

National Study of Treatment and Addiction Recovery Residences Report WEST VIRGINIA

The National Study of Treatment and Addiction Recovery Residences (NSTARR) constitutes the largest and most diverse study of recovery housing in the US to date. NSTARR compiled data from publicly available sources (e.g., Oxford House, National Alliance for Recovery Residences, and Substance Abuse and Mental Health Services Administration websites) and lists maintained by entities tracking recovery housing. Residences for which locating information was available were geocoded and linked with U.S. Census data on urbanicity, alcohol- and drug-involved mortality, and COVID vulnerability. Data collection began in January 2020 and is ongoing until June 2023. The NSTARR database currently contains information on 10,358 residences operated by 3,628 providers in all 50 states. For a detailed description of methods and national findings, please see Mericle et al., 2022.

KEY FINDINGS

The NSTARR team identified 110 recovery residences (6.05 houses per 100,000 population) in West Virginia (see Table 1). Compared to other states (which include DC), West Virginia ranked 8 in terms of recovery housing availability per capita. Eighty-four percent of the residences in West Virginia could be geocoded for these analyses. Cabell County, an urban county, had the most recovery residences per 100,000 population, and 34 counties had no identified recovery residences, representing a mix of rural-urban classifications; 49 had fewer than 5 recovery residences (see Figure 1).

We used geographic information systems to identify hot and cold spots in West Virginia. A hot spot is a cluster of high values (county with a high number of residences surrounded by other counties with high numbers of residences) and a cold spot is a cluster of low values (county with low counts surrounded by counties also with low counts). Our analyses found hot spots but no cold spots within the state (see Figure 2).

The age-adjusted alcohol- and drug-involved mortality rate (per 100,000 population) was 24.20 in West Virginia for the years 2009-2019. West Virginia ranked 14 on alcohol- and drug-involved mortality out of the 50 states and DC. McDowell County had the highest alcohol- and drug-involved mortality rate and Upshur County had the lowest alcohol- and drug-involved mortality rate. Of the three counties that had the highest mortality rates in West Virginia (i.e., McDowell, Wyoming, and Boone), two of them also ranked in the bottom half recovery housing availability per capita, suggesting more recovery resources may be needed (see Table 1 and Figure 3).

COVID vulnerability was summarized using the county-level data from the Centers for Disease Control and Prevention's COVID Vulnerability Index (CCVI). The CCVI is a composite measure of seven social determinants of health, encompassing modified themes from the Centers for Disease Control and Prevention's Social Vulnerability Index in combination with COVID risk factors to identify communities in need of additional support during the COVID pandemic. No counties were classified as having very high vulnerability (see Table 1 and Figure 4).

110
RESIDENCES
TOTAL

8
NATIONAL
AVAILABILITY
RANKING

34
COUNTIES
WITHOUT
RESIDENCES

Table 1. County-level Descriptive Statistics on Recovery Residences

County Name	Population ¹	RUCC Classification ²	Number of Recovery Residences ³	Recovery Residences Per 100,000 Population	Recovery Residences Availability per Capita (Rank) ⁴	Age-Adjusted Alcohol/Drug Mortality ⁵ Rate per 100,000 Population	Mortality Rate (Rank) ⁶	CCVI Quintile ⁷
WEST VIRGINIA	1,817,305		110	6.05	8	24.20	14	
Barbour	16,633	Adjacent rural	0	0.00	55	39.90	38	Low
Berkeley	115,329	Urban	5	4.34	12	63.60	18	Low
Boone	22,368	Urban	1	4.47	11	107.20	3	Low
Braxton	14,190	Adjacent rural	0	0.00	55	52.90	25	Low
Brooke	22,459	Urban	0	0.00	55	63.00	19	Low
Cabell	94,339	Urban	28	29.68	1	106.20	4	Moderate
Calhoun	7,295	Adjacent rural	0	0.00	55	38.70	41	Very low vulnerability
Clay	8,709	Urban	0	0.00	55	52.90	25	Low
Doddridge	8,560	Non-adjacent rural	0	0.00	55	28.30	52	Very low vulnerability
Fayette	43,576	Urban	2	4.59	10	76.20	11	Moderate
Gilmer	8,041	Non-adjacent rural	0	0.00	55	26.50	54	Moderate
Grant	11,616	Non-adjacent rural	0	0.00	55	36.20	45	Very low vulnerability
Greenbrier	35,155	Adjacent rural	0	0.00	55	56.60	22	Low
Hampshire	23,309	Urban	1	4.29	13	68.30	15	Low
Hancock	29,383	Urban	2	6.81	6	67.90	16	Low
Hardy	13,805	Adjacent rural	0	0.00	55	33.10	49	Very low vulnerability
Harrison	67,908	Non-adjacent rural	9	13.25	2	54.90	24	Low
Jackson	28,907	Adjacent rural	0	0.00	55	38.00	42	Very low vulnerability
Jefferson	56,506	Urban	1	1.77	20	50.70	28	Low
Kanawha	183,279	Urban	16	8.73	4	80.10	9	Moderate
Lewis	16,166	Non-adjacent rural	0	0.00	55	43.50	34	Low
Lincoln	20,850	Urban	0	0.00	55	77.80	10	Low
Logan	33,154	Adjacent rural	1	3.02	17	89.80	6	Moderate
Marion	56,355	Adjacent rural	1	1.77	19	36.20	45	Moderate
Marshall	31,308	Urban	2	6.39	8	37.10	44	Very low vulnerability
Mason	26,820	Adjacent rural	0	0.00	55	66.20	17	Low
McDowell	18,661	Non-adjacent rural	0	0.00	55	131.30	1	Moderate
Mercer	59,919	Adjacent rural	4	6.68	7	89.70	7	Moderate
Mineral	27,167	Urban	2	7.36	5	48.70	29	Low
Mingo	24,290	Non-adjacent rural	1	4.12	14	88.80	8	Low
Monongalia	105,474	Urban	5	4.74	9	31.50	51	Low
Monroe	13,401	Adjacent rural	0	0.00	55	60.50	20	Low
Morgan	17,709	Adjacent rural	0	0.00	55	57.80	21	Very low vulnerability
Nicholas	25,078	Adjacent rural	0	0.00	55	70.30	14	Low
Ohio	42,143	Urban	5	11.86	3	51.80	27	Low

Pendleton	7,001	Adjacent rural	0	0.00	55	34.00	48	Very low vulnerability
Pleasants	7,482	Adjacent rural	0	0.00	55	26.70	53	Low
Pocahontas	8,450	Non-adjacent rural	0	0.00	55	39.00	40	Low
Preston	33,683	Urban	0	0.00	55	39.20	39	Low
Putnam	56,610	Urban	1	1.77	21	45.90	32	Very low vulnerability
Raleigh	75,252	Urban	3	3.99	16	95.80	5	Moderate
Randolph	28,930	Non-adjacent rural	0	0.00	55	41.10	36	Moderate
Ritchie	9,844	Adjacent rural	0	0.00	55	37.60	43	Very low vulnerability
Roane	14,020	Adjacent rural	0	0.00	55	48.50	30	Low
Summers	12,848	Adjacent rural	0	0.00	55	73.90	12	Low
Taylor	16,864	Adjacent rural	0	0.00	55	35.30	47	Low
Tucker	6,982	Adjacent rural	0	0.00	55	44.00	33	Low
Tyler	8,811	Non-adjacent rural	0	0.00	55	40.40	37	Very low vulnerability
Upshur	24,502	Non-adjacent rural	1	4.08	15	25.60	55	Moderate
Wayne	40,303	Urban	0	0.00	55	73.90	12	Low
Webster	8,386	Non-adjacent rural	0	0.00	55	55.70	23	Low
Wetzel	15,436	Adjacent rural	0	0.00	55	43.10	35	Low
Wirt	5,798	Urban	0	0.00	55	33.00	50	Very low vulnerability
Wood	84,960	Urban	2	2.35	18	48.40	31	Low
Wyoming	21,281	Adjacent rural	0	0.00	55	112.00	2	Low

¹Population data were downloaded from tables in Social Explorer's ACS five-year estimate (2015-2019). American Community Survey 5-year Estimates, 2015-2019. Social Explorer tables, ACS 2015-2019. Social Explorer.

²The Rural-Urban Continuum Code (RUCC) was used to classify each county as urban, adjacent rural, or non-adjacent rural. Urban counties are counties with codes 1 (Counties in metro areas of 1 million population or more), 2 (Counties in metro areas of 250,000 to 1 million population), and 3 (Counties in metro areas of fewer than 250,000 population). Adjacent rural counties are counties with codes 4 (Urban population of 20,000 or more, adjacent to a metro area), 6 (Urban population of 2,500 to 19,999, adjacent to a metro area), and 8 (Completely rural or less than 2,500 urban population, adjacent to a metro area). Non-adjacent rural counties are the remaining three codes - 5 (Urban population of 20,000 or more, not adjacent to a metro area), 7 (Urban population of 2,500 to 19,999, not adjacent to a metro area), and 9 (Completely rural or less than 2,500 urban population, not adjacent to a metro area). Rural-Urban Continuum Code (RUCC). <https://www.ers.usda.gov/data-products/rural-urban-continuum-codes.aspx>

³Recovery residences are from the NSTARR project and are current as of 2020. Seventeen (17) recovery residences in the state were not successfully geocoded due to lack of adequate address information, and thus were not assigned to a county.

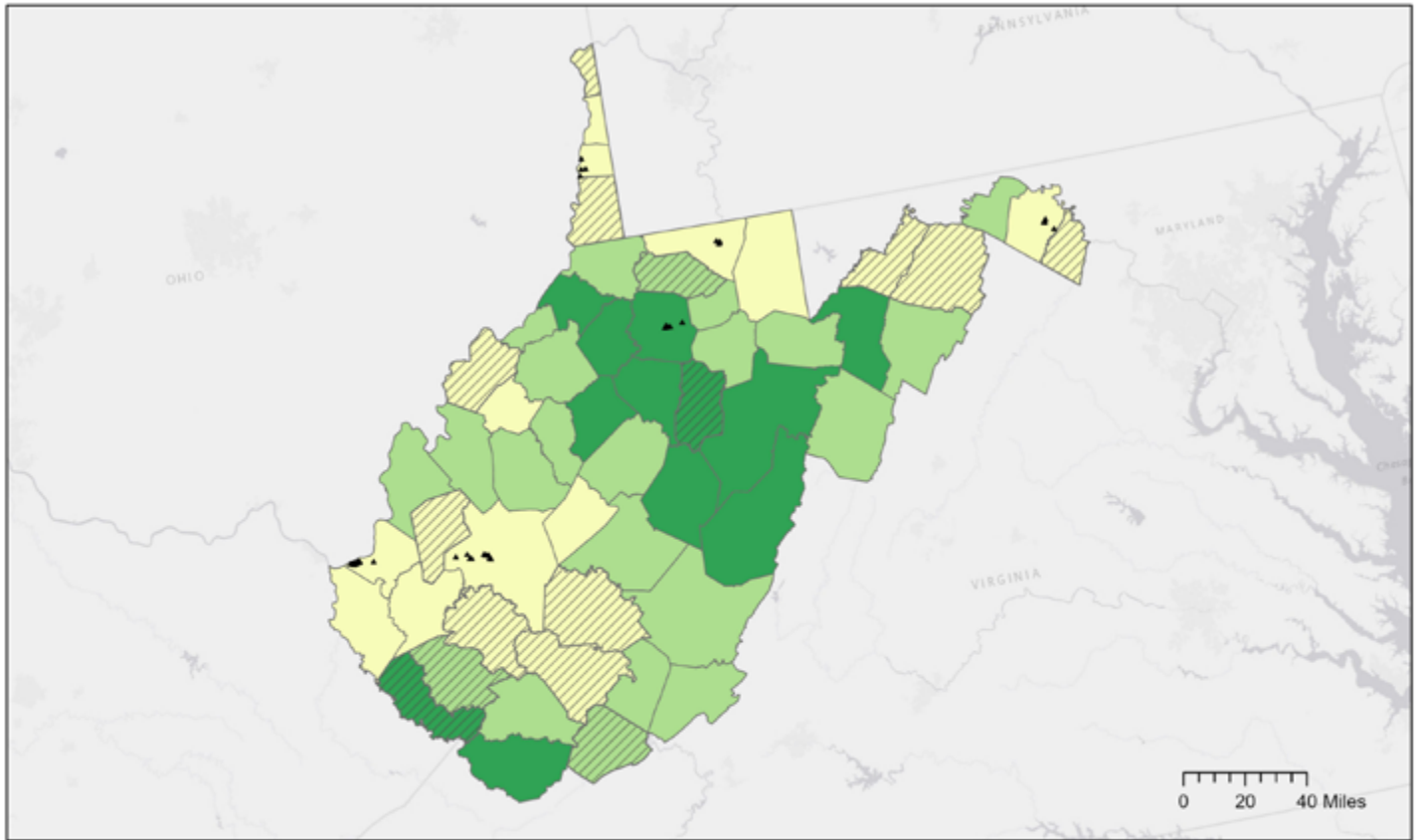
⁴Recovery residences availability per capita is ranked in order of decreasing recovery residence density per 100,000 population per county, with 1 (highest number of residences per 100,000) to 55 (lowest number of residences per 100,000 population). Counties without recovery residences were all assigned a tied rank of 55.

⁵Alcohol- and drug-involved mortality included all deaths as underlying causes of death and selected ICD-10 codes mentioning or attributed to alcohol or drugs as contributing cause of death. Data from the Centers for Disease Control and Prevention, 2020. CDC Wonder (Wide-ranging Online Data for Epidemiologic Research). U.S. Department of Health and Human Services, Atlanta, GA. Available at: <https://wonder.cdc.gov/>. For more information on coding multiple causes of death, see: Centers for Disease Control and Prevention, About Multiple Cause of Death, 1999-2019. <https://wonder.cdc.gov/mcd-icd10.html> accessed on August 9 2021.

⁶Mortality rate is ranked in order of decreasing alcohol- and drug-involved mortality from 1 (highest mortality per 100,000 population) to 55 (lowest mortality per 100,000 population).

⁷COVID-19 Community Vulnerability Index (CCVI) scores range in value from 0 – 1, with 0 being least vulnerable and 1 being the most vulnerable. Each county is ranked relative to all counties across the country, based on seven themes/domains. Each county was grouped into quintiles: very high (score of 0.8-1), high (0.6-0.8), moderate (0.4-0.6), low (0.2-0.4), and very low (0-0.2). For more information on how the CCVI is calculated, see: COVID-19 Community Vulnerability Index (CCVI) methodology. Retrieved from [https://covid-static-assets.s3.amazonaws.com/US-CCVI/COVID-19+Community+Vulnerability+Index+\(CCVI\)+Methodology.pdf](https://covid-static-assets.s3.amazonaws.com/US-CCVI/COVID-19+Community+Vulnerability+Index+(CCVI)+Methodology.pdf)

Figure 1. Distribution of Residences by Rural-Urban Classification



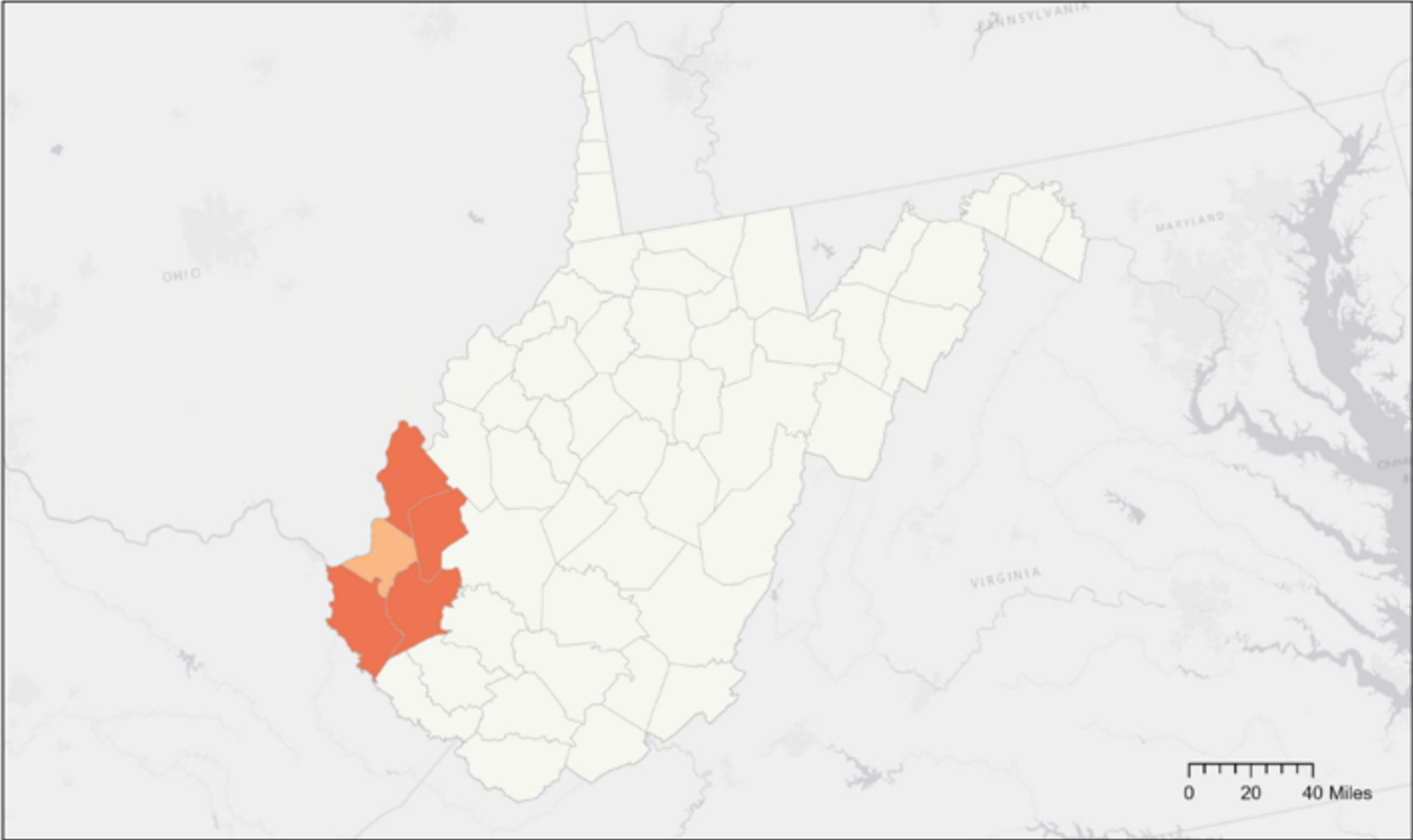
- ▲ Recovery residences
- Rural-Urban Classification Code (RUCC)**
- Urban
- Adjacent rural
- Non-adjacent rural
- Counties with residence locations suppressed (1-4 residences) to protect privacy



Data Credits: Esri, HERE, Garmin, USGS, EPA, NPS
Recovery residence locations: 2020
Created by: NSTARR Project (May 2022)



Figure 2. Hot/Cold Spot Analysis of Recovery Residence Locations



Hot Spot Analysis (Getis-Ord GI*)

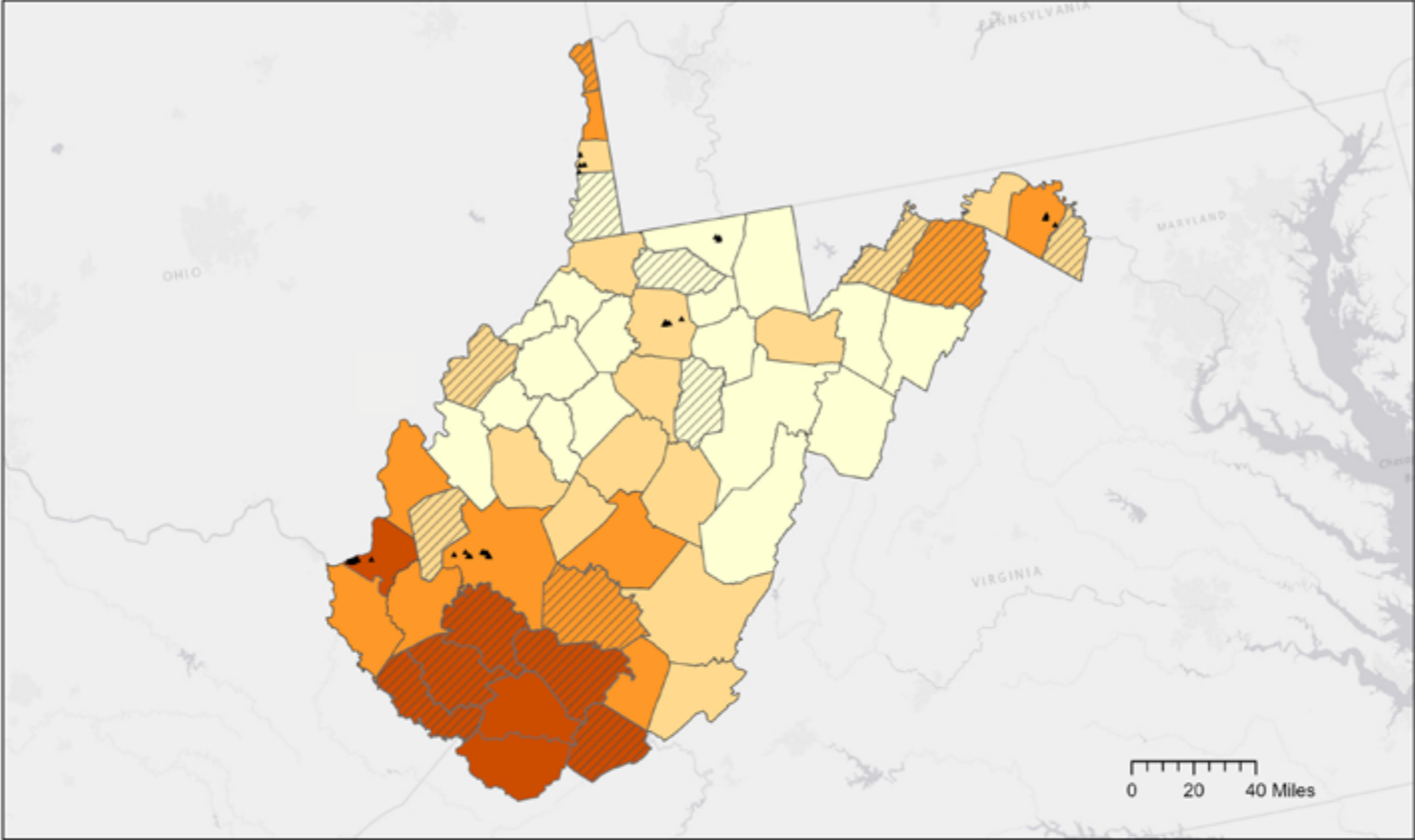
- Cold Spot with 99% Confidence
- Cold Spot with 95% Confidence
- Cold Spot with 90% Confidence
- Not Significant
- Hot Spot with 90% Confidence
- Hot Spot with 95% Confidence
- Hot Spot with 99% Confidence



Data Credits: Esri, HERE, Garmin, USGS, EPA, NPS
 Recovery residence locations: 2020
 Created by: NSTARR Project (May 2022)



Figure 3. Distribution of Residences by Age-adjusted Alcohol- and/or Drug-involved Mortality



▲ Recovery residences
 Age-adjusted alcohol and drug mortality rate per 100,000 population

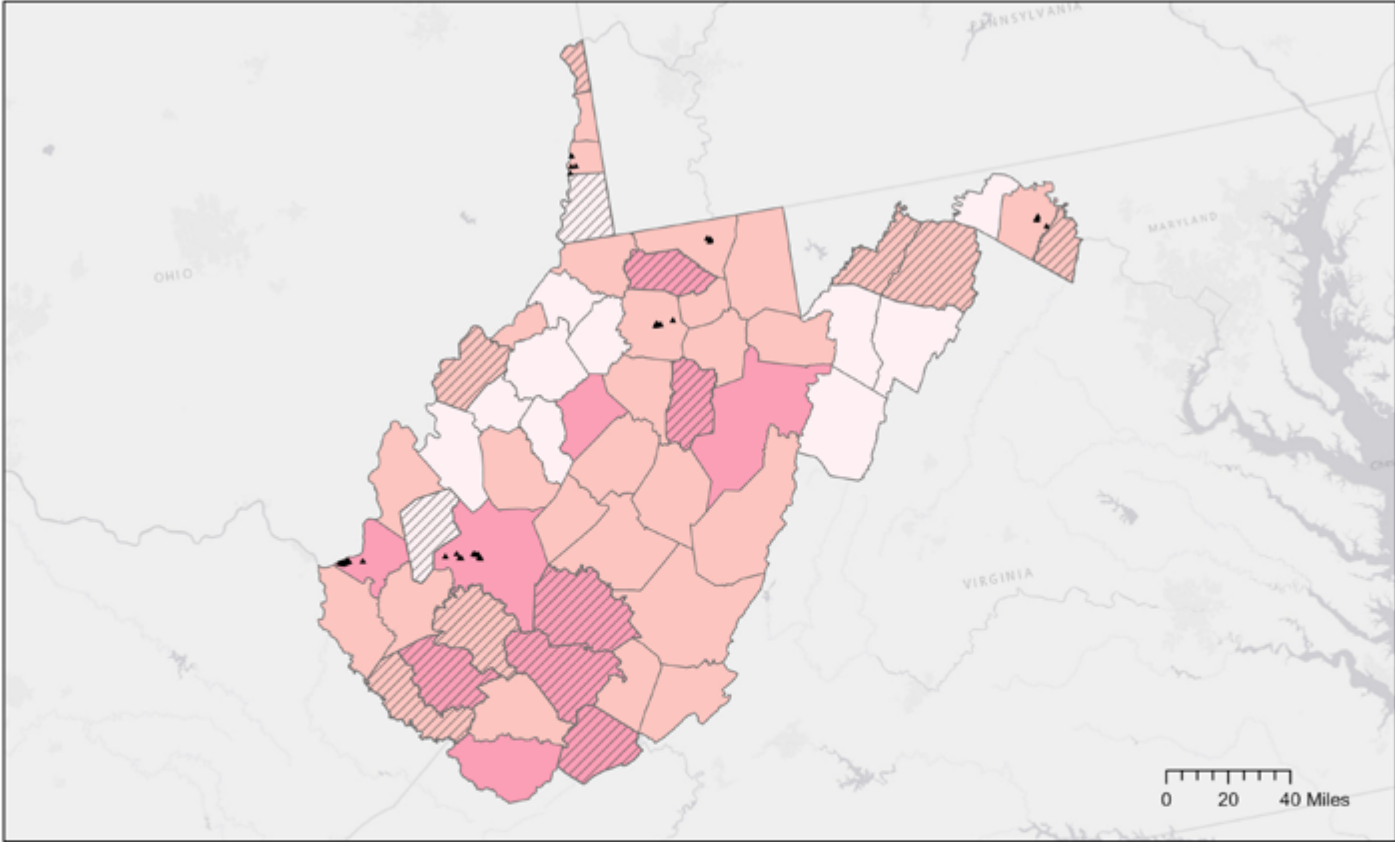
- 25 - 41
- 42 - 60
- 61 - 80
- 81 - 131
- Suppressed/Unreliable
- Counties with residence locations suppressed (1-4 residences) to protect privacy

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 Recovery residence locations: 2020
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Figure 4. Distribution of Residences by COVID-19 Community Vulnerability Index



- ▲ Recovery Residences
- COVID-19 Community Vulnerability Index (CCVI)
- Very low vulnerability
- Low
- Moderate
- High
- Very high vulnerability
- Courties with residence locations suppressed (1-4 residences) to protect privacy



Data Credits: Esri, HERE, Garmin, USGS, EPA, NPS
Recovery residence locations: 2020
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