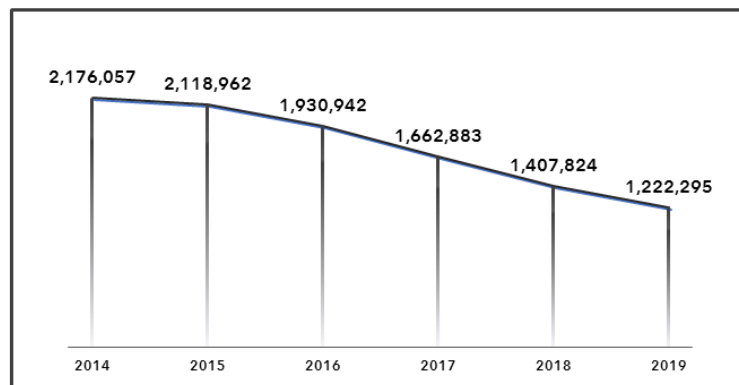


Boone County - 2019



The West Virginia Violence and Injury Prevention Program (WV VIPP), in collaboration with the West Virginia Board of Pharmacy and the West Virginia University Injury Control Research Center (ICRC), under the direction of the Centers for Disease Control and Prevention (CDC), continue to work to address prescription drug misuse, diversion, and overdose within the state of West Virginia. Prescription drug overdose continues to be a major issue in West Virginia. Preliminary data from the West Virginia Health Statistics Center shows that in 2018, over 900 people died in association with drug misuse (including prescription and illicit drugs) with a rate of 52.2 per 100,000 population. This is nearly three times the national average. To help combat this epidemic, CDC provided specific indicators to identify high-risk areas within the state to allow for intervention and community education.

There was a
44% decrease
in opioid prescriptions
filled from 2014-2019...



...with over **15 million** fewer
opioid pills dispensed from 2018
to 2019 in West Virginia.

Source: West Virginia Controlled Substance Monitoring Program

Indicator 1: Number and rate of opioid analgesics per 1,000 state residents

This indicator includes all opioid prescriptions that are classified as either Schedule II, III, IV, or V. The figures below show the total number of opioid prescriptions for Boone County and the rate per 1,000 population compared to the state. Census data was used to obtain demographic information and population sized.

Figure 1.
Number of Opioid Analgesics Dispensed, Boone County, 2014-2019

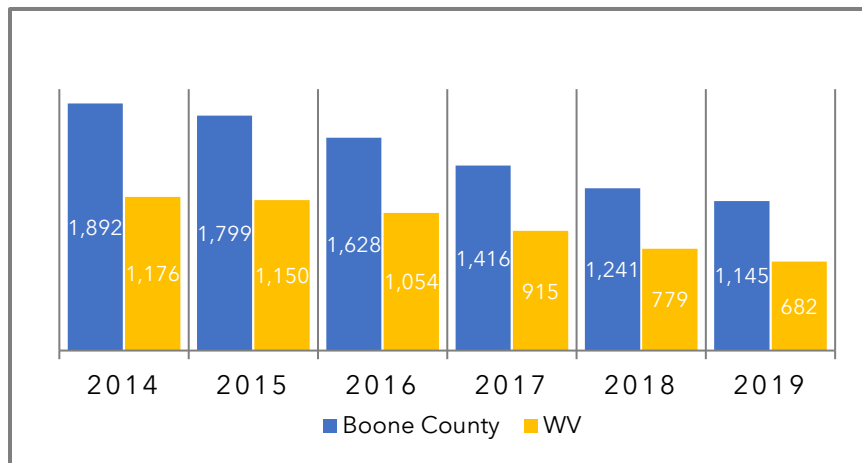
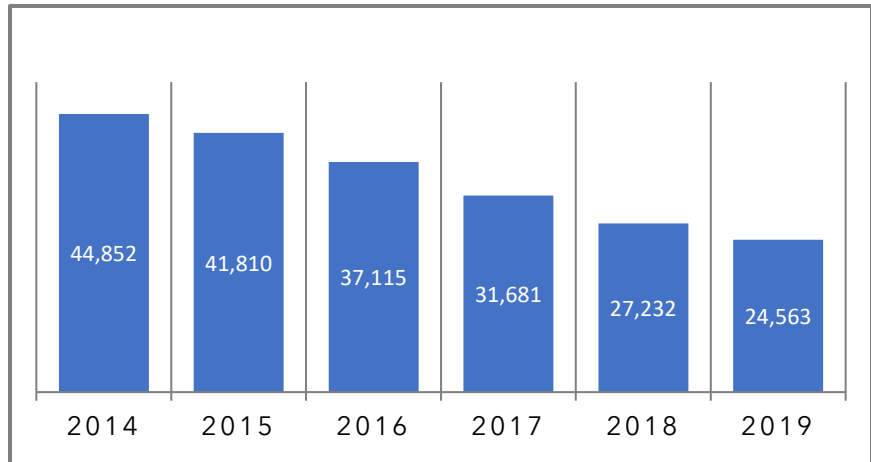


Figure 2.
Rate of Opioid Analgesics per 1,000 Population in Boone County and WV, 2014-2019

Source: West Virginia Controlled Substance Monitoring Program

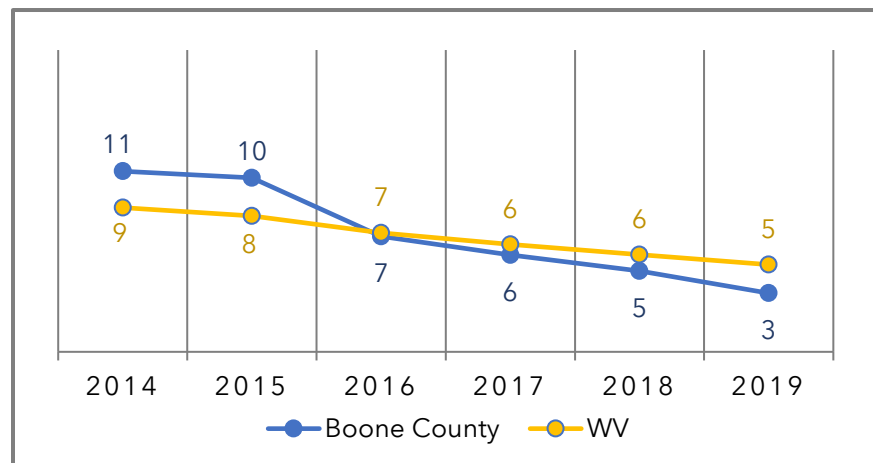
What Does This Mean?

This indicator is important because it provides information about prescription opioid use for each county. These data will help determine areas where high prescribing/dispensing are occurring around the state and allow for education on responsible opioid prescribing. High rates of opioid dispensing mean large quantities of opioids that are out in the community. Boone County had consistently higher rates opioids being prescribed compared to the state from 2014-2019. However, Boone County saw an overall decrease in the rate during this time.

Indicator 2: Percent of patients receiving more than an average daily dose of 90 morphine milligram equivalents (MME).

This indicator shows the total average daily dose of MMEs that a patient is taking. It includes all opioid prescriptions that are classified as either Schedule II, III, IV, or V. MMEs are used as a measure to describe the potency of an opioid. Calculating MMEs is important to determine which patients may be at risk for an overdose. The figure below shows the percent of patients with greater than an average daily dose of 90 MMEs in Boone County compared to the state during 2014-2019.

Figure 3.
Percent of Patients
Receiving More than an
Average Daily Dose of 90
MME, Boone County and
WV, 2014-2019



Source: West Virginia Controlled Substance Monitoring Program

What Does This Mean?

This indicator is important because it provides information for prescribers about how much morphine equivalent drug the patient is receiving. MMEs help determine the amount of morphine an opioid dose is equal to when prescribed, often used as a gauge of the abuse and overdose potential of the amount of opioid that is being given at a particular time. It is also a useful tool to identify high-burden areas in the state, which is important for public health surveillance at the county level. From 2014-2015, Boone County's percent of patients receiving more than an average daily dose of 90 MMEs was slightly higher compared to the state average but was lower from 2016-2019.

Indicator 3: Rate of multiple provider episodes for prescription opioids (5 or more prescribers and 5 or more pharmacies in a 6-month period) per 100,00 residents.

This indicator shows the rate of patients who went to 5 or more prescribers and 5 or more pharmacies within a 6-month period, or multiple provider episode (MPE). The rate is calculated per 100,000 population. It includes all opioid prescriptions that are classified as either Schedule II, III, IV, or V.

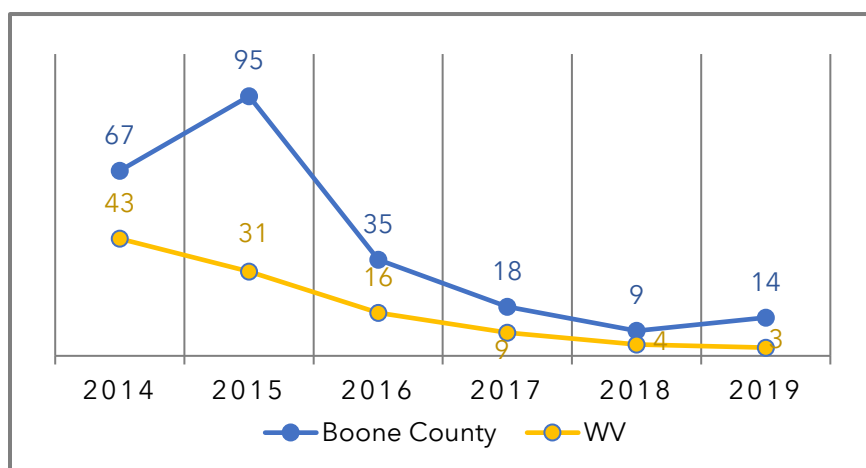


Figure 4.
Rate of Multiple Provider Episodes (MPE) for Prescription Opioids per 100,000 Population, Boone County and WV, 2014-2019

Source: West Virginia Controlled Substance Monitoring Program

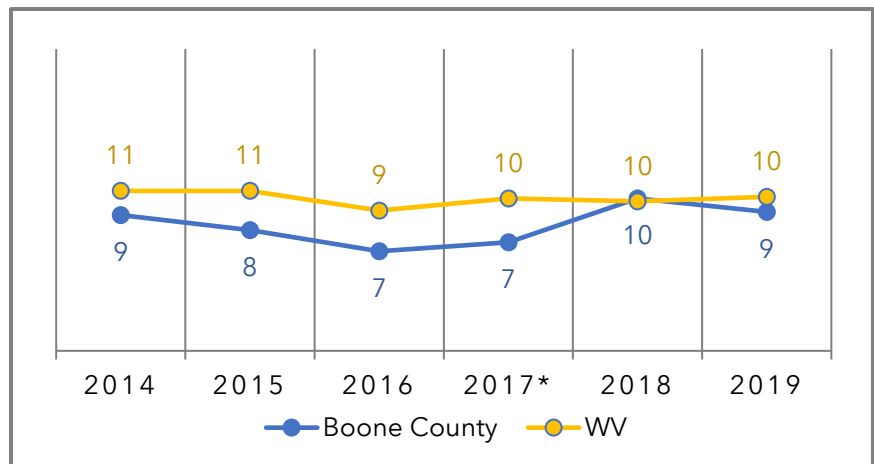
What Does This Mean?

This indicator is important because provides valuable information on prescription filling behaviors. Patients who receive prescriptions from more than five doctors and who fill at more than five pharmacies are at greater risk of drug overdose. This indicator helps determine patients who may have drug seeking habits (i.e., "doctor shopping"). From 2014-2019, Boone County has had a considerable decrease in the rate of patients who qualified as having an MPE but was higher than the state during this time.

Indicator 4: Percent of patients prescribed long-acting/extended release opioids among opioid-naïve patients

This indicator represents the percent of patients with no prescribed opioid prescriptions in the previous 45 days* who were prescribed at least one long acting/extended release (LA/ER) opioid, among all patients with LA/ER opioid prescriptions. It includes all opioid prescriptions that are classified as either Schedule II, III, IV, or V.

Figure 5.
Percent of Patients
Prescribed Long Acting/
Extended Release
Opioids among Opioid-
Naïve Patients, Boone
County, 2014-2019



Source: West Virginia Controlled Substance Monitoring Program

What Does This Mean?

This indicator is important to understand because it provides information about individuals who are not accustomed to opioid medications, which may potentially increase the risk of opioid dependence, misuse, or overdose. CDC opioid prescribing guidelines recommend using immediate release (IR) opioids before taking LA/ER. From 2014-2019, Boone County had fewer patients who were opioid-naïve compared to the state average.

*Note that CDC changed the definition of "opioid-naïve" from 60 days to 45 days in 2017.

Indicator 5: Percent of patient prescription days with overlapping opioid prescriptions

This indicator shows the percent of days in which more than one prescribed opioid prescription during the same time-period were dispensed, among all prescription days. It includes all opioid prescriptions that are classified as either Schedule II, III, IV, or V.

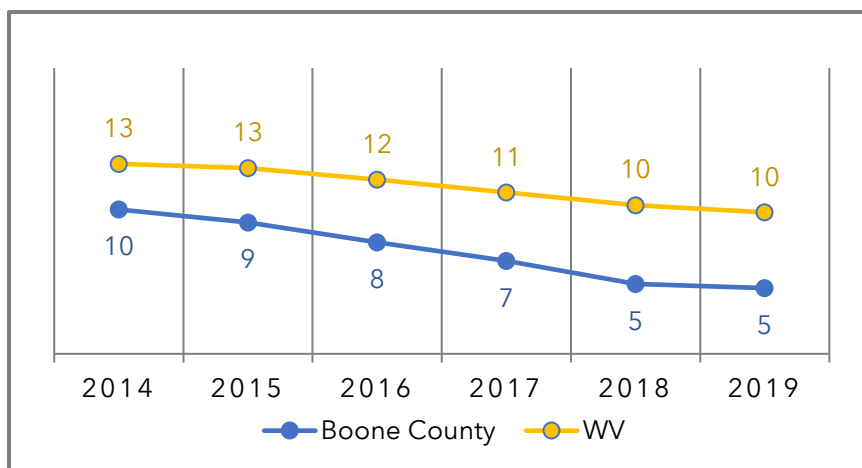


Figure 6.
Percent of Patient Prescribed Days Overlap Between Opioid Analgesics, Boone County and WV, 2014-2019

Source: West Virginia Controlled Substance Monitoring Program

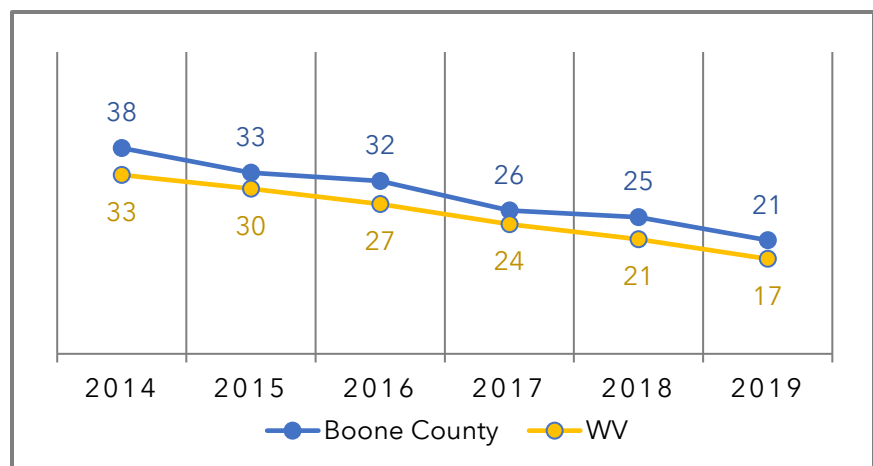
What Does This Mean?

This indicator represents the patients who may potentially be using their opioid prescriptions not as prescribed or may show areas where drug diversion is occurring. Using multiple opioid prescriptions during the same time-period increased the risk for drug dependency and overdose. It is important to understand this because a considerable number of drug overdose deaths include more than one opioid. During 2014-2019, Boone County had a lower percent of prescription overlap compared to the state average and decreased over this time.

Indicator 6: Percent of patient prescriptions days with overlapping opioid and benzodiazepine prescriptions.

This indicator represents the percent of patients who have an opioid and a benzodiazepine (i.e., Lorazepam, Diazepam) prescription on the same day among all opioid prescription days. It includes all opioid prescriptions that are classified as either Schedule II, III, IV, or V.

Figure 7.
Percent of Patient Prescribed Opioid Days that Overlap with Benzodiazepine Prescriptions, Boone County and WV, 2014-2019



Source: West Virginia Controlled Substance Monitoring Program

What Does This Mean?

This indicator is important because it shows areas in the state where patients are using both opioids and benzodiazepine drugs at the same time. Taking an opioid with a benzodiazepine increases the risk for drug overdose and death, as both classes of medication depress the central nervous system. From 2014-2019, Boone County had a slightly higher percent of days where there was an overlapping opioid and benzodiazepine prescription than the state average but decreased over this time period.

County Rankings By Indicator

Patient County	Indicator 1	Indicator 2	Indicator 3	Indicator 4	Indicator 5	Indicator 6
BARBOUR	34	26	38.5	42	24	32
BERKELEY	37	2	19	40.5	2	48
BOONE	2	48	2	36.5	51	3
BRAXTON	43	24	38.5	40.5	18	26
BROOKE	25	17	38.5	17	11	14.5
CABELL	10	44	16	9	36	18.5
CALHOUN	46	38	38.5	22	52.5	47
CLAY	5	32	38.5	25	37	53
DODDRIDGE	54	10	38.5	27	10	46
FAYETTE	15	37	38.5	14.5	42	41
GILMER	50	20	38.5	31	30.5	6
GRANT	39	51	38.5	11	14.5	7
GREENBRIER	13	15	15	28.5	29	26
HAMPSHIRE	41	3	38.5	28.5	4	44.5
HANCOCK	11	14	38.5	47	8	12
HARDY	49	31	6	43	7	33.5
HARRISON	14	13	20	51.5	20	5
JACKSON	45	53	38.5	31	38	39.5
JEFFERSON	44	4	13	31	3	51.5
KANAWHA	18	50	14	24	43.5	37
LEWIS	12	21	38.5	49	14.5	29.5
LINCOLN	4	34	8	53	34	4
LOGAN	1	43	4	45	49	2
MARION	31	36	12	7	30.5	16
MARSHALL	22	9	38.5	5	32.5	13
MASON	29	45	11	10	50	35
MCDOWELL	7	16	38.5	18	26	18.5
MERCER	23	19	18	23	24	23.5
MINERAL	40	18	38.5	34	5.5	14.5
MINGO	20	47	38.5	6	55	1
MONONGALIA	55	12	21	19	16	38
MONROE	51	6	38.5	20.5	13	11
MORGAN	26	1	38.5	44	1	49
NICHOLAS	8	35	10	54.5	24	26
OHIO	35	7	38.5	3	17	21.5
PENDLETON	36	5	38.5	54.5	5.5	21.5
PLEASANTS	33	41	38.5	36.5	39	51.5
POCAHONTAS	42	11	38.5	16	19	39.5
PRESTON	38	8	38.5	50	12	18.5
PUTNAM	28	46	17	26	41	18.5
RALEIGH	30	30	38.5	12	45	28
RANDOLPH	24	23	38.5	35	27	42
RITCHIE	16	49	3	8	47.5	36
ROANE	17	52	5	4	32.5	33.5
SUMMERS	9	25	38.5	48	22	23.5
TAYLOR	27	27	38.5	46	43.5	10
TUCKER	47	33	38.5	14.5	28	50
TYLER	48	42	38.5	1	46	29.5
UPSHUR	53	29	38.5	33	21	54
WAYNE	52	39	38.5	38	35	8
WEBSTER	3	22	1	51.5	9	43
WETZEL	19	54	38.5	2	52.5	9
WIRT	21	55	38.5	39	54	55
WOOD	32	40	9	13	40	44.5
WYOMING	6	28	7	20.5	47.5	31

*Each county is ranked from 1 to 55, where a rank of 1 is assigned to the county with the highest (worst) rate or percentage and a 55 to the county with the lowest (best) rate or percentage. Counties with a ".5" in the rank had the same rank as another county and the average rank was returned.

Percent of Boone County
with a controlled
substance prescription

36%

Percent of Boone
County with an opioid
prescription

24%

Percent of Boone County
with a benzodiazepine
prescription

12%

Source: West Virginia Controlled Substance Monitoring Program

For more information regarding this county profile or the West Virginia Controlled Substance Monitoring Program (CSMP), please see contact information below.

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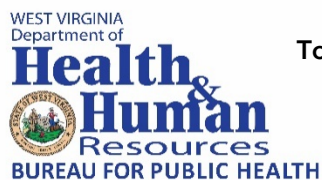
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