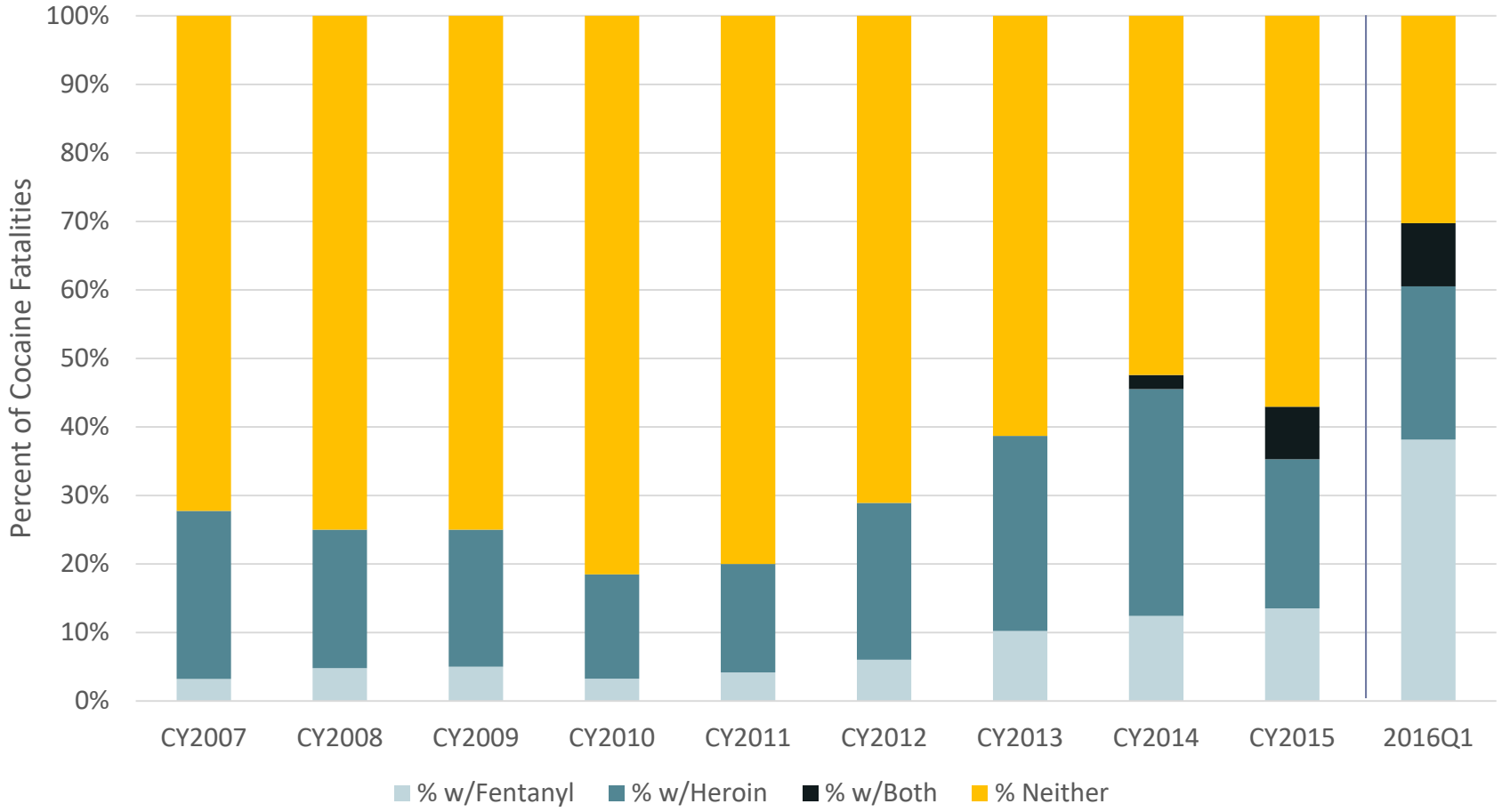
Figure 30: Cocaine Overdose Fatalities

Overdose fatalities, First quarter 2007-2016



Data Sources: OCME Fatal Drug Overdose Quarterly Report (2016 data are preliminary) http://www.vdh.virginia.gov/medical-examiner/forensic-epidemiology/

Figure 31: Cocaine Fatalities Involving Fentanyl & Heroin
CY2007-2015, and 2016Q1

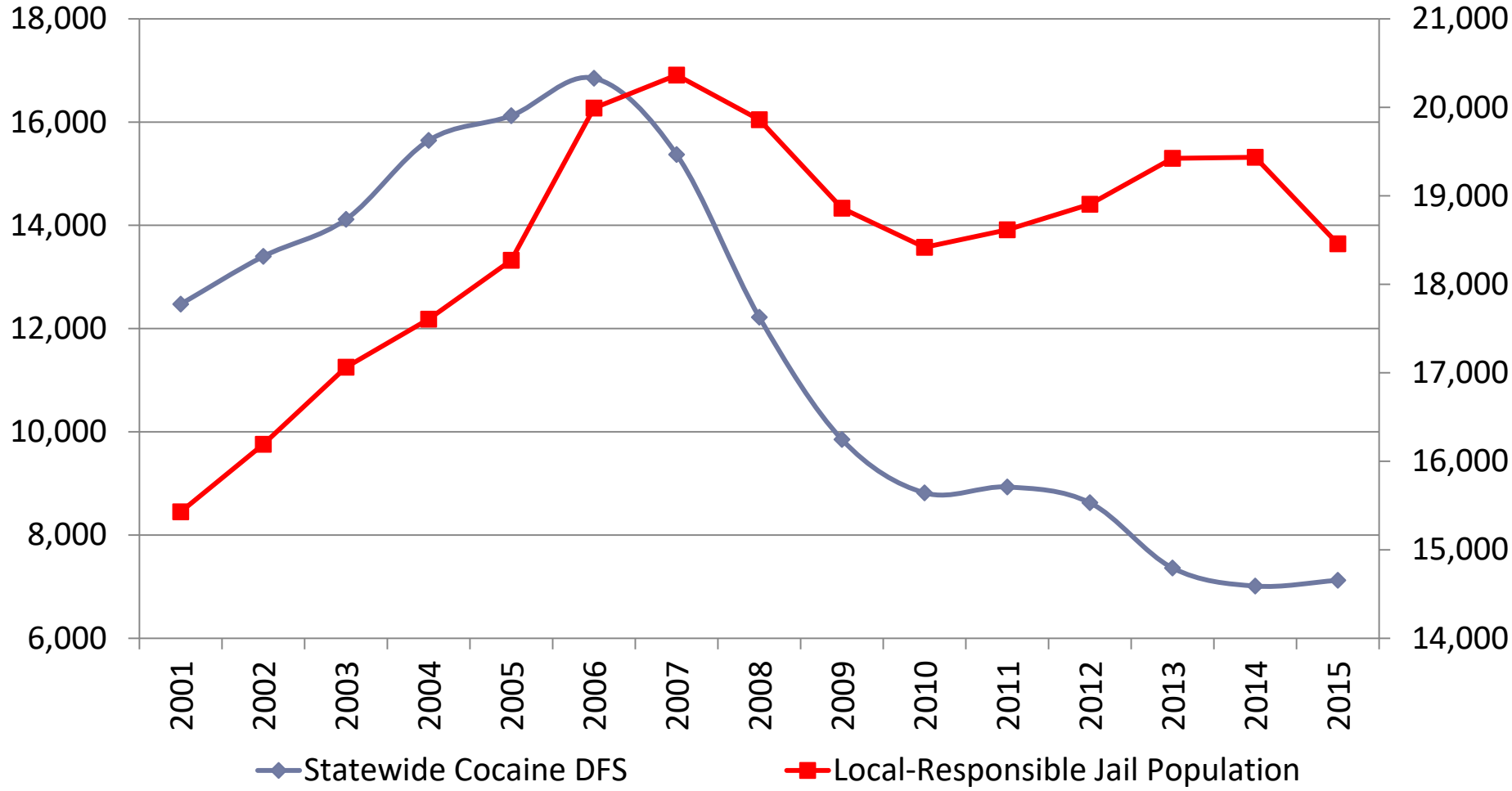


"Fentanyl" includes fentanyl and fentanyl analogs.

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

Figure 32: DFS Cocaine Submissions & the Jail Population

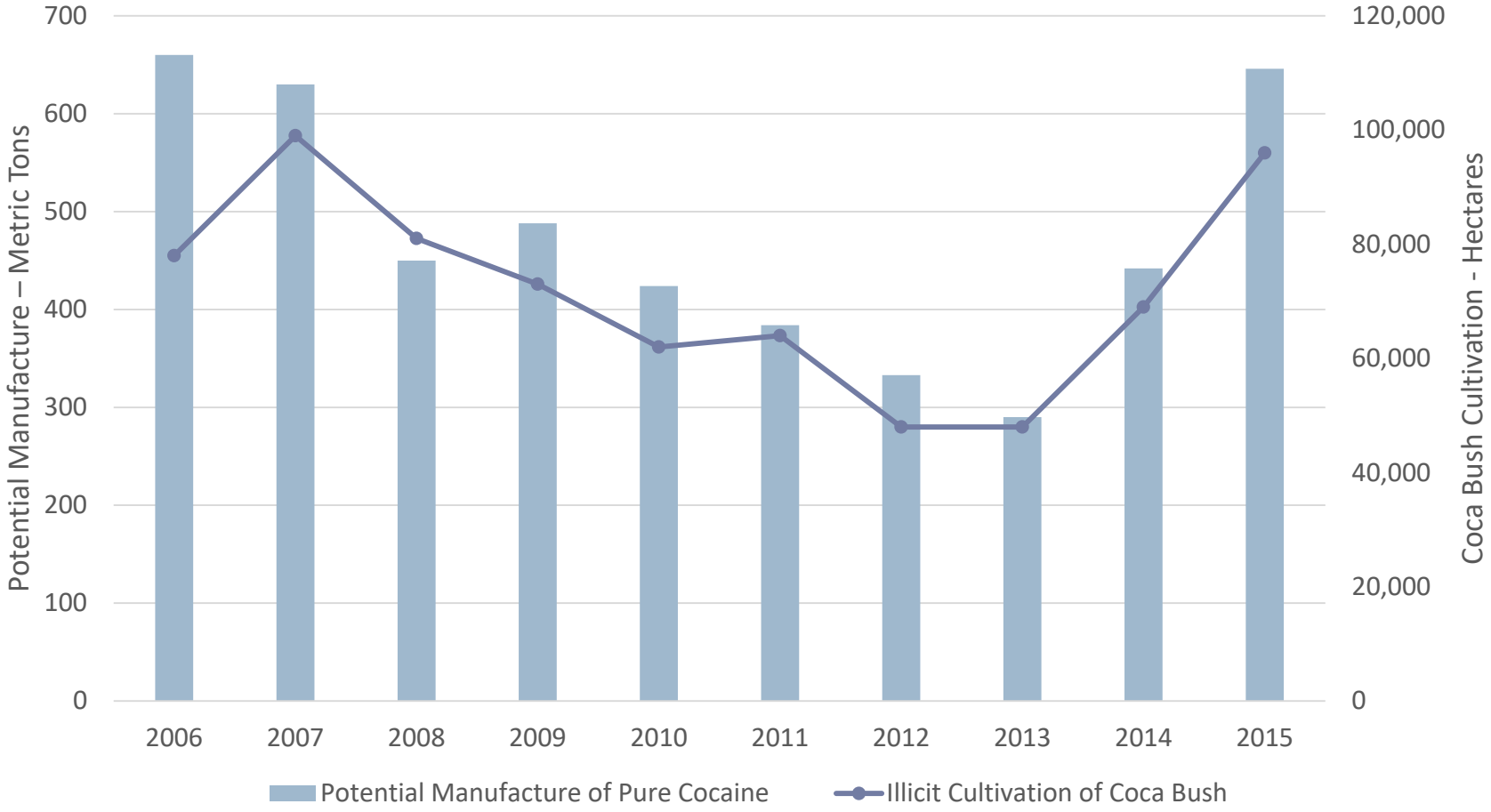
2001-2015



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

Figure 33: Cocaine Production in Colombia

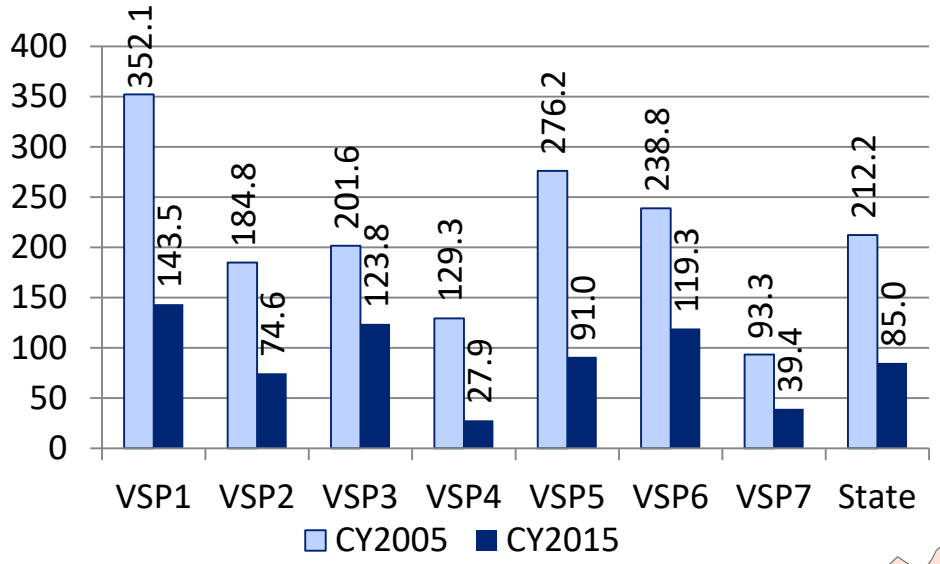
From the United Nations Office on Drugs and Crime

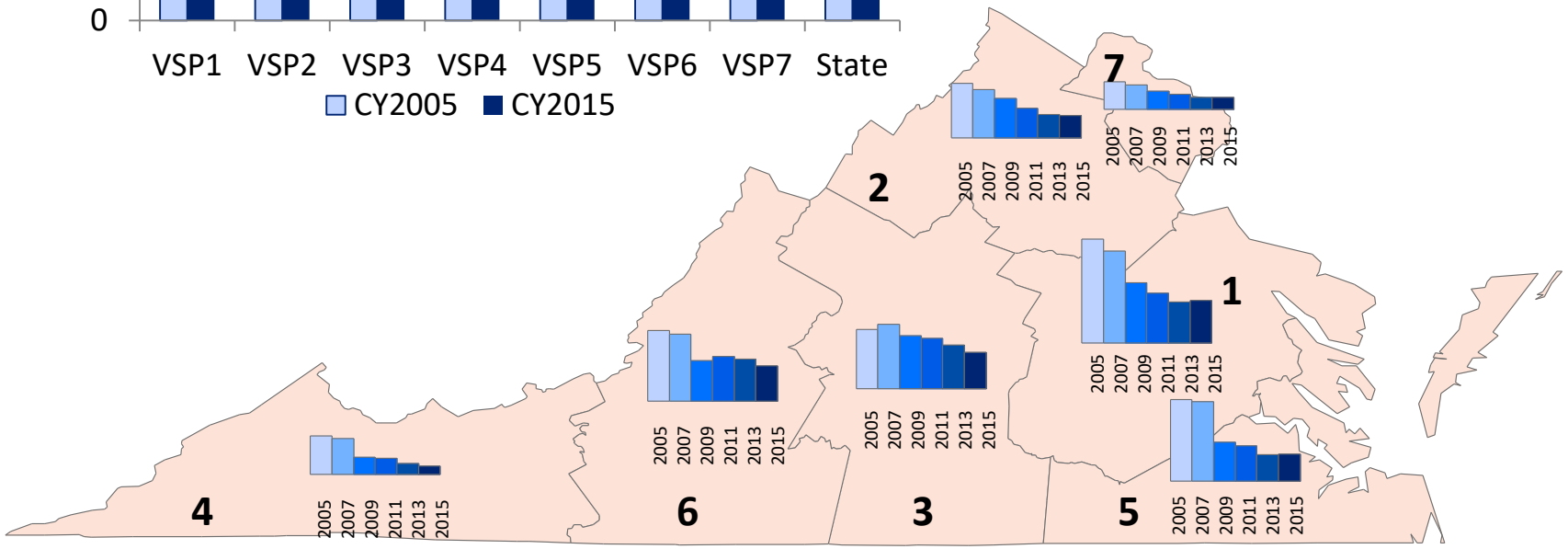


Data Sources: UNODC World Drug Report 2016 (www.unodc.org/wdr2016);, and 2015 Coca Crop Survey (www.unodc.org/documents/crop-monitoring/Colombia/Monitereo_Cultivos_ilicitos_2015.pdf)

Figure 34: Regional Cocaine DFS Submission Rate

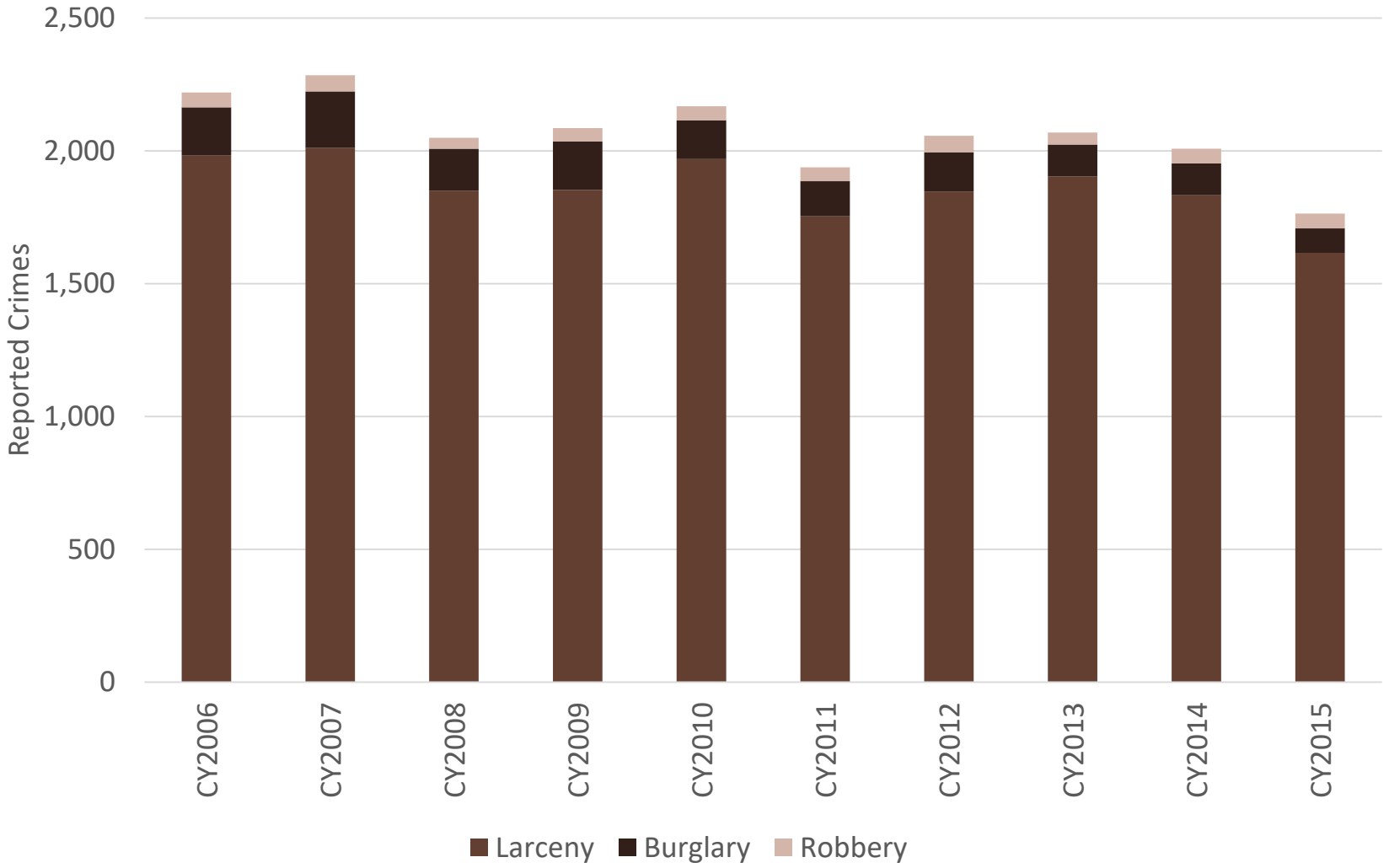
Rate of submissions per 100,000 Population, calendar years 2005-2015





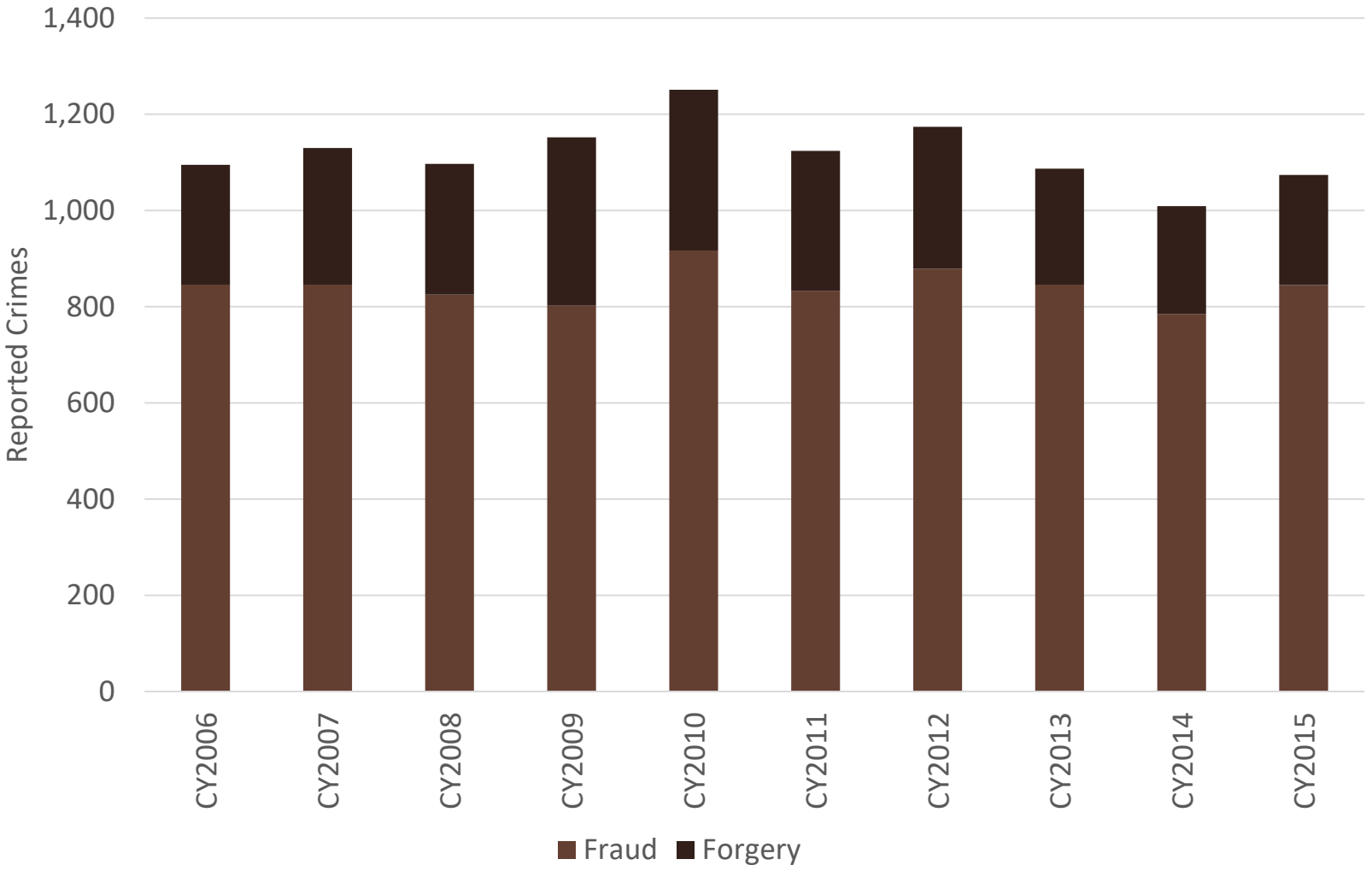
Data Sources: DFS monthly submission to NFLIS

Figure 35: Reported Larcenies, Burglaries, and Robberies from a Drug Store, Doctor's Office, or Hospital, In Virginia



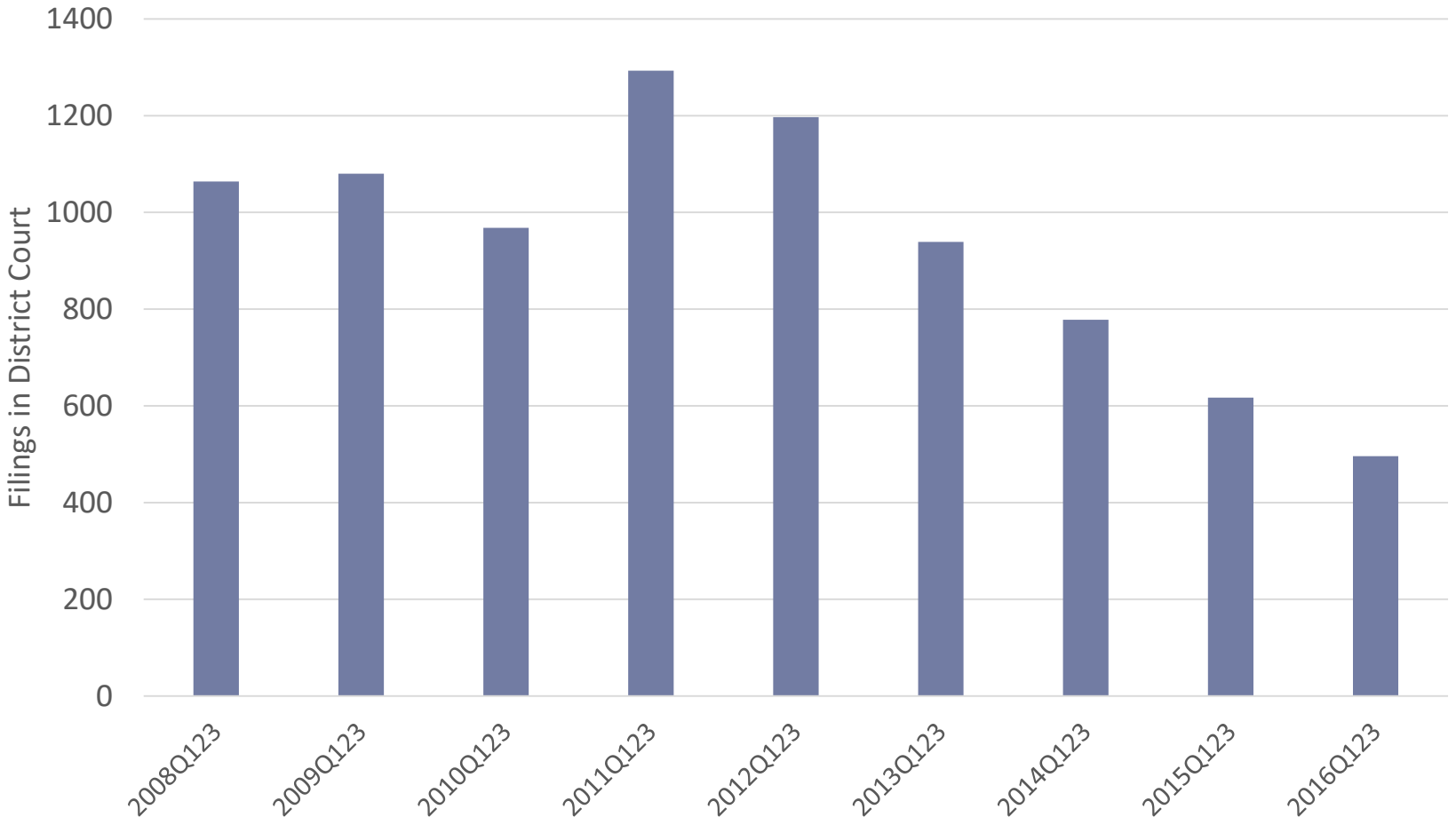
Data Source: VSP *Crime in Virginia* reports. http://www.vsp.state.va.us/Crime_in_Virginia.shtm

Figure 36: Virginia Reported Crimes: Forgery and Fraud Incidents at a Drug Store, Doctor's Office, or Hospital



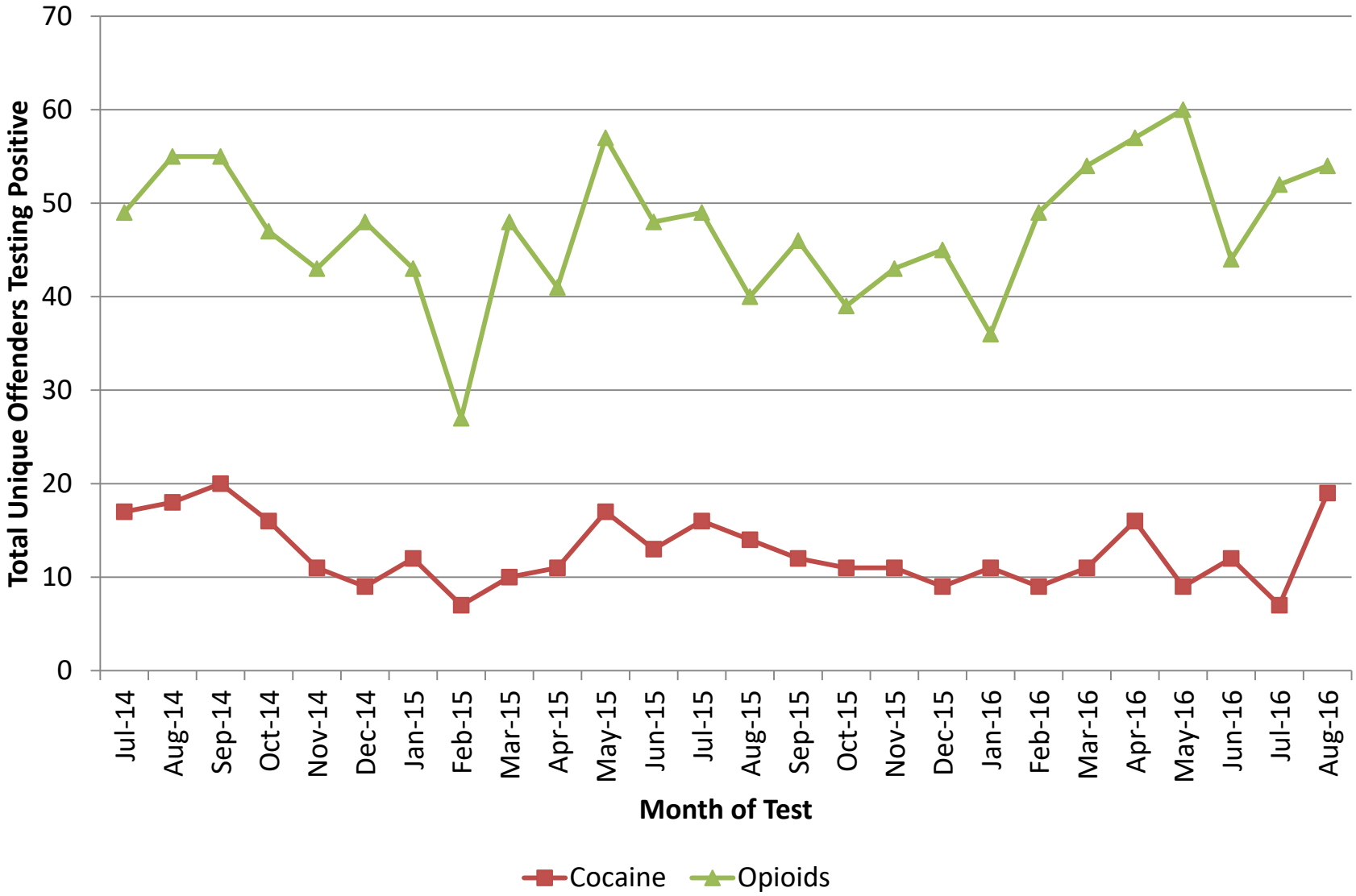
Data Source: VSP *Crime in Virginia* reports. http://www.vsp.state.va.us/Crime_in_Virginia.shtm

Figure 37: Virginia District Court Filings for Prescription Fraud, First Three Quarters of the Year



Data Source: OES response to data request September 2016; "Prescription Fraud" case filings are filings pertaining to 18.2-258.1 of the *Code of Virginia*

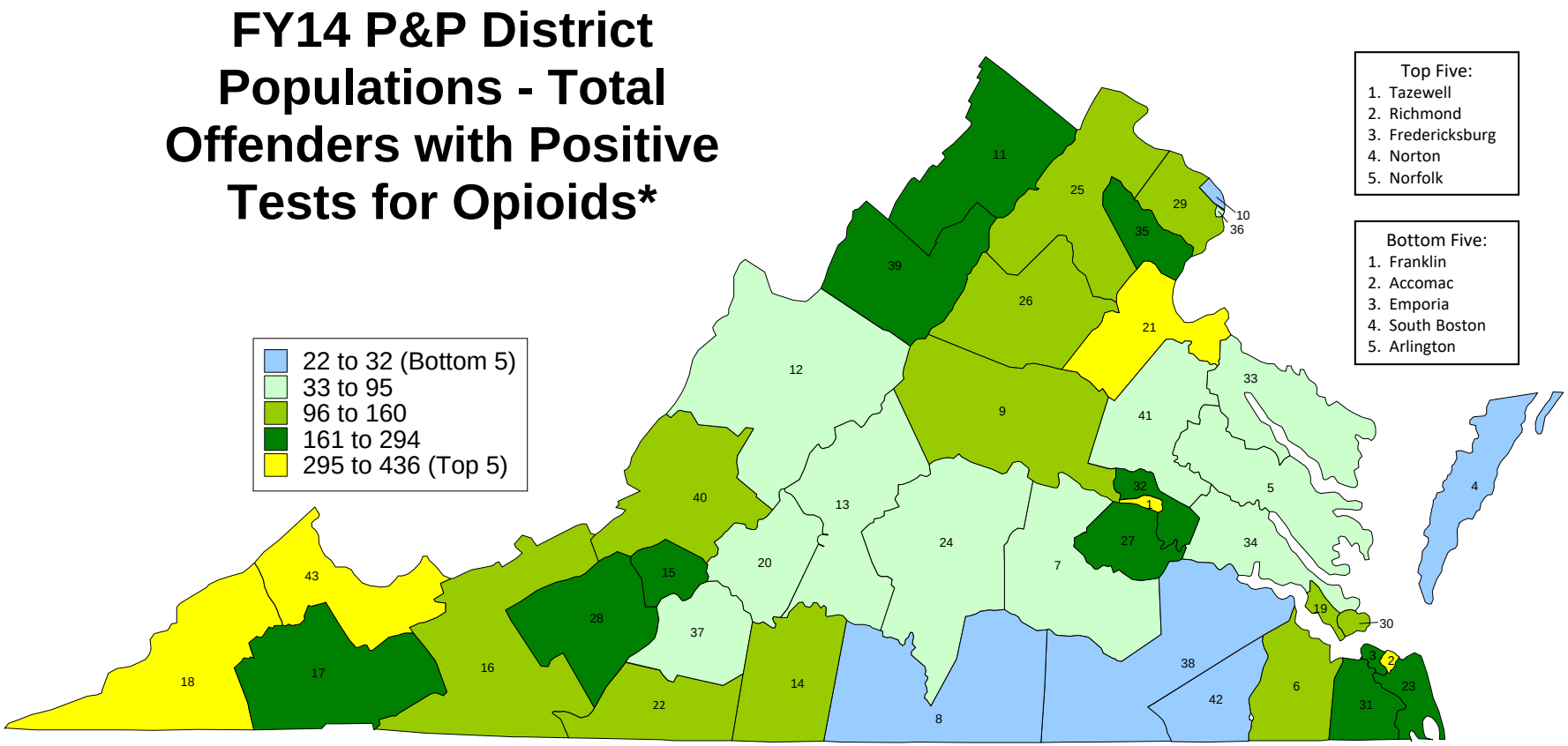
Figure 38: Offenders in P&P Districts Testing Positive for Cocaine or Opioids



Data Source: Department of Corrections

Figure 39: Regional Distribution of Community Corrections Offenders Testing Positive for Opioids

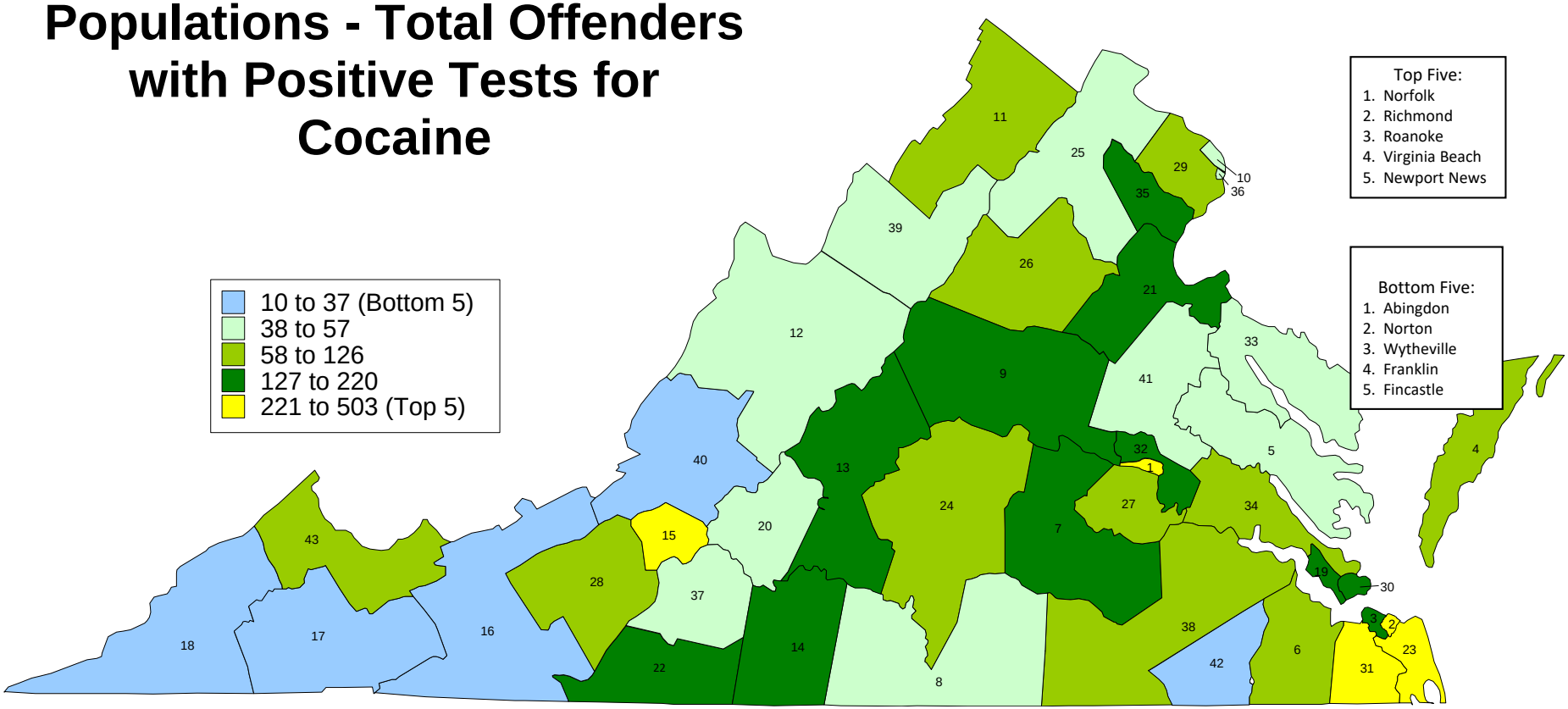
By Probation and Parole District



Data Source: Department of Corrections

Figure 40: Regional Distribution of Community Corrections Offenders Testing Positive for Cocaine

By Probation and Parole District



Data Source: Department of Corrections

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

George E. Banks
Virginia Department of Behavioral Health and Developmental Services

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

Tama Celi
Virginia Department of Corrections

Sterling Deal
Virginia Department of Behavioral Health and Developmental Services

Katya Herndon
Virginia Department of Forensic Science

Captain Steve Lambert
Virginia State Police, Virginia Fusion Center

Alexander Miller
Virginia Department of Corrections

Ralph Orr
Virginia Department of Health Professions, Prescription Monitoring Program

Harry Perry
Virginia State Police, Virginia Fusion Center

Janet Van Cuyk
Virginia Department of Juvenile Justice

Anne Wilmoth
Virginia Compensation Board

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.

Appendix C

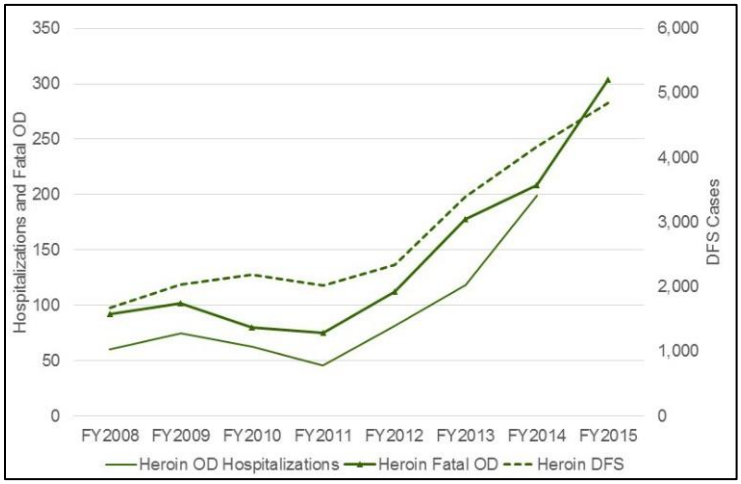
January 2016 Interim Report Summary

The first report of this Committee was delivered on January 16, 2016. That report is summarized here.

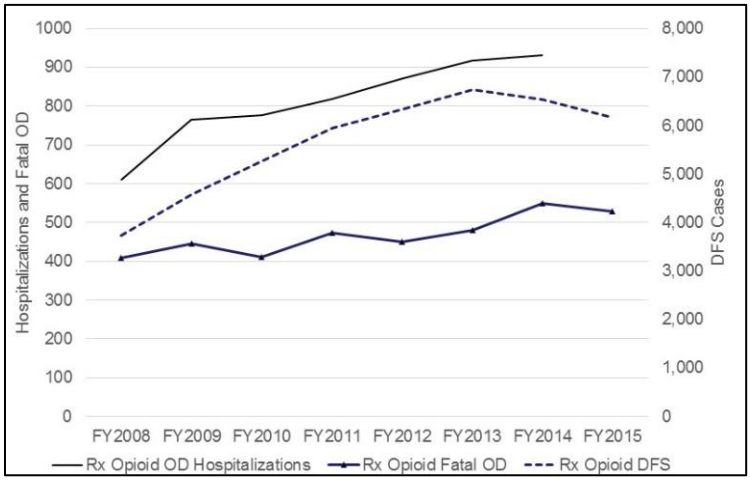
- Prescription opioids are responsible for the largest number of overdose deaths, but heroin overdose deaths are increasing at a faster rate than prescription opioids.
- Crimes that might be associated with prescription opioid abuse, such as prescription fraud and larceny from a drug store, have leveled off or dropped in recent years.
- Hospitalizations for prescription opioid overdose outnumber the fatalities for those drugs almost 2:1. Hospitalizations for heroin overdose are slightly *below* the number of heroin overdose fatalities.
- For heroin, criminal justice data trends (arrests, DFS cases) are clearly in line with health data trends (fatal overdoses, hospitalizations). For prescription opioids, there is less similarity between criminal justice and health trends.
- For prescription opioids, the rate of fatal overdoses is highest in Southwest Virginia.
- Heroin is rising across the state, but is at higher levels in Central Virginia and the Shenandoah Valley area.

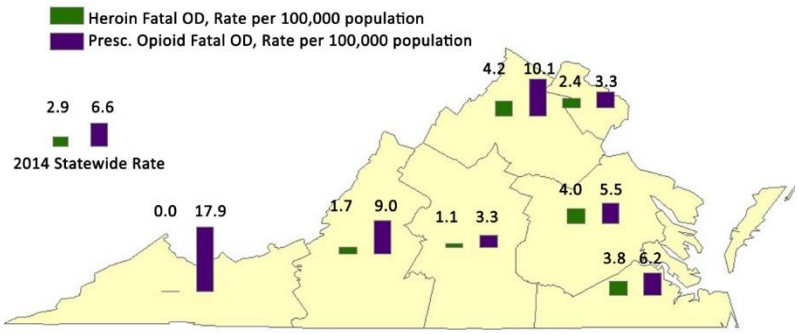
Hospital Discharges& Fatal Overdoses (Left Axis) and Cases Submitted to DFS (Right Axis)

Virginia Heroin Data



Virginia Prescription Opioid Data





Appendix D

Other Regional Data

Figure A1: Prescription Opioid Overdose Fatality Rate per 100,000 population, by Virginia Health District, 2010 & 2015

- Excludes all cases in which fentanyl was present, even if a prescription opioid was also present.
- The Cumberland Plateau and the Lenowisco districts had the highest prescription opioid fatality rates in 2010 (30.7 and 21.2, respectively).
- By 2015, rate for Cumberland Plateau dropped 23%, but was still the highest rate (23.6) The second highest rate in 2015 was in the Mount Rogers district, 9.4.

Figure A2: Fentanyl* Overdose Fatality Rate per 100,000 population, by Virginia Health District, 2010 & 2015

- In 2010, when almost all fentanyl cases would have been the prescription form of the drug, the highest fatality rate was in the Cumberland Plateau district (4.4).
- In 2015, when almost all fentanyl cases would have been the illicit form of the drug, the highest fatality rates were in Roanoke district (10.0), Portsmouth district (9.3), and Norfolk district (9.3).

Figure A3: Heroin Overdose Fatality Rate per 100,000 population, by Virginia Health District, 2010 & 2015

- In 2010, the highest fatality rates were in the districts of Portsmouth (3.1), Richmond (2.4), and Norfolk (2.1).
- In 2015, the highest rates were in the districts of Richmond (17.4), Lord Fairfax (8.7), and Henrico (8.4).
- In 2015, 18 of the 35 districts had a heroin fatality rate above the highest heroin fatality rate in 2010.

Figure A4: Cocaine Overdose Fatality Rate per 100,000 population, by Virginia Health District, 2010 & 2015

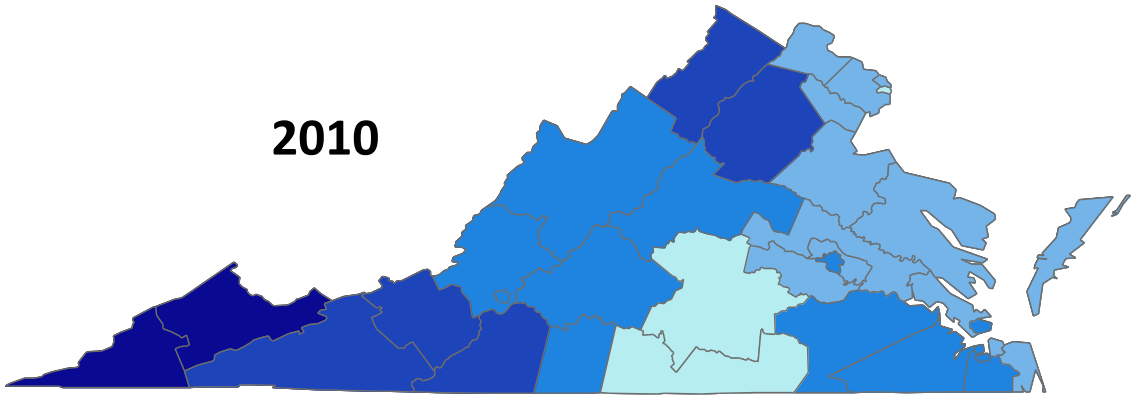
- In 2010, the three districts with the highest cocaine overdose fatality rates were Portsmouth (7.3), Roanoke (3.1), and Hampton (2.9).
- In 2015, the three districts with the highest cocaine overdose fatality rates were Roanoke (9.0), Richmond (5.5), and Portsmouth (6.2).

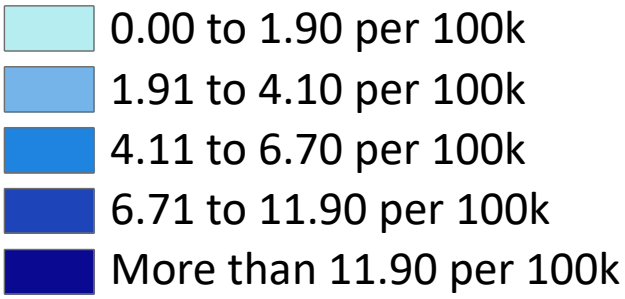
Figure A5: Opioid Prescriptions Dispensed per Person, by Virginia Health Planning District (HPD), 2015

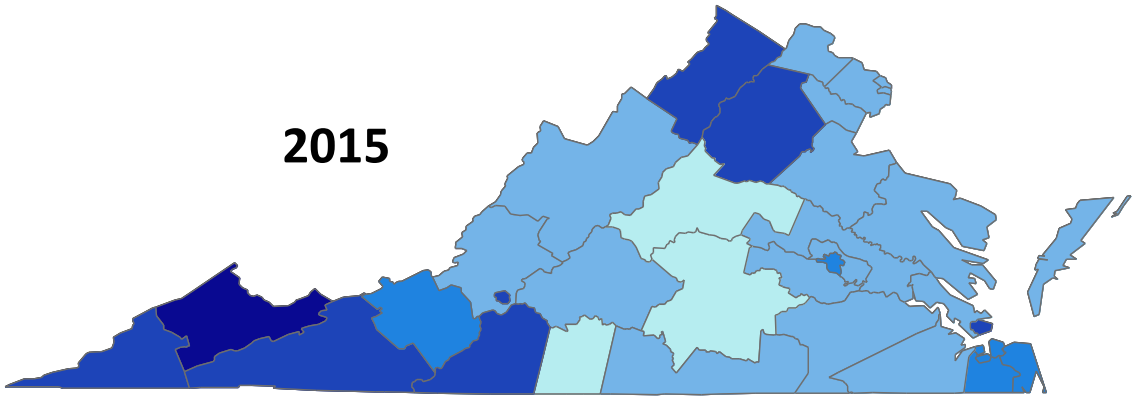
- In 2015, 0.8 opioid prescriptions were dispensed for each person in Virginia
- The highest rates were in Southwest Virginia, with 2.4 dispensed per person in HPD1 (Lenowisco), and 2.0 dispensed per person in HPD2 (Cumberland Plateau).
- The lowest rate was in HPD8 (Northern Virginia), 0.4 opioid prescriptions dispensed per person.

Figure A1: Prescription Opioid* Overdose Fatality Rate

Per 100,000 Population Virginia Health Districts, 2010 & 2015





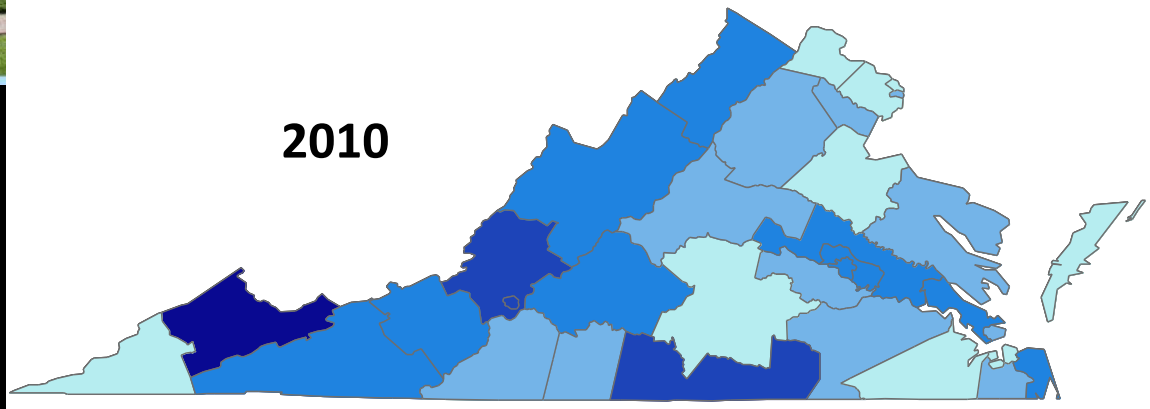


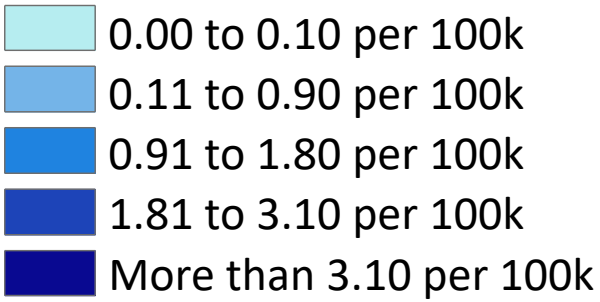
*Excludes ALL cases that involve fentanyl or fentanyl analogs, even if another prescription opioid is also involved in the fatality.

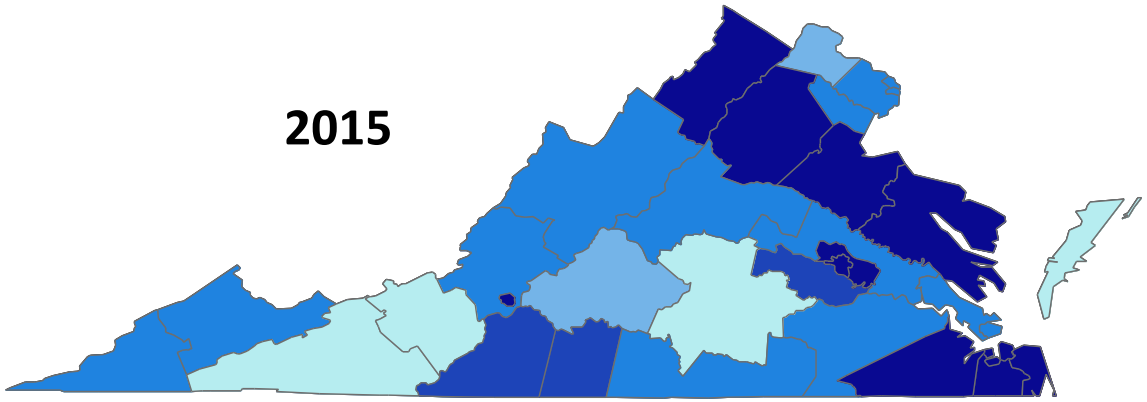
Data Sources: OCME Fatal Drug Overdose Quarterly Report http://www.vdh.virginia.gov/medical-examiner/forensic-epidemiology/

Figure A2: Fentanyl* Overdose Fatality Rate

Per 100,000 Population Virginia Health Districts, 2010 & 2015





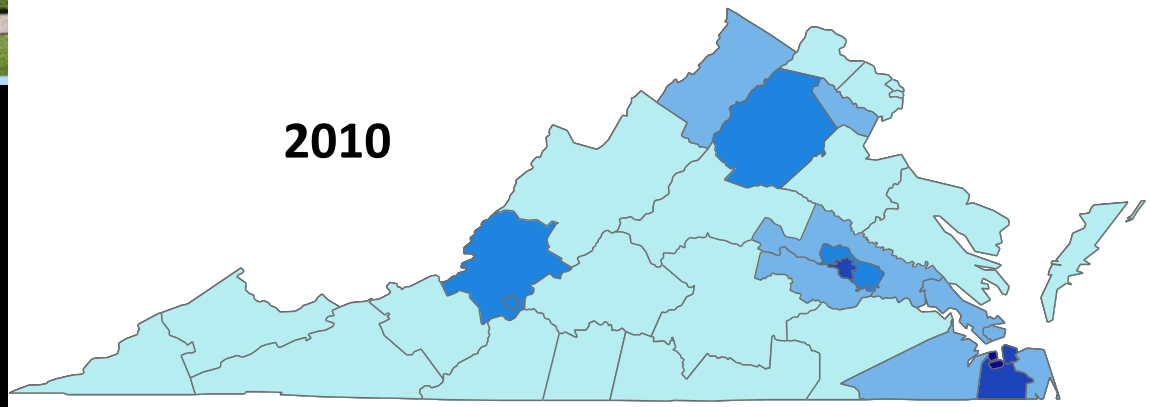


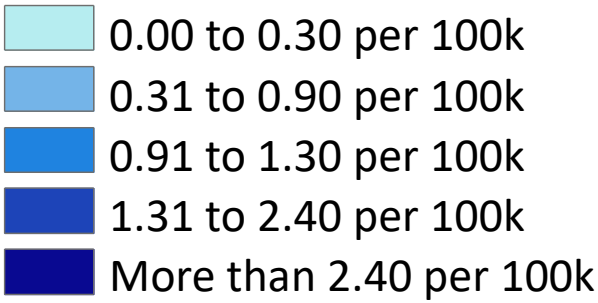
*"Fentanyl" includes fentanyl and fentanyl analogs.

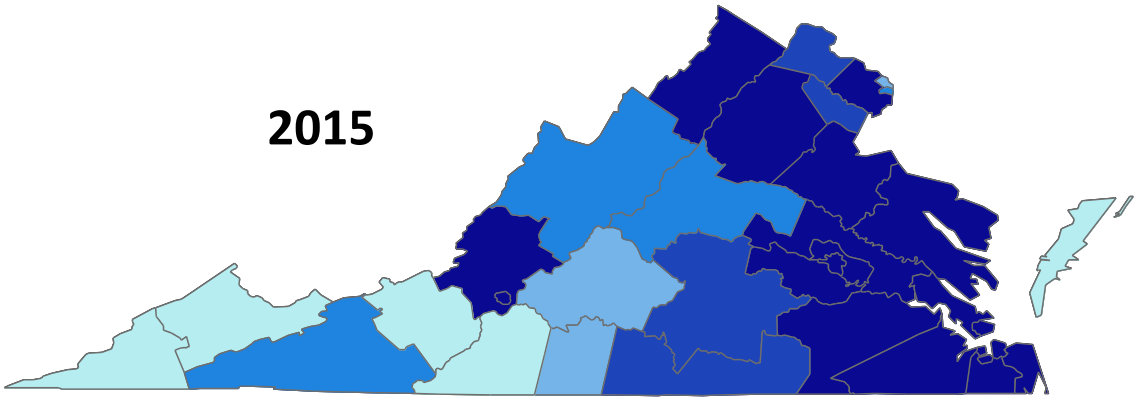
Data Sources: OCME Fatal Drug Overdose Quarterly Report, supplemental spreadsheets (www.vdh.virginia.gov/medical-examiner/forensic-epidemiology)

Figure A3: Heroin Overdose Fatality Rate

Per 100,000 Population Virginia Health Districts, 2010 & 2015



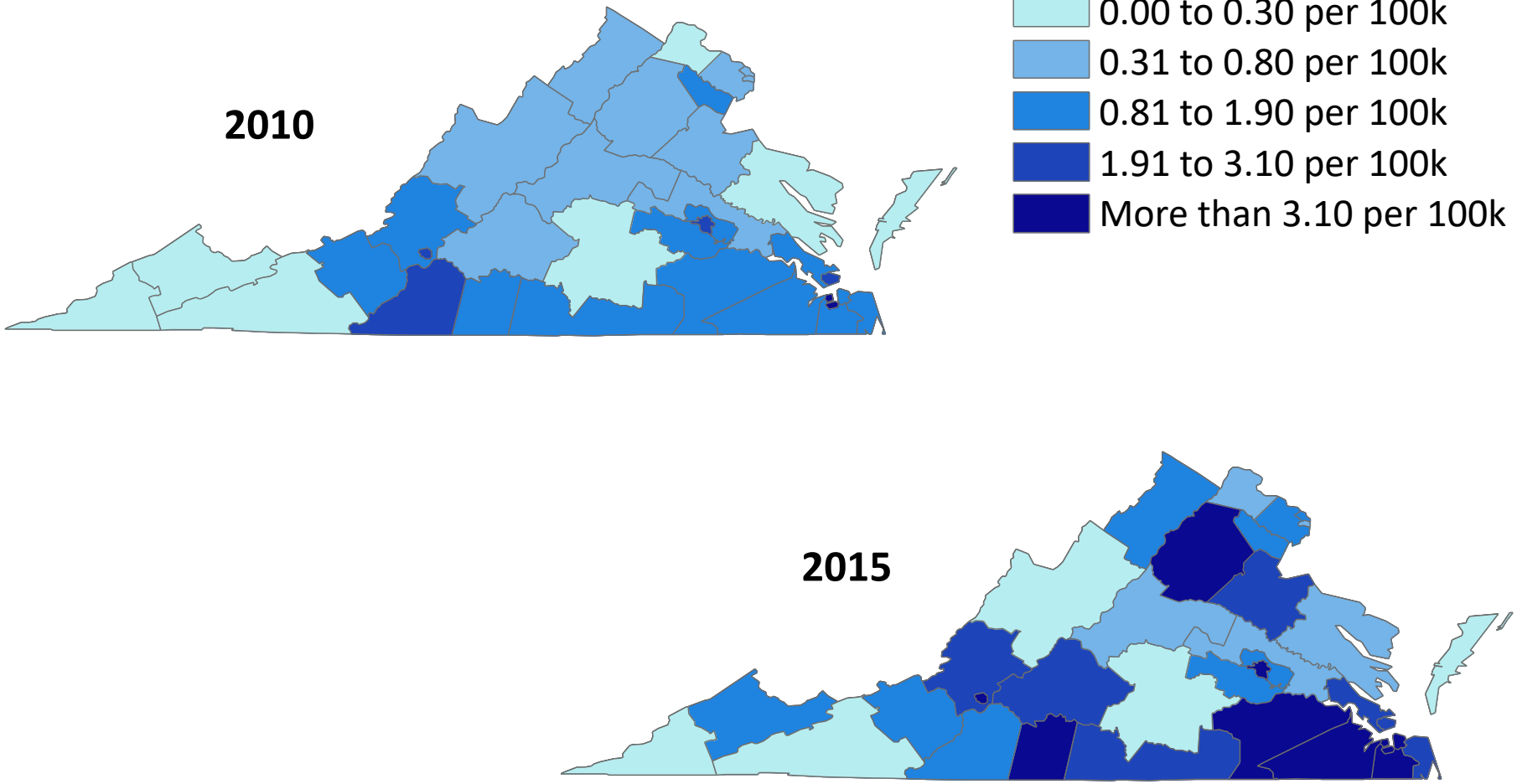




Data Sources: OCME Fatal Drug Overdose Quarterly Report, supplemental spreadsheets (www.vdh.virginia.gov/medical-examiner/forensic-epidemiology)

Figure A4: Cocaine Overdose Fatality Rate

Per 100,000 Population Virginia Health Districts, 2010 & 2015



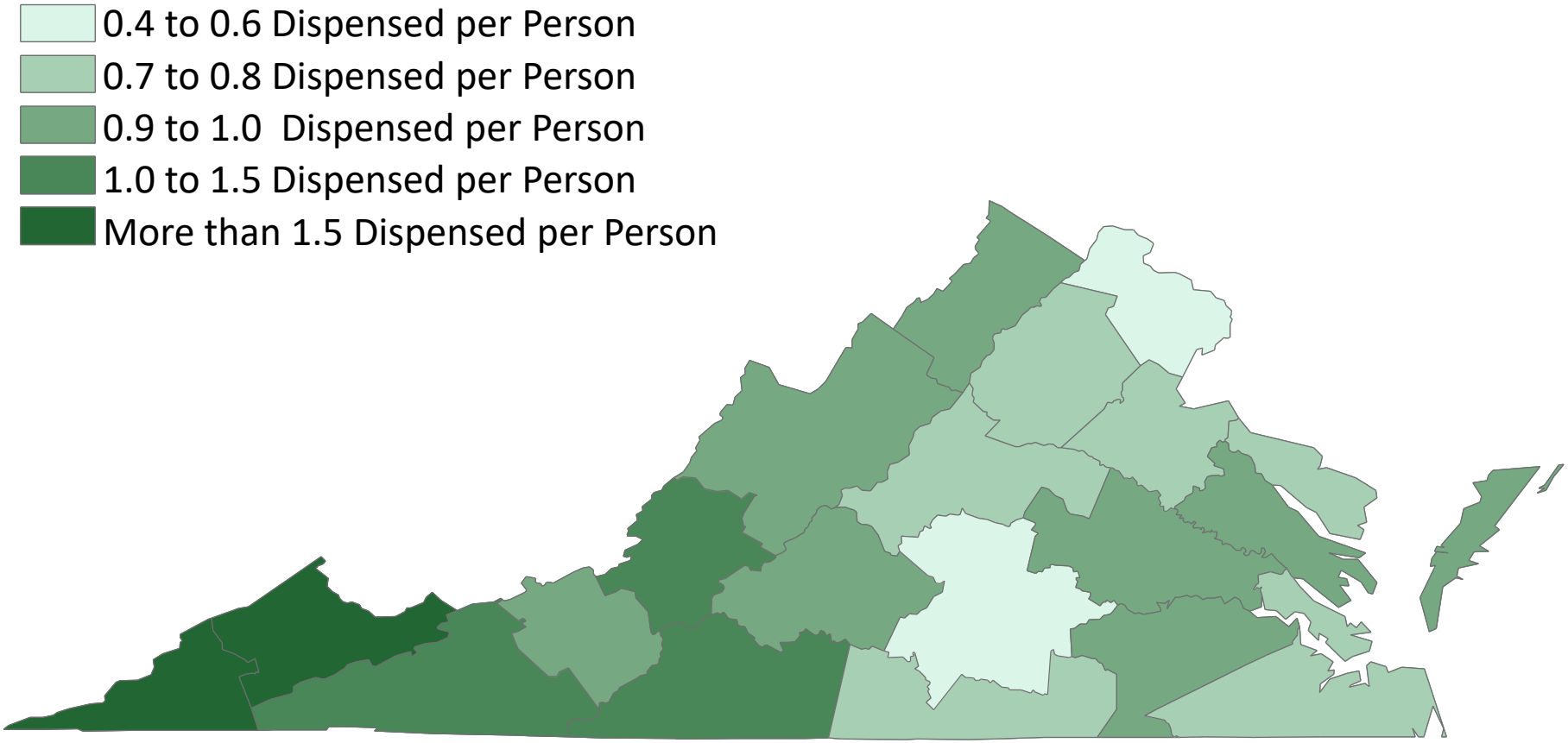
*"Fentanyl" includes fentanyl and fentanyl analogs.

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

Figure A5: Opioid Prescriptions Dispensed per Person

Virginia Health Planning Districts 2015

One person may receive multiple prescriptions



Data Sources: Visual Research, Inc. report. That report used the Virginia Prescription Monitoring Program database as its source.