

Controlled Substance Prescribing by County in West Virginia, 2017: Patient Data

Executive Summary

West Virginia continues to lead the nation in the opioid epidemic. The West Virginia Board of Pharmacy (BOP), in collaboration with the West Virginia Department of Health and Human Resources (WV DHHR), Office of Maternal, Child and Family Health (OMCFH), Violence and Injury Prevention Program (WV VIPP), has conducted surveillance using data generated by the Controlled Substance Monitoring Program (CSMP). The CSMP, which is the state's Prescription Drug Monitoring Program (PDMP), collects data on all controlled substances dispensed in West Virginia.

Despite being at the forefront of the opioid epidemic, West Virginia has made significant strides to reduce this burden through public health surveillance. WV VIPP received Centers for Disease Control and Prevention (CDC) funding through the Prescription Drug Overdose-Prevention for States (PDO-PfS) cooperative agreement in 2014. A strategy under this grant is to enhance and maximize the CSMP, and CDC provided specific indicators to measure opioid prescribing behaviors. The BOP and WV VIPP were interested in modifying these indicators to establish state-specific measures. The process for selecting these modified indicators recently began and will continue to be monitored and updated frequently. The results of this analysis were obtained using 2017 CSMP data. To align with the CDC specific indicators, drugs that contain buprenorphine were not included. This document contains a description of the modified indicators and a justification for that modification.

Map Descriptions

Maps 1-2: Rate of opioid doses per 1,000 state residents and average day supply per county

This indicator was modified to evaluate the actual number of doses, or pills, that were distributed. This information is presented as a rate per 1,000 population. It is important to look at the number of prescriptions being written, as the original indicator measures. However, there is a recent push to write for fewer doses on each prescription, which could lead to an increase in the number of total prescriptions written. Therefore, it is prudent to consider the total number of doses being dispensed to get a more accurate measure of opioid prescribing practices.

Furthermore, the WV VIPP and BOP were interested in looking at the average day supply of opioids related to this indicator. We sought to understand whether there was a correlation between the number of doses being prescribed and the average day supply. In early 2018, the West Virginia Legislature passed Senate Bill 273 (SB 273), which limits the total number of days for which a prescription for an opioid can be written. Looking at the average day supply will help the WV VIPP and BOP to determine if SB 273 has an impact.

Map 3: Percent of patients receiving more than an average daily dose of 50 morphine milligram equivalents (MME)

This indicator was modified to present another measure of MME. The CDC recommends a dose <50 MME/day and no more than 90 MME/day. The odds of overdose increase from 1.9 to 4.6 when going from 50 to <100 MME/day.¹ It is important to assess this modified indicator to obtain an accurate picture of what counties are at increased risk of overdose.

¹ Dowell D, Haegerich TM, Chou R. CDC Guideline for Prescribing Opioids for Chronic Pain—United States, 2016. MMWR Recomm Rep 2016; 65:1-46 DOI: <http://dx.doi.org/10.15585/mmwr.rr6501e1>

Maps 4-5: Rate of multiple provider episodes for prescription opioids per 100,000 residents and with 3+ prescribers and with 4+ pharmacies

The BOP has provided unsolicited reporting of patients with 8 or more prescribers and 5 or more pharmacies within a 6-month period for the past few years and was interested in comparing this to the CDC guidelines which is 5 or more prescribers and 5 or more pharmacies within a 6-month period. In December 2016, the WV DHHR, in collaboration with the BOP, produced a report of the 2016 overdose deaths. It was found that the decedents were 3 times more likely to have seen 3 or more prescribers and 70 times more likely to have used 4 or more pharmacies. WV VIPP and BOP were interested in evaluating this measure for the overall CSMP population.

Map 6: Percent of patients prescribed long-acting/extended release opioid prescriptions among opioid-naïve patients

The CDC recommends the initial opioid prescription be short-acting/immediate release as a strategy to reduce the risk of overdose. The WV VIPP and BOP chose to review the percent of patients prescribed long-acting opioids when said patients were opioid-naïve (i.e., no opioids in the previous 45 days). The percent of patients who were opioid-naïve and prescribed short-acting opioids were also reviewed. Even at low doses of immediate release opioids, the potential for abuse and risk of overdose increases if the patient is not counseled on how to take the medication safely. However, it was determined that efforts should be focused on those patients who received long-acting opioids.

Map 7: Percent of patients with overlapping opioid and benzodiazepine prescriptions

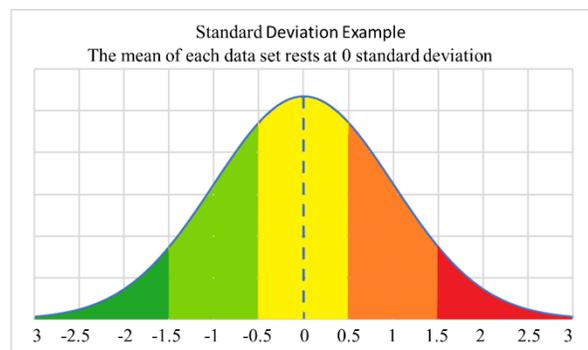
This indicator was modified to assess the percent of patients who had overlapping opioid and benzodiazepine prescriptions. Overlapping opioids with benzodiazepines increase the risk of overdose. The WV VIPP and BOP wanted to determine the difference between overlapping days and distinct patients and whether the counties of interest were the same between the two.

Conclusion

Modifying the CDC indicators to answer state specific measures and questions is important to get a better picture of the prescribing patterns in the state. The results of these modified indicators are different from the CDC required indicators. This provides opportunities to conduct further research/analysis on certain topics of interest, determine high-risk areas in the state, and provide appropriate prescriber education and intervention.

Data Notes

The same methodology was used to classify all data. Percent and Rate ranges are based on the standard deviation (SD) from the mean. The SD is a number used to describe the distribution of measurements. A small SD indicates that most of the measurements are close to the mean, and a large SD indicates that the measurements are more widely spaced from one another. The SDs were used for these indicators to provide information about how each county-specific indicator compared to the others in the rest of the state.



Dark green is < -1.5 SD from the mean, light green is -1.5 to -0.5 SD from the mean, yellow is -0.50 to 0.50 SD from the mean, orange is 0.50 to 1.5 SD from the mean, and red is > 1.5 SD from the mean.

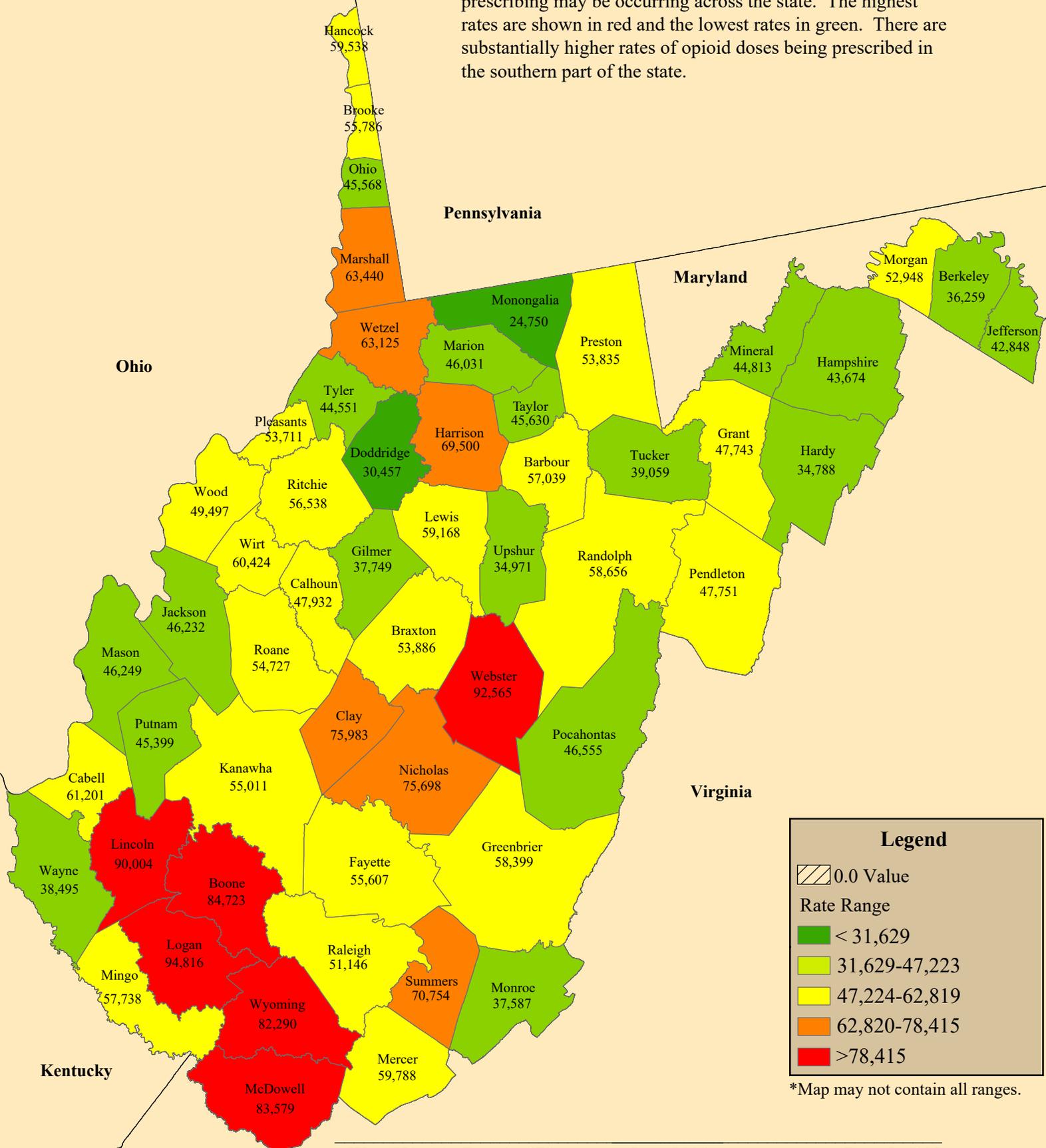




Map 1: Opioid Doses per 1,000 State Residents by County, West Virginia, 2017



The rate of opioid doses (i.e. pills) helps identify where high prescribing may be occurring across the state. The highest rates are shown in red and the lowest rates in green. There are substantially higher rates of opioid doses being prescribed in the southern part of the state.



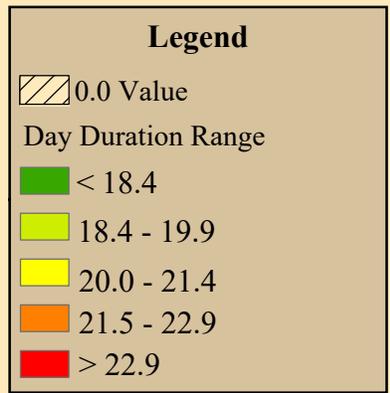
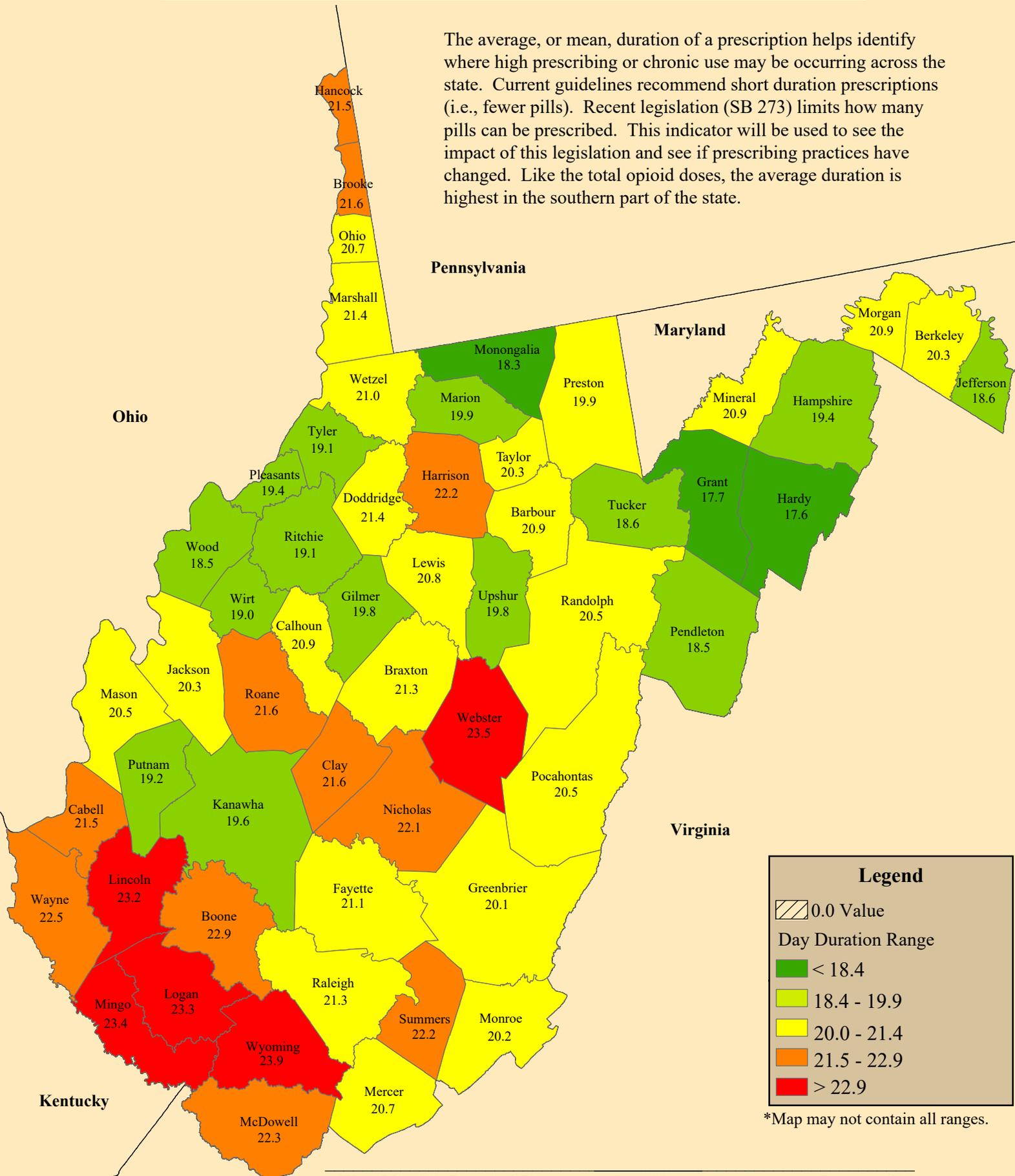
*Map may not contain all ranges.



Map 2: Average Duration of Opioid Prescription in Days by County, West Virginia, 2017



The average, or mean, duration of a prescription helps identify where high prescribing or chronic use may be occurring across the state. Current guidelines recommend short duration prescriptions (i.e., fewer pills). Recent legislation (SB 273) limits how many pills can be prescribed. This indicator will be used to see the impact of this legislation and see if prescribing practices have changed. Like the total opioid doses, the average duration is highest in the southern part of the state.



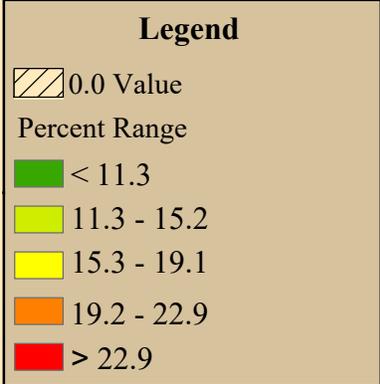
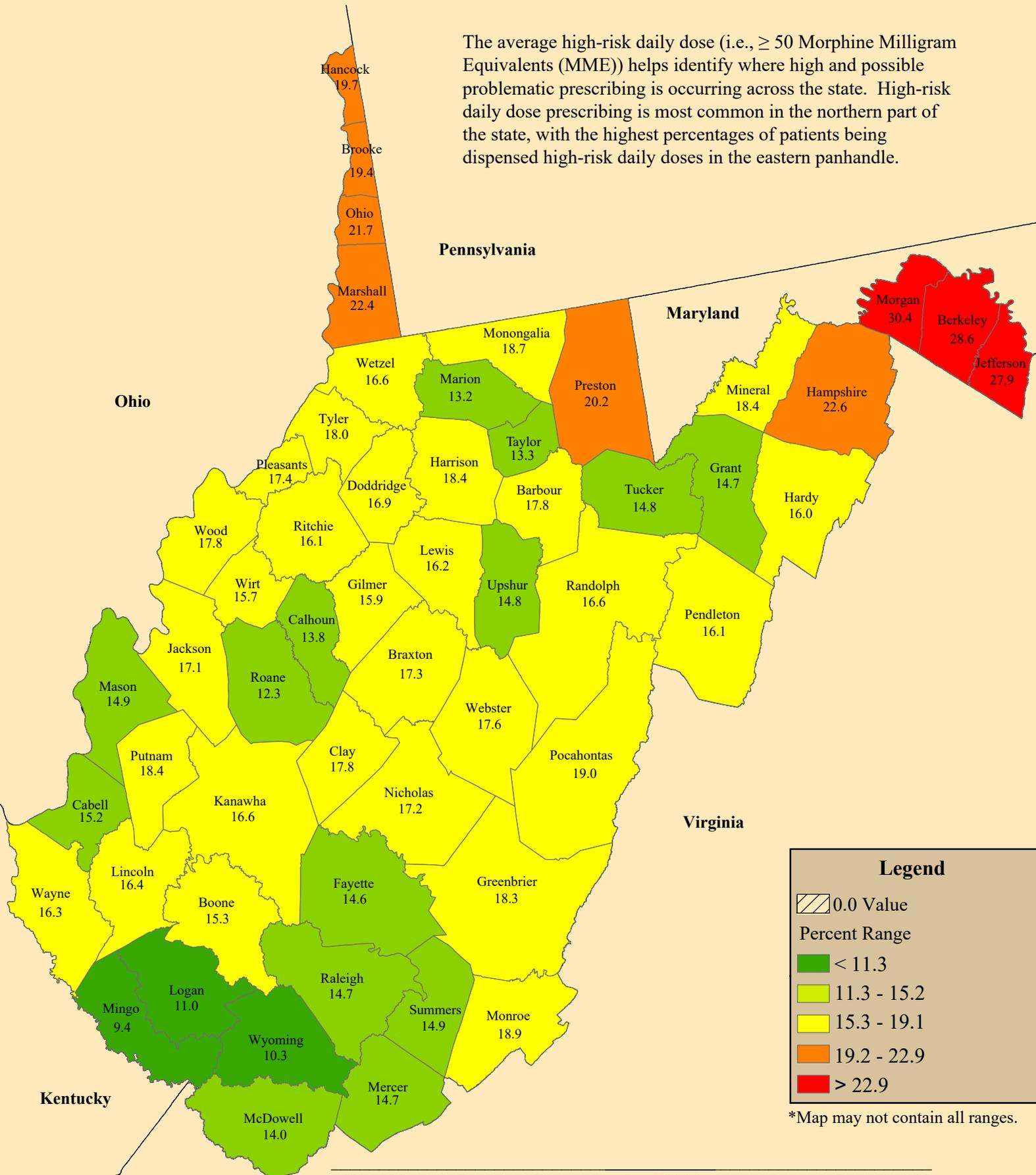
*Map may not contain all ranges.



Map 3: Among Patients Prescribed Opioids, Percent of Patients Receiving a High-Risk Daily Dose of Prescribed Opioids by County, West Virginia, 2017



The average high-risk daily dose (i.e., ≥ 50 Morphine Milligram Equivalents (MME)) helps identify where high and possible problematic prescribing is occurring across the state. High-risk daily dose prescribing is most common in the northern part of the state, with the highest percentages of patients being dispensed high-risk daily doses in the eastern panhandle.



*Map may not contain all ranges.

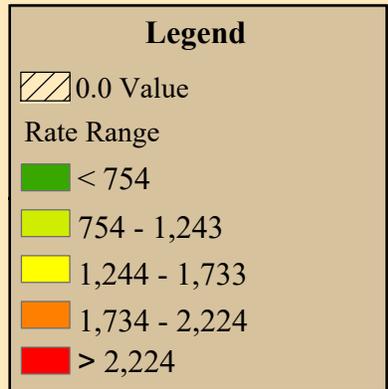
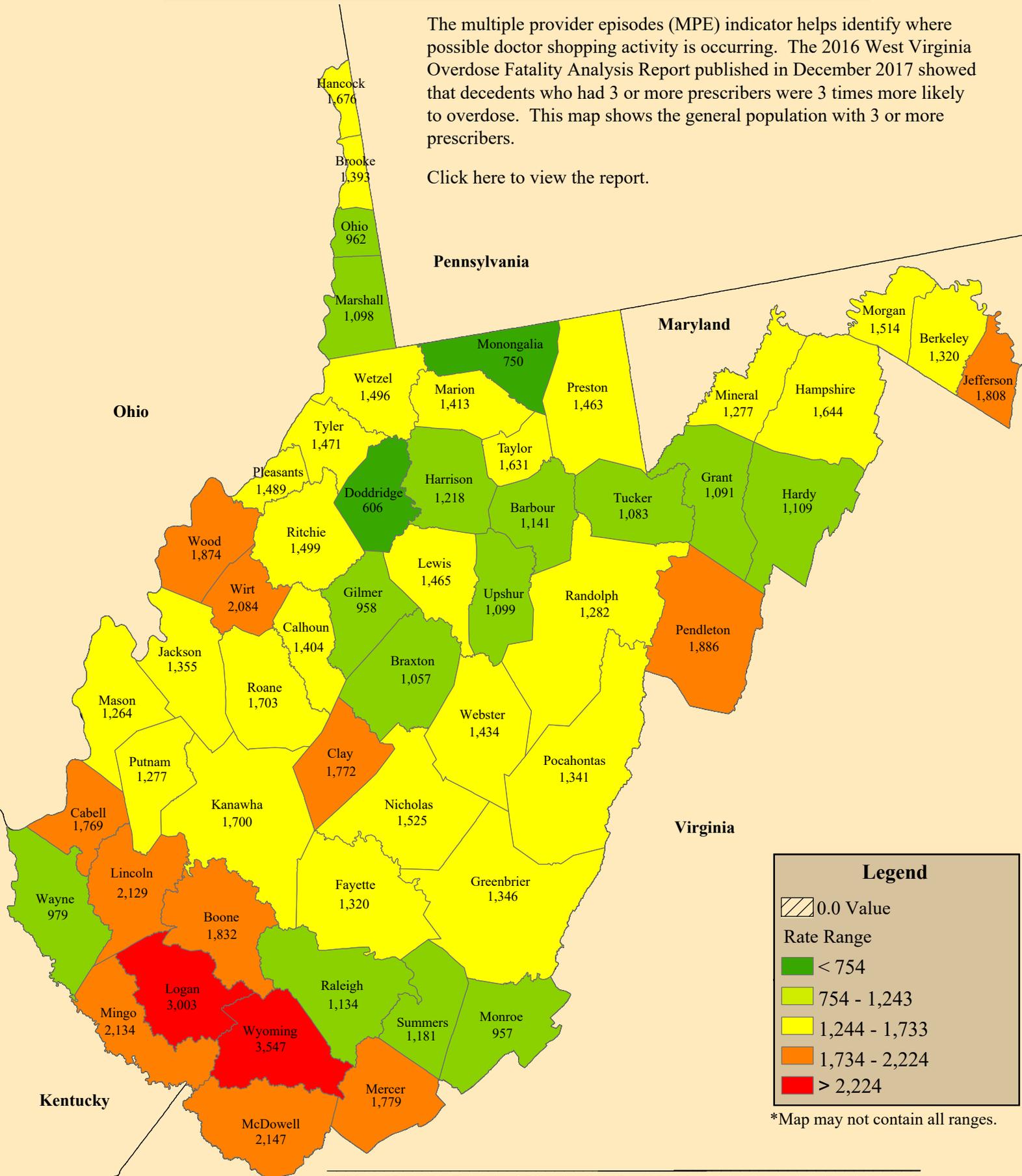


Map 4: Rate of Patients Who Saw 3 or More Prescribers in a 6-Month Period for Prescription Opioids per 100,000 Residents by County, West Virginia, 2017



The multiple provider episodes (MPE) indicator helps identify where possible doctor shopping activity is occurring. The 2016 West Virginia Overdose Fatality Analysis Report published in December 2017 showed that decedents who had 3 or more prescribers were 3 times more likely to overdose. This map shows the general population with 3 or more prescribers.

[Click here to view the report.](#)



*Map may not contain all ranges.

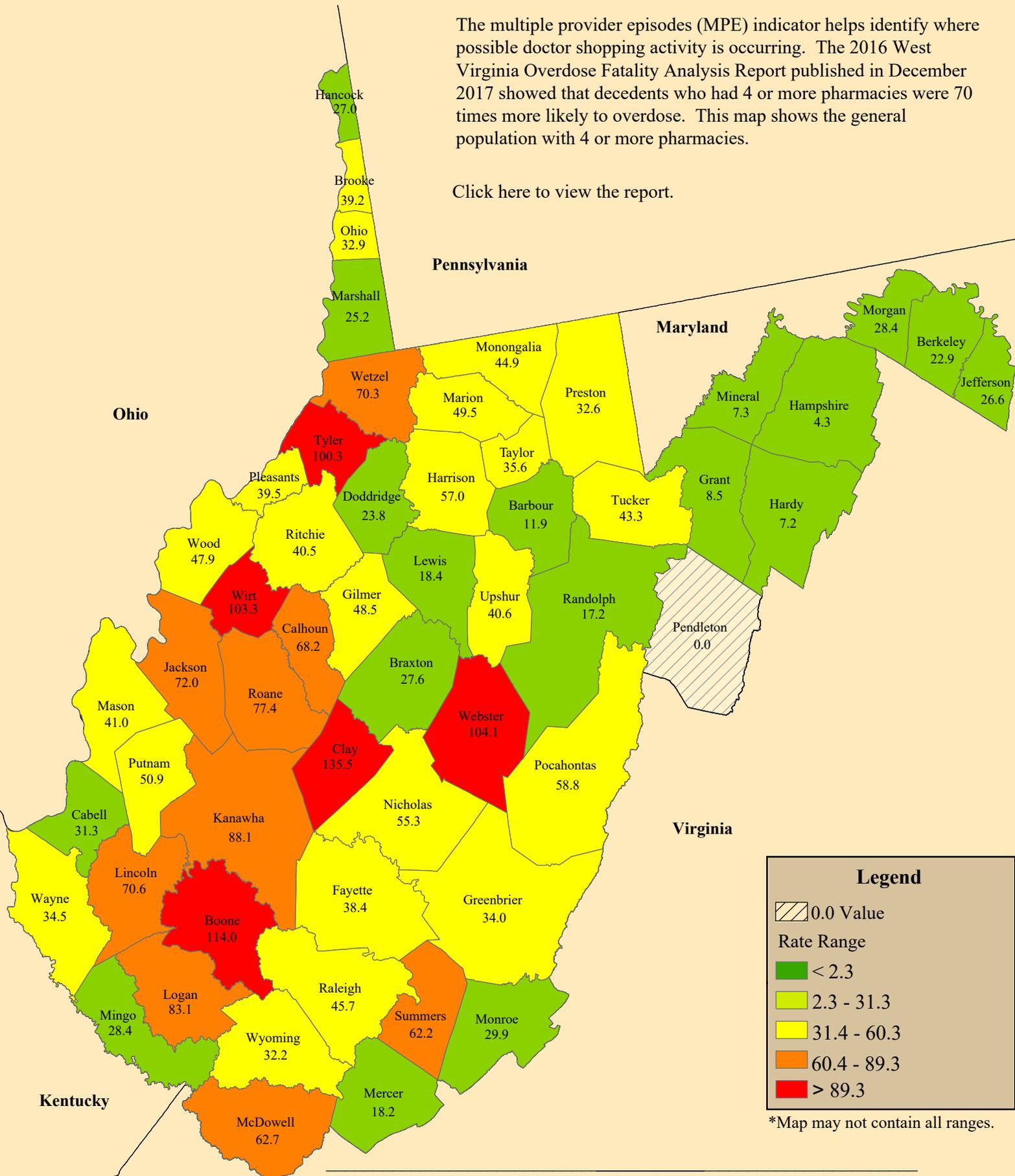


Map 5: Rate of Patients Who Saw 4 or More Pharmacies in a 6-Month Period for Prescription Opioids per 100,000 Residents by County, West Virginia, 2017



The multiple provider episodes (MPE) indicator helps identify where possible doctor shopping activity is occurring. The 2016 West Virginia Overdose Fatality Analysis Report published in December 2017 showed that decedents who had 4 or more pharmacies were 70 times more likely to overdose. This map shows the general population with 4 or more pharmacies.

[Click here to view the report.](#)



Legend

0.0 Value

Rate Range

- < 2.3
- 2.3 - 31.3
- 31.4 - 60.3
- 60.4 - 89.3
- > 89.3

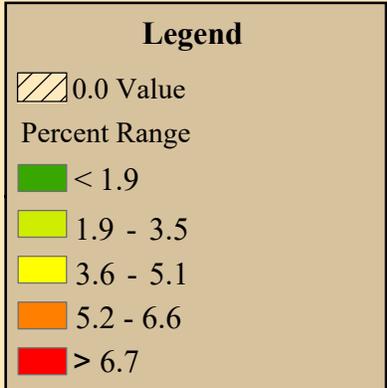
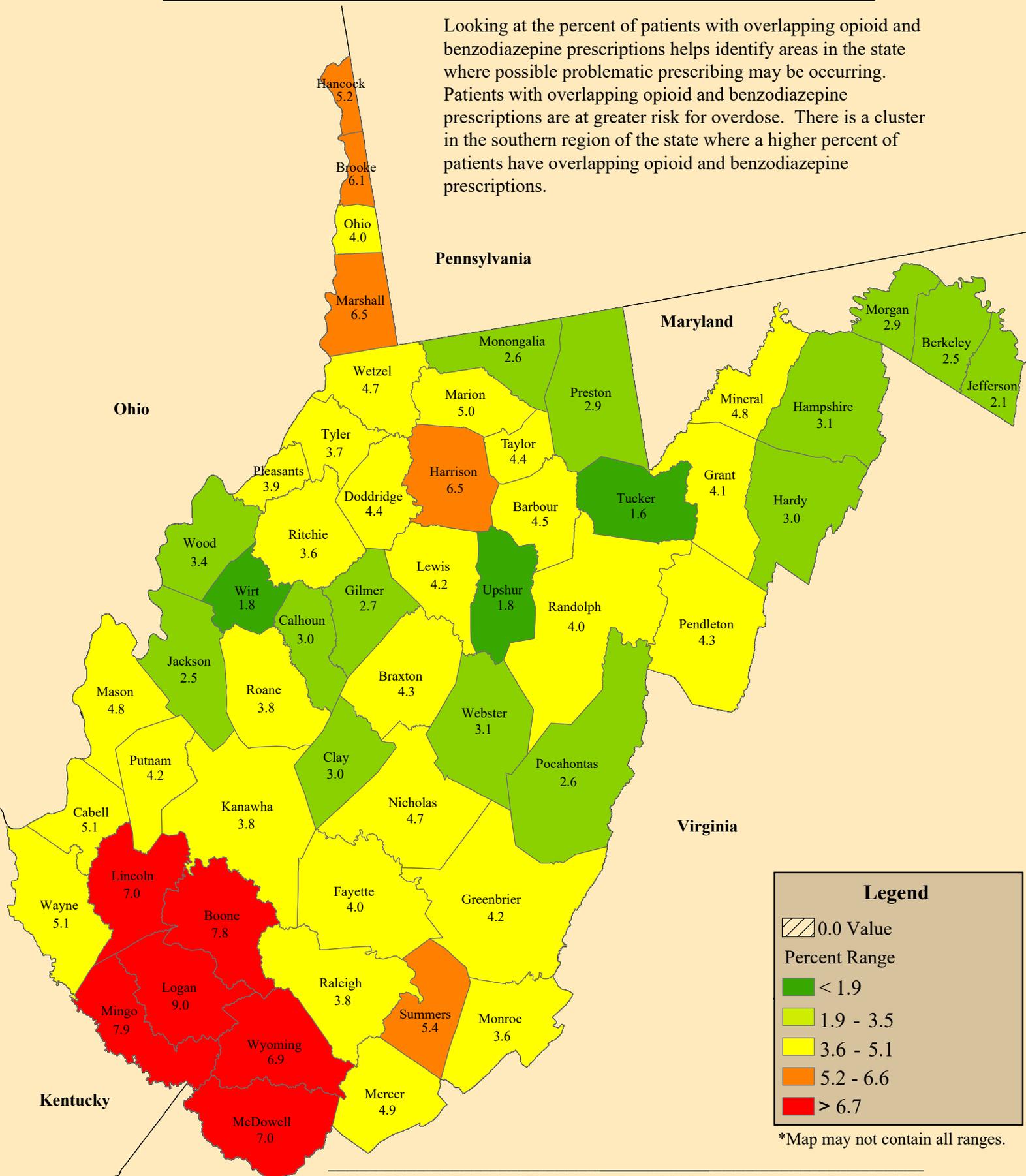
*Map may not contain all ranges.



Map 7: Among Patients Prescribed an Opioid, Percent of Patients with Overlapping Opioid and Benzodiazepine Prescriptions by County, West Virginia, 2017



Looking at the percent of patients with overlapping opioid and benzodiazepine prescriptions helps identify areas in the state where possible problematic prescribing may be occurring. Patients with overlapping opioid and benzodiazepine prescriptions are at greater risk for overdose. There is a cluster in the southern region of the state where a higher percent of patients have overlapping opioid and benzodiazepine prescriptions.



*Map may not contain all ranges.

For more information regarding this report or the West Virginia Board of Pharmacy's Controlled Substance Monitoring Program (CSMP), please see contact information below.

Contact Information:

Nathan Wood, CSMP Epidemiologist

Phone: (304) 356-4359

E-mail: Nathan.G.Wood@wv.gov

Tim Dotson, CSMP Epidemiologist

Phone: (304)-356-4465

Timothy.S.Dotson@wv.gov

