NSTARR
National Study of Treatment and Addiction
RECOVERY RESIDENCES

National Study of Treatment and Addiction Recovery Residences Report

Oklahoma

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 319 recovery residences (8.11 houses per 100,000 population) in Oklahoma (see Table 1). Compared to other states (which include DC), Oklahoma ranked 5 in terms of recovery housing availability per capita. All residences in Oklahoma could be geocoded for these analyses. Rogers County, an urban county, had the most recovery residences per 100,000 population, and 46 counties had no identified recovery residences, representing a mix of rural-urban classifications; 67 (87% of counties) had fewer than 5 recovery residences (see Figure 1).

319
RESIDENCES TOTAL

We used geographic information systems to identify hot and cold spots in Oklahoma. 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 25.50 in Oklahoma for the years 2009-2019. Oklahoma ranked 10 on alcohol- and drug-involved mortality out of the 50 states and DC. Among the counties ranked, Coal County had the highest alcohol- and drug-involved mortality rate and Alfalfa County had the lowest alcohol- and drug-involved mortality rate. Of the three counties that had the highest mortality rates in Oklahoma (i.e., Coal, Kiowa, and Johnston), all three of them also ranked in the bottom half recovery housing availability per capita (they had no recovery housing at all), suggesting more recovery resources may be needed (see Table 1 and Figure 3).

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NATIONAL AVAILABILITY RANKING

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. Twenty counties were classified as having very high vulnerability, and 13 counties were located in areas ranked in the top half of recovery housing availability per capita, suggesting recovery housing is located in communities with greater need (see Table 1 and Figure 4).

46
COUNTIES WITHOUT RESIDENCES

Literature Cited: Mericle, A. A., Patterson, D., Howell, J., Subbaraman, M. S., Faxio, A., & Karriker-Jaffe, K. J. (2022). Identifying the availability of recovery housing in the U.S.: The NSTARR project. Drug and Alcohol Dependence, 230, 109188.

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]
OKLAHOMA	3,932,870		319	8.11	5	25.50	10	
Adair	22,220	Adjacent rural	0	0.00	77	51.90	28	Very high vulnerability
Alfalfa	5,847	Non-adjacent rural	0	0.00	77	26.30	72	Low
Atoka	13,823	Non-adjacent rural	0	0.00	77	44.50	53	High
Beaver	5,377	Non-adjacent rural	0	0.00	77	44.60	51	Moderate
Beckham	22,268	Non-adjacent rural	1	4.49	16	53.00	22	High
Blaine	9,556	Adjacent rural	0	0.00	77	70.90	6	Moderate
Bryan	46,457	Adjacent rural	3	6.46	13	46.10	45	High
Caddo	29,242	Adjacent rural	1	3.42	20	72.80	5	Very high vulnerability
Canadian	140,455	Urban	2	1.42	30	32.60	68	Moderate
Carter	48,319	Non-adjacent rural	7	14.49	4	73.20	4	Very high vulnerability
Cherokee	48,664	Adjacent rural	0	0.00	77	50.40	31	High
Choctaw	14,807	Non-adjacent rural	0	0.00	77	47.60	37	Very high vulnerability
Cimarron	2,174	Non-adjacent rural	0	0.00	77	Suppressed	-	Low
Cleveland	279,274	Urban	16	5.73	14	39.50	61	Low
Coal	5,581	Non-adjacent rural	0	0.00	77	83.20	1	High
Comanche	121,762	Urban	5	4.11	18	47.10	40	High
Cotton	5,858	Urban	0	0.00	77	52.10	26	Moderate
Craig	14,390	Adjacent rural	0	0.00	77	47.10	40	High
Creek	71,427	Urban	3	4.20	17	47.10	40	High
Custer	29,152	Non-adjacent rural	1	3.43	19	50.00	33	High
Delaware	42,433	Adjacent rural	2	4.71	15	46.80	43	High
Dewey	4,922	Non-adjacent rural	0	0.00	77	43.60	54	Low
Ellis	4,015	Non-adjacent rural	0	0.00	77	52.40	24	Low
Garfield	61,898	Non-adjacent rural	7	11.31	9	40.80	59	High
Garvin	27,835	Adjacent rural	0	0.00	77	61.80	11	High
Grady	55,071	Urban	1	1.82	29	45.00	49	Moderate
Grant	4,397	Non-adjacent rural	0	0.00	77	Suppressed	-	Low
Greer	5,861	Non-adjacent rural	0	0.00	77	47.50	38	High
Harmon	2,710	Non-adjacent rural	0	0.00	77	Suppressed	-	High
Harper	3,760	Non-adjacent rural	0	0.00	77	Suppressed	-	Moderate
Haskell	12,687	Adjacent rural	0	0.00	77	40.50	60	High
Hughes	13,372	Non-adjacent rural	0	0.00	77	44.60	51	High

Jackson	25,063	Non-adjacent rural	3	11.97	7	46.60	44	Very high vulnerability
Jefferson	6,158	Adjacent rural	0	0.00	77	61.30	12	High
Johnston	11,064	Non-adjacent rural	0	0.00	77	75.10	3	High
Kay	44,402	Non-adjacent rural	3	6.76	12	52.00	27	Very high vulnerability
Kingfisher	15,694	Adjacent rural	0	0.00	77	37.10	65	High
Kiowa	8,886	Adjacent rural	0	0.00	77	75.60	2	High
Latimer	10,348	Non-adjacent rural	0	0.00	77	50.20	32	High
Le Flore	50,026	Urban	1	2.00	27	42.60	55	Very high vulnerability
Lincoln	34,895	Urban	1	2.87	23	47.40	39	Moderate
Logan	46,683	Urban	0	0.00	77	35.10	67	Low
Love	10,063	Non-adjacent rural	0	0.00	77	49.30	34	Moderate
Major	7,692	Non-adjacent rural	1	13.00	6	29.60	70	Low
Marshall	16,505	Adjacent rural	0	0.00	77	45.70	47	Very high vulnerability
Mayes	41,044	Adjacent rural	1	2.44	26	49.20	35	Very high vulnerability
McClain	39,247	Urban	0	0.00	77	45.10	48	Low
McCurtain	33,016	Non-adjacent rural	1	3.03	22	54.40	20	Very high vulnerability
McIntosh	19,725	Adjacent rural	0	0.00	77	63.90	8	High
Murray	13,946	Non-adjacent rural	0	0.00	77	67.00	7	Very high vulnerability
Muskogee	68,736	Adjacent rural	8	11.64	8	57.20	18	Very high vulnerability
Noble	11,335	Adjacent rural	0	0.00	77	37.50	64	Low
Nowata	10,322	Adjacent rural	0	0.00	77	35.70	66	High
Okfuskee	12,067	Adjacent rural	0	0.00	77	52.40	24	Very high vulnerability
Oklahoma	787,216	Urban	116	14.74	3	53.40	21	Very high vulnerability
Okmulgee	38,749	Urban	1	2.58	24	51.80	29	Very high vulnerability
Osage	47,226	Urban	0	0.00	77	39.00	63	Moderate
Ottawa	31,454	Adjacent rural	1	3.18	21	45.90	46	Very high vulnerability
Pawnee	16,412	Urban	0	0.00	77	63.50	9	Moderate
Payne	81,815	Adjacent rural	2	2.44	25	41.60	56	Low
Pittsburg	44,146	Non-adjacent rural	6	13.59	5	61.20	13	Very high vulnerability
Pontotoc	38,355	Non-adjacent rural	4	10.43	10	60.60	14	High
Pottawatomie	72,154	Adjacent rural	6	8.32	11	58.50	15	High
Pushmataha	11,128	Non-adjacent rural	0	0.00	77	57.40	17	High
Roger Mills	3,667	Non-adjacent rural	0	0.00	77	Suppressed	-	Low
Rogers	91,353	Urban	15	16.42	1	29.00	71	High
Seminole	24,832	Non-adjacent rural	0	0.00	77	62.10	10	Very high vulnerability
Sequoyah	41,709	Urban	0	0.00	77	52.60	23	Very high vulnerability
Stephens	43,647	Adjacent rural	0	0.00	77	58.00	16	High

Texas	20,805	Non-adjacent rural	0	0.00	77	32.20	69	Moderate
Tulsa	646,419	Urban	98	15.16	2	44.90	50	Very high vulnerability
Wagoner	78,958	Urban	1	1.27	31	40.90	58	Moderate
Washington	51,886	Adjacent rural	1	1.93	28	39.20	62	High
Washita	11,225	Non-adjacent rural	0	0.00	77	56.40	19	Moderate
Woods	9,043	Non-adjacent rural	0	0.00	77	48.20	36	Low
Woodward	20,727	Non-adjacent rural	0	0.00	77	41.20	57	Moderate

[1]Population 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.

[2]The 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

[3]Recovery residences are from the NSTARR project and are current as of 2020.

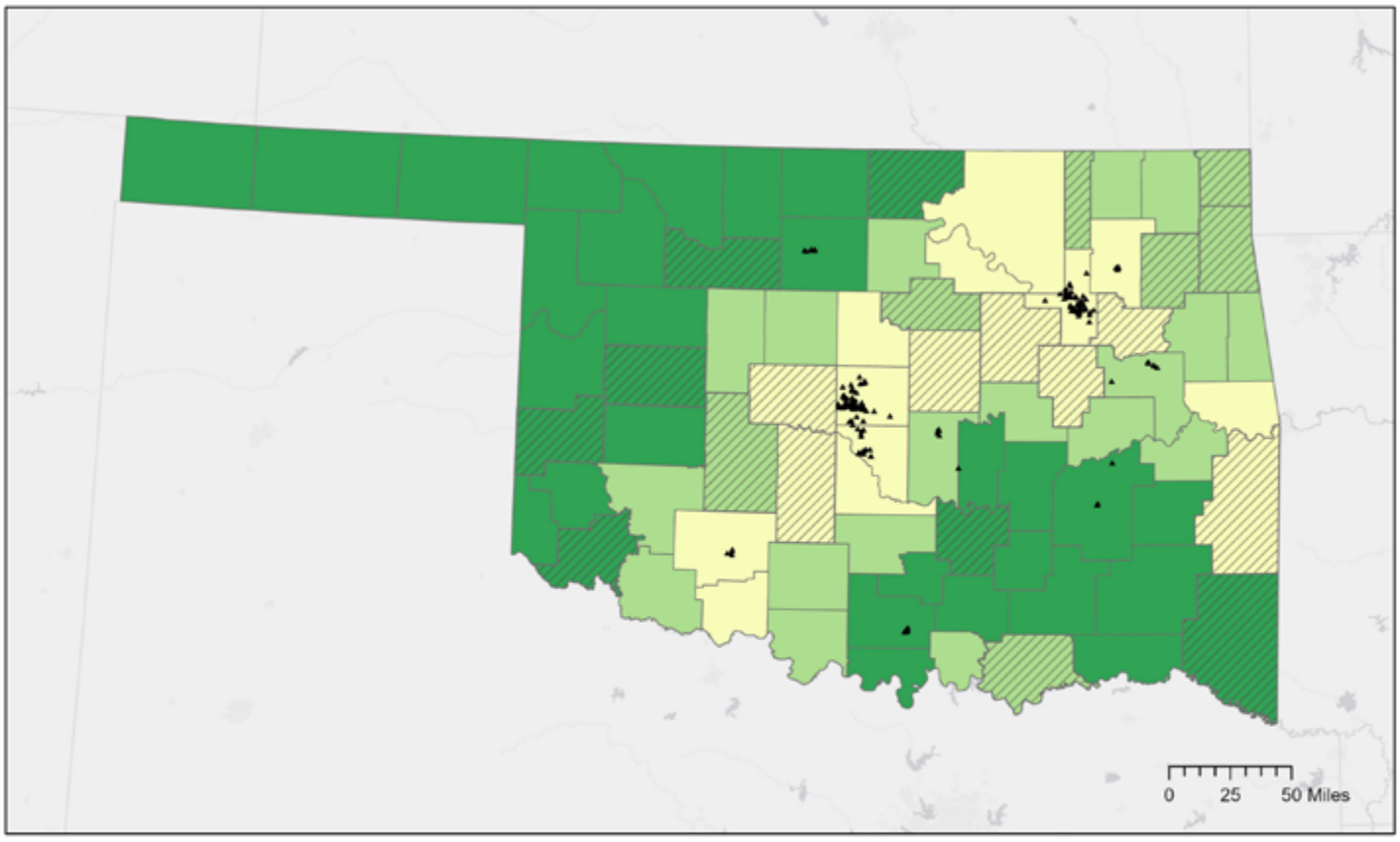
[4]Recovery residences availability per capita is ranked in order of decreasing recovery residence density per 100,000 population per county, with 1 (highest number of residences per 100,000) to 77 (lowest number of residences per 100,000 population). Counties without recovery residences were all assigned a tied rank of 77.

[5]Alcohol- 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.

[6]Mortality rate is ranked in order of decreasing alcohol- and drug-involved mortality from 1 (highest mortality per 100,000 population) to 72 (lowest mortality per 100,000 population).

[7]COVID-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 I 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

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

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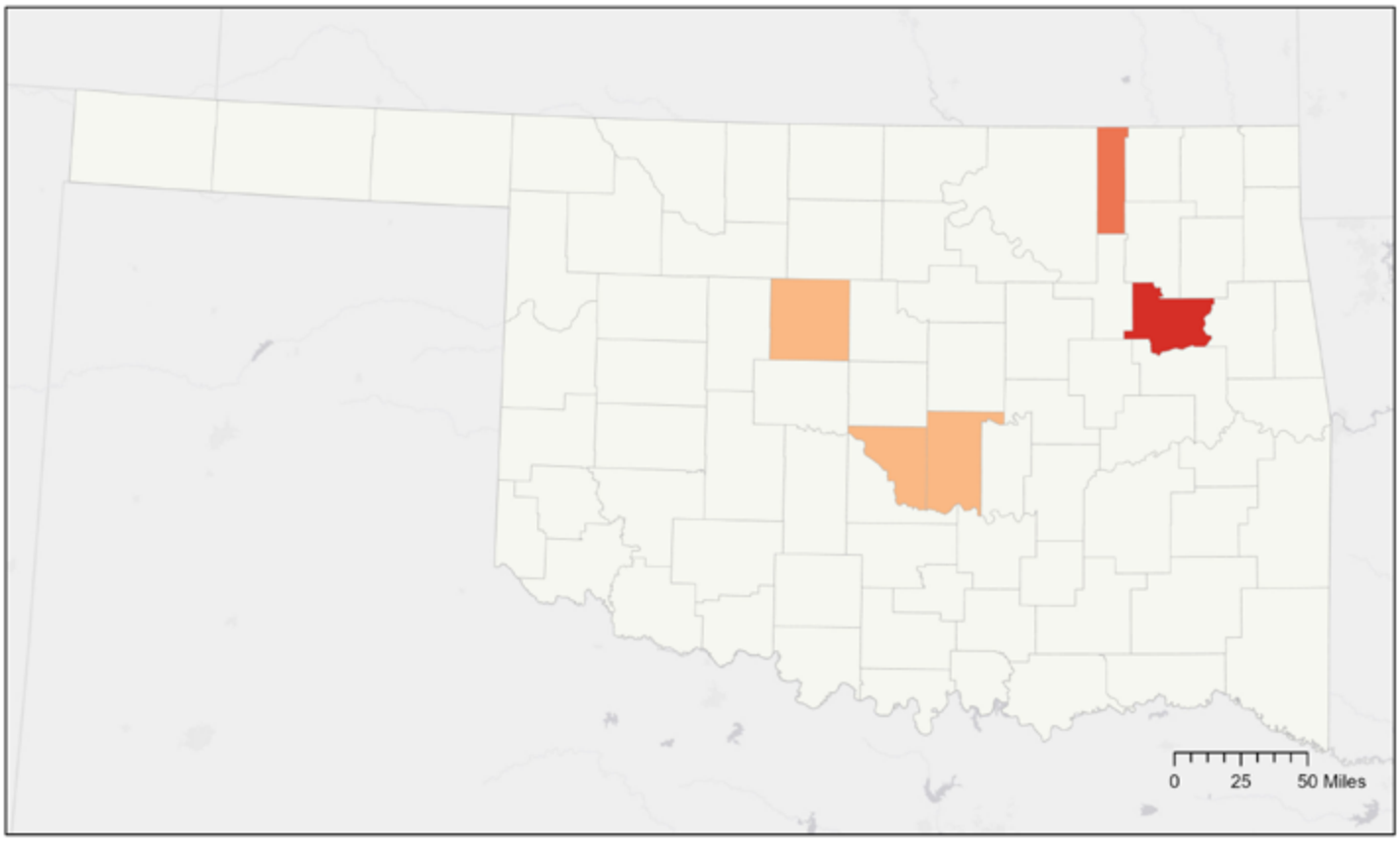
Data Credits: Esri, HERE, Garmin, USGS, EPA, NPS
Recovery residence locations: 2020
Created by: NSTARR Project (May 2022)

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

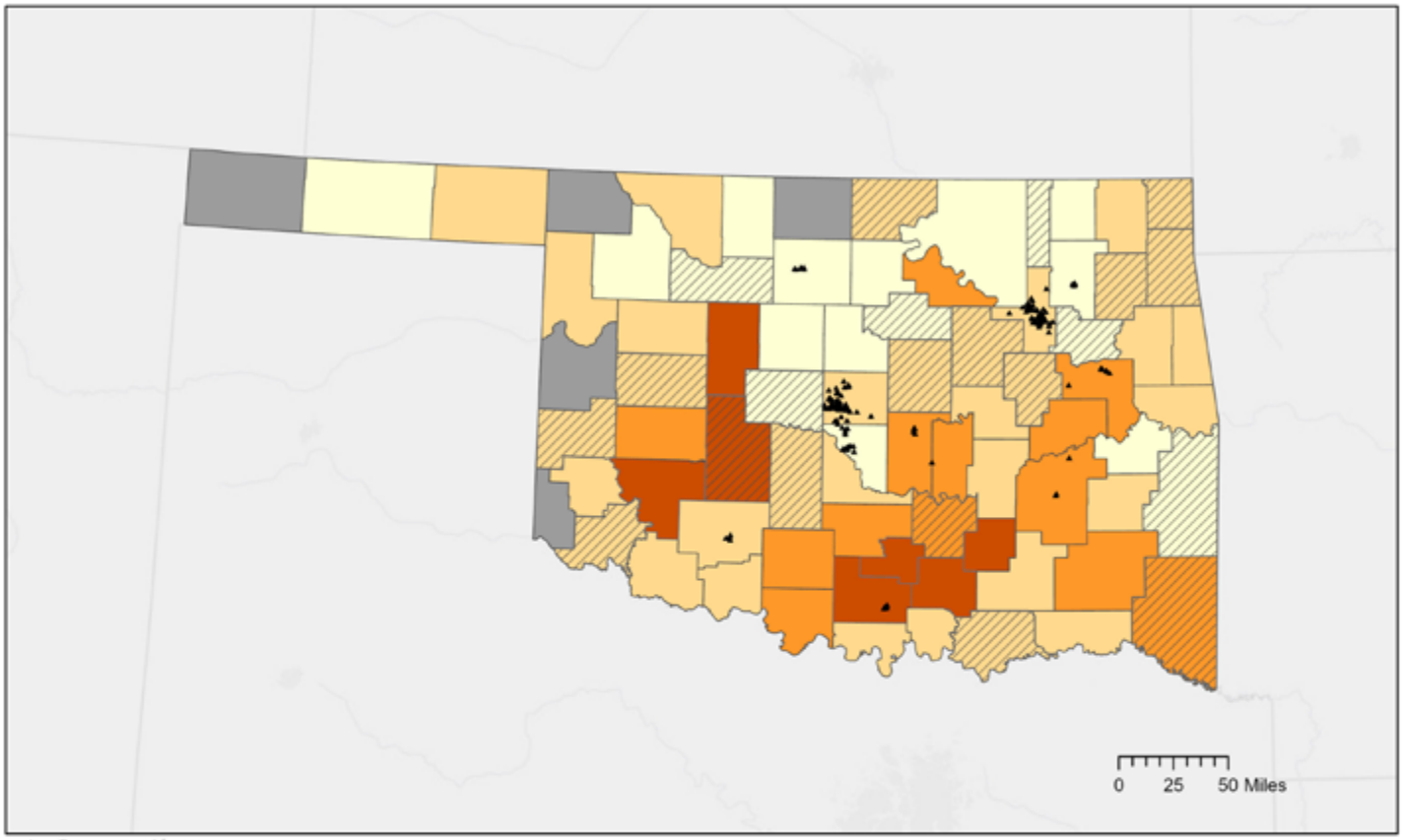
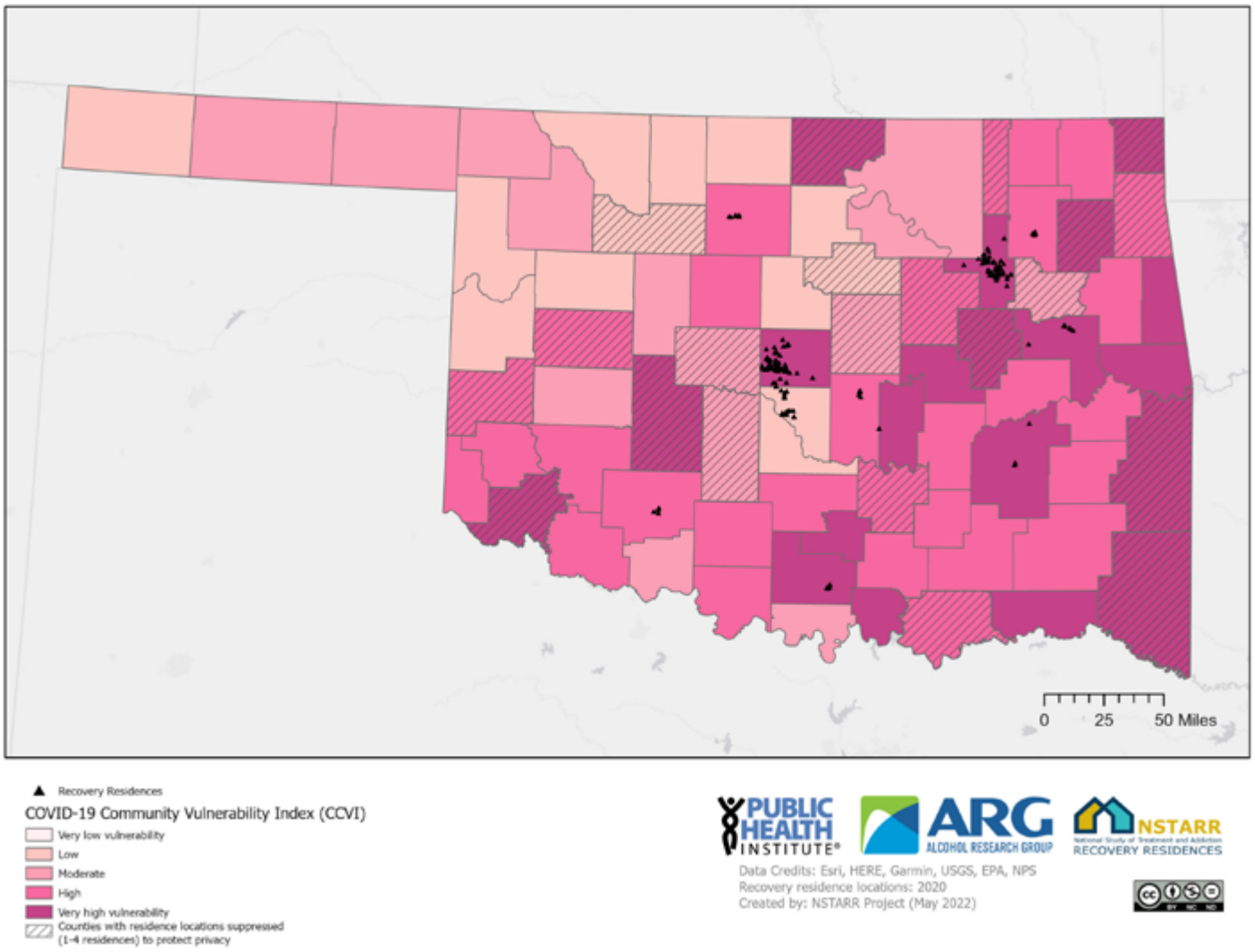


Figure 4. Distribution of Residences by COVID-19 Community Vulnerability Index



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