

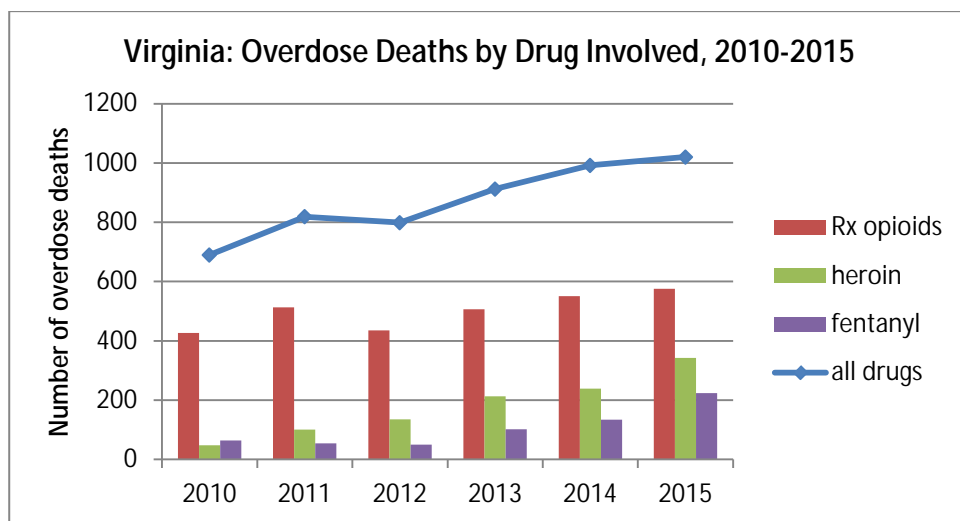


PBSS Data Brief

Overdose Deaths and Prescription Risk Measures in Virginia, 2010-2015

Summary: Drug overdose deaths in Virginia increased during 2010 to 2015, driven in part by a rise in heroin and fentanyl-related overdoses, but with prescription opioids still playing the largest role in opioid-related deaths overall (Figure 1). Analyses of opioid prescribing indicators associated with risk of opioid use disorders were conducted using Virginia PDMP data reported to the Prescription Behavior Surveillance System (PBSS). Since 2010, the average daily dose of opioids to Virginians has declined, as has the percentage of patients receiving over 100 morphine milligram equivalents (MMEs) of opioids daily (Figure 2). However, the percentage of those prescribed long-acting or extended-release opioids who were "opioid naive" (had not been dispensed opioids in the past 60 days) has ranged between 34 and 41 percent between 2010 and 2015, and such prescriptions averaged 113 MMEs in 2015 (Figure 3). Overlapping opioid prescriptions and overlapping benzodiazepines prescriptions declined somewhat from 2012 to 2015, but those for overlapping stimulants and overlapping opioid/benzodiazepine prescriptions remained level (Figure 4). As in previous years, prescription rates for opioids in 2015 were sharply higher for older age groups (Figure 5). These data suggest that although progress has been made toward safer controlled substance prescribing in Virginia, more remains to be done to reduce opioid and benzodiazepine exposure, especially among older adults. Steps toward safer prescribing include increasing PDMP utilization; providing prescriber feedback reports; and use of data analytics, including prescription risk measures, to inform education of prescribers and dispensers.

Figure 1. Overdose deaths in Virginia from all drugs, licit and illicit (blue line), have increased since 2010, with an increasing proportion involving heroin and fentanyl (most fentanyl found in overdose decedents is believed to be of illicit manufacture, thus non-prescription). Prescription opioids remain the most common category of opioids involved in overdose deaths.



Source: Virginia Dept. of Health, Office of the Chief Medical Examiner.

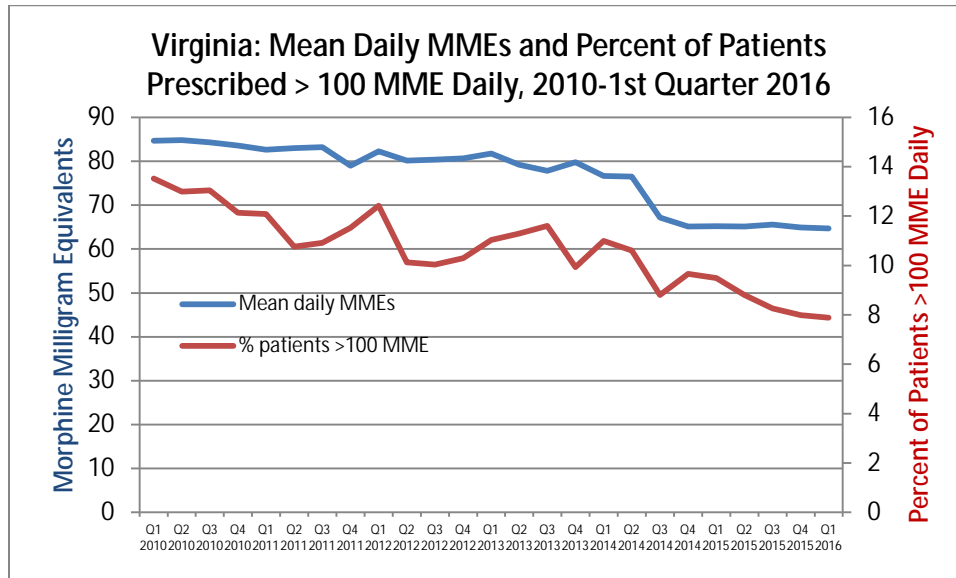
Virginia's PDMP

Virginia's Prescription Drug Monitoring Program, housed in the Virginia Department of Health Professions, is one of 12 PDMPs currently participating in PBSS. For further information, please visit [http://www.dhp.virginia.gov/dhp\\_programs/pmp/default.asp](http://www.dhp.virginia.gov/dhp_programs/pmp/default.asp).

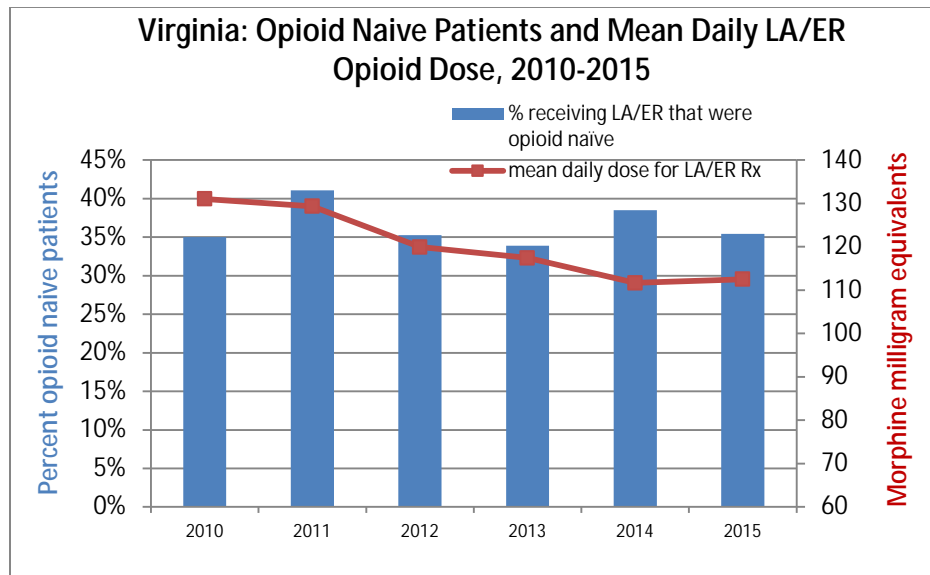
About PBSS

The Prescription Behavior Surveillance System (PBSS) provides epidemiological analyses of de-identified data from state prescription drug monitoring programs to help target and evaluate interventions aimed at reducing prescription drug abuse and diversion. See the PBSS webpage at <http://www.pdmpassist.org/content/pbss>.

**Figure 2.** The mean daily dosage of opioids in morphine milligram equivalents (MMEs)<sup>3</sup> declined in Virginia between 2010 (84.7 MME) and the first quarter of 2016 (64.7 MME), as did the percentage of patients receiving over 100 MME daily, from 13.5% to 7.9%. Being prescribed over 100 MME daily is considered a risk factor for opioid overdose and death.<sup>4</sup>

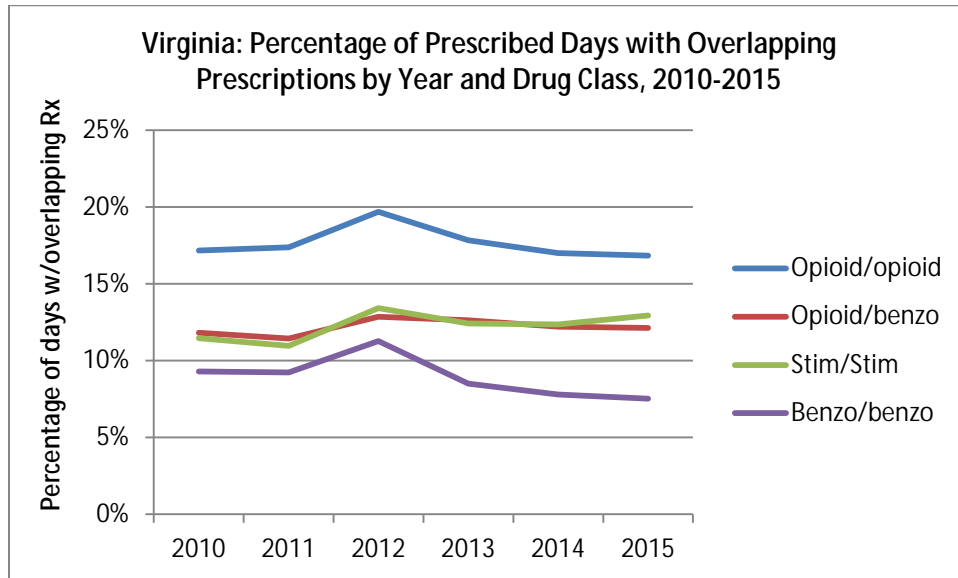


**Figure 3.** Of patients in Virginia that were prescribed long acting (LA) or extended release (ER) opioids from 2010-2015, between 34% (2013) and 41% (2011) were “opioid naive” (had not been prescribed opioids in the prior 60 days) (blue bars). The daily dose in morphine milligram equivalents (MMEs) for LA/ER prescriptions (red line) declined from 131 MMEs in 2010 to 113 MMEs in 2015.<sup>5</sup>

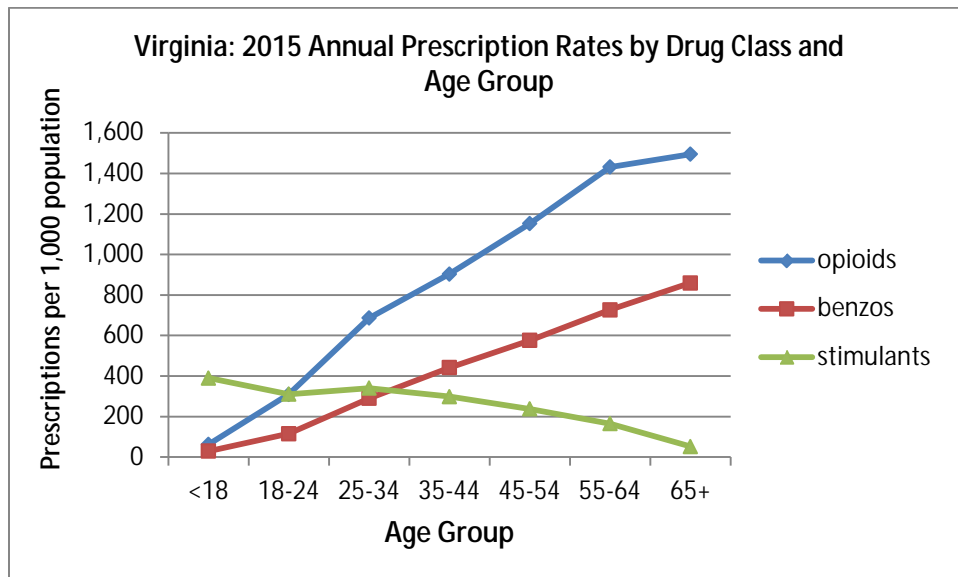


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**Figure 4.** After increasing from 2010 to 2012, the percent of prescribed days with overlapping opioid prescriptions (blue line) and overlapping benzodiazepine prescriptions (purple line) decreased from 2012 to 2015. However, overlapping prescriptions for opioids and benzodiazepines (red line) and for stimulants (green line) remained nearly level after 2012.<sup>6</sup>



**Figure 5.** Prescription rates for opioids in Virginia in 2015 increased sharply by age group, with those 65 and over receiving 1,495 opioid prescriptions per 1,000 population, over twice the rate for those aged 25 to 34 (687 per 1,000). Rates for benzodiazepines exhibited the same pattern, but at lower level, while rates for stimulants were highest for those younger than 18 and declined steadily for adults in older age groups.<sup>7</sup>



*This Data Brief is a joint publication of PBSS, Brandeis University and the Virginia PDMP. It can be accessed online at <http://www.pdmpassist.org/content/pbss>.*

## Endnotes

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<sup>1</sup> See the CDC fact sheet on fentanyl overdoses at <http://www.cdc.gov/drugoverdose/opioids/fentanyl.html>, and the fact sheet on heroin overdoses at <http://www.cdc.gov/drugoverdose/opioids/heroin.html>.

<sup>2</sup> Virginia Dept. of Health, Office of the Chief Medical Examiner, Fatal Drug Overdose Quarterly Report, 1<sup>st</sup> Quarter, 2016.

<sup>3</sup> 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). For definitions of PBSS measures, see <http://www.pdmpexcellence.org/sites/all/pdfs/Definitions%20of%20PBSS%20Measures.pdf>.

<sup>4</sup> Kate M. Dunn et al., "Opioid Prescriptions for Chronic Pain and Overdose," *Annals of Internal Medicine*, 152, no. 2, (2010):85-92, doi:10.7326/0003-4819-152-2-201001190-00006. <http://www.ncbi.nlm.nih.gov/pubmed/20083827>; Gwira Baumblatt et al., "High-risk use by patients prescribed opioids for pain and its role in overdose deaths," *JAMA Internal Medicine*, 174, no. 5 (2014):796-801 doi:10.1001/jamainternmed.2013.12711.

<sup>5</sup> Being prescribed over 100 MME daily is considered a risk factor for opioid overdose and death; see note 4 above.

<sup>6</sup> Percentage of overlapping prescriptions is calculated as the number of days with more than one prescription in the same drug class (or opioid and benzodiazepine classes) divided by the total number of prescription days for that drug class (or opioid class for opioid – benzodiazepine combinations). Please see PBSS website for additional methodological details. Overlapping prescriptions are a risk factor for overdose and death, see Yang, Z. et al., Defining risk of prescription opioid overdose: pharmacy shopping and overlapping prescriptions among long-term opioid users in Medicaid, *J Pain*. 2015 May;16(5):445-53. doi: 10.1016/j.jpain.2015.01.475. Epub 2015 Feb 11.

<sup>7</sup> See Walsh, N., "Opioids Pose Hazards in the Elderly," *MedPage Today*, <http://www.medpagetoday.com/geriatrics/painmanagement/23888>.