

# Association between AIMS Funding Distribution and Behavioral Health Service Need and Capacity

**July 2022**

## **Project Team**

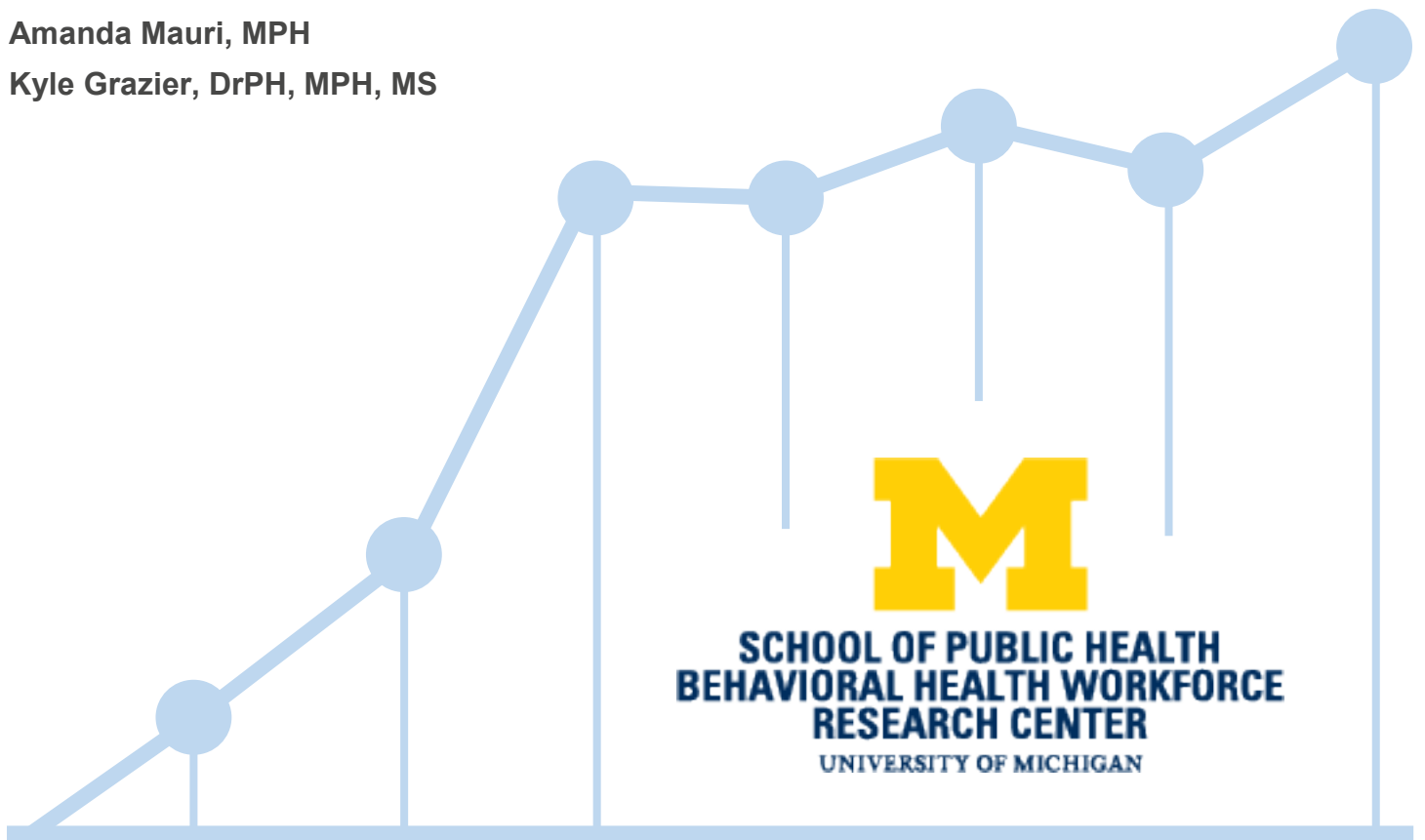
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## Background

In 2020, according to the Substance Abuse and Mental Health Services Administration (SAMHSA), an estimated 27.6 million individuals aged 18 years or older had a substance use disorder (SUD), 52.9 million adults aged 18 years or older had any mental illness, and in the past year, 17.0 million adults living in the United States (US) had any mental illness and an SUD. Despite this considerable need, the mental health (MH) and SUD service fields continuously face shortages of licensed, certified, and trained clinicians and paraprofessionals.<sup>1</sup> Indeed, only 1.4% of individuals aged 12 years or older needing SUD treatment received any SUD treatment, and 46.2% of adults aged 18 years or older needing MH treatment received inpatient or outpatient MH services. Reasons for not seeking MH or SUD treatment include, but are not limited to, cost of care, not knowing where or how to seek treatment, risk of stigmatized beliefs from the community, and care being inaccessible.<sup>2,3</sup>

In the 2017 fiscal year, the Health Resources and Services Administration (HRSA) attempted to expand access to MH and SUD services by providing supplemental federal funding to qualified health centers through the Access Increases in Mental Health and Substance Abuse Services (AIMS) grants.<sup>4,5</sup> Specifically, grant funding targeted enhancing access to behavioral health care by increasing personnel, optimizing health information technology, and offering training associated with MH and SUD treatment and integration. A total of \$200.5 million AIMS grants were awarded to 1,178 health centers across the US. Health centers received up to \$85,200 in ongoing funds to support expanded and integrated services, and up to \$95,500 in one-time funds to support health information technology and training investments.<sup>6</sup>

In this study, we examine factors associated with the distribution of AIMS funding. We analyze if communities with certain features received more funding or had fewer AIMS centers than other communities without these characteristics. More specifically, Behavioral Health Workforce Research Center (BHWRC) researchers seek to highlight where AIMS funds were distributed based on state population, MH health professional shortage area (HSPA) designations, behavioral health provider counts, and opioid overdose death rates.

## Methods

### Data

The BHWRC designed a secondary data collection strategy to collect AIMS funding by state. AIMS funds were distributed on September 1, 2017; thus, all data collected represent data between September 1, 2017 and January 1, 2022.

### AIMS Funding Data Collection

This study used secondary data collected from the HRSA AIMS funding recipient website. The initial grant recipient list was from the HRSA website. From this website, we gathered data on the number of clinics in each state, the total AIMS funding each state received, and the average AIMS funding award per clinic per state.

### State-Level Data Collection

State population counts were obtained from the 2020 US Census Bureau.<sup>8</sup> Researchers used the Kaiser Family Foundation state health facts database to collect the 2021 MH HPSA designations and MH HPSA population counts within a state.<sup>9</sup> MH HPSA designations are areas where the population to provider ratio is at least 30,000 to 1 or 20,000 to 1 when there is an unusually high need in the community. Using the Centers for Disease Control and Prevention National Center for Health Statistics data, the BHWRC team collected age-adjusted drug overdose death rates from 2019.<sup>10</sup>

Using the HRSA Area Health Resources Files (AHRF), researchers obtained provider counts for

psychologists and social workers from 2018 to 2019.<sup>11</sup> In order to estimate psychiatrist counts, AHRF leveraged the American Medical Association’s Masterfile from 2017 and 5-year public use microdata sample (PUMS) file for 2013–2017 from the American Community Survey (ACS). Psychologist and social worker counts were estimated from the ACS 5-year PUMS file. A more detailed list of the Standard Occupational Classification system codes is found online. It is important to note that “ACS data are suppressed for any value where the percent relative standard error is greater than 30%.”<sup>12</sup>

## Analysis

Researchers conducted descriptive analyses of each of the variables of interest. Further, researchers examined associations between the “independent variables” and the “dependent variables.” The independent variables included state population, MH HSPA designations, behavioral health provider counts, and opioid overdose death rates. The dependent variables were the number of AIMS centers in a state, total AIMS funds received by the state, and mean AIMS funding per facility by state.

## Findings

### State-Level AIMS Funding

A total of \$200.5 million AIMS grants were awarded to 1,178 health centers across the US. AIMS centers received an average of \$170,136 in funding (n=1,178; standard deviation [SD]=3,945). As shown in Table 1, Delaware received the lowest amount of AIMS funding (\$527,100) across 3 centers, followed by Wyoming (\$652,800; 4 AIMS centers) and North Dakota (\$702,801; 4 AIMS centers). By contrast, California received \$25,660,864 in funding across 150 centers. New York (\$10,579,395; 62 AIMS centers) and Texas (\$9,824,474; 58 AIMS centers) received the second and third highest amount of total AIMS funding. The average amount of AIMS funds across all states was \$3,862,934 (n=50; SD=3,823,268). There was little variation in AIMS funding per facility, with the lowest amount being \$161,272.25 and the highest at \$175,700.25.

### AIMS Funding by AIMS Centers

The 5 states with the lowest number of AIMS funded centers were Delaware (3 AIMS centers), Wyoming (4 AIMS centers), North Dakota (4 AIMS centers), South Dakota (4 AIMS

State	Population	Total Centers with AIMS Funding	Total AIMS Funding Within State	Mean AIMS Funding per Facility
AK	733,391	23	\$3,891,019.00	\$169,174.74
AL	5,024,279	13	\$2,193,600.00	\$168,738.46
AR	3,011,524	8	\$1,363,589.00	\$170,448.63
AZ	7,151,502	20	\$3,514,000.00	\$175,700.00
CA	39,538,223	150	\$25,660,864.00	\$171,072.43
CO	5,773,714	17	\$2,892,010.00	\$170,118.24
CT	3,605,944	16	\$2,666,359.00	\$166,647.44
DC	689,545	7	\$1,204,142.00	\$172,020.29
DE	989,948	3	\$527,100.00	\$175,700.00
FL	21,538,187	38	\$6,574,979.00	\$173,025.76
GA	10,711,908	31	\$5,347,724.00	\$172,507.23
HI	1,455,271	10	\$1,754,829.00	\$175,482.90
IA	3,190,369	14	\$2,381,560.00	\$170,111.43
ID	1,839,106	13	\$2,281,640.00	\$175,510.77
IL	12,842,509	42	\$7,252,595.00	\$172,680.83
IN	6,785,528	21	\$3,598,104.00	\$171,338.29
KS	2,937,880	16	\$2,641,921.00	\$165,120.06
KY	4,505,836	20	\$3,225,505.00	\$161,275.25
LA	4,657,757	27	\$4,671,908.00	\$173,033.63
MA	7,029,917	38	\$6,446,826.00	\$169,653.32
MD	6,177,224	15	\$2,419,828.00	\$161,321.87

centers), and Nevada (5 AIMS centers). These 5 states also received the least amount of AIMS funding across all 50 states (Table 1). California (150 AIMS centers), New York (62 AIMS centers), Texas (58 AIMS centers), Ohio (43 AIMS centers), and Illinois (42 AIMS centers) were the top 5 states with the highest number of AIMS-funded centers. Similar to the states with the lowest number of AIMS centers and least amount of AIMS funding, these 5 states received the largest amounts of AIMS funding within the state. Despite important differences in the number of AIMS centers and AIMS funding received, there was minimal variation in the mean amount of funding per center.

### **AIMS Funding by Population**

Table 2 presents the average number of AIMS centers, total funding per state, and funding per facility for population quartile ranges. In other words, for states that are in the lowest quartile for population size, we calculated the above averages. We calculated the same statistics for the second, third, and fourth quartiles. The first quartile contains the states with the smallest state population, and the fourth quartile contains the states with the largest number of state residents.

As population size increased, the number of centers with AIMS funding and the total AIMS within the state also grew. The average number of centers per state was smallest for the 1st quartile (10.6) and largest for the 4th (45.5). Similarly, the total AIMS funding within a state was greatest for the 4th quartile at \$7,788,572 and smallest for the 1st at \$1,811,968. Note that the third quartile was below the average for total centers with AIMS funding and total AIMS funding within state. This was driven by extreme values in the 4th quartile pulling the average above the median number of centers (17.0) and total funding (\$2,892,010).

State	Population	Total Centers with AIMS Funding	Total AIMS Funding Within State	Mean AIMS Funding per Facility
ME	1,362,359	16	\$2,685,342.00	\$167,833.88
MI	10,077,331	37	\$6,341,900.00	\$171,402.70
MN	5,706,494	16	\$2,718,877.00	\$169,929.81
MO	6,154,913	24	\$3,970,840.00	\$165,451.67
MS	2,961,279	18	\$3,008,414.00	\$167,134.11
MT	1,084,225	17	\$2,851,995.00	\$167,764.41
NC	10,439,388	36	\$6,137,127.00	\$170,475.75
ND	779,094	4	\$702,801.00	\$175,700.25
NE	1,961,504	6	\$1,054,200.00	\$175,700.00
NH	1,377,529	10	\$1,755,512.00	\$175,551.20
NJ	9,288,994	20	\$3,513,581.00	\$175,679.05
NM	2,117,522	17	\$2,871,807.00	\$168,929.82
NV	3,104,614	5	\$860,940.00	\$172,188.00
NY	20,201,249	62	\$10,579,295.00	\$170,633.79
OH	11,799,448	43	\$7,438,746.00	\$172,994.09
OK	3,959,353	14	\$2,343,354.00	\$167,382.43
OR	4,237,256	23	\$3,832,251.00	\$166,619.61
PA	13,002,700	32	\$5,340,828.00	\$166,900.88
RI	1,097,379	8	\$1,405,600.00	\$175,700.00
SC	5,118,425	21	\$3,594,841.00	\$171,182.90
SD	886,667	4	\$691,072.00	\$172,768.00
TN	6,910,840	21	\$3,532,201.00	\$168,200.05
TX	29,145,505	58	\$9,824,474.00	\$169,387.48
UT	3,271,616	11	\$1,777,689.00	\$161,608.09
VA	8,631,393	19	\$3,163,584.00	\$166,504.42
VT	643,007	10	\$1,750,113.00	\$175,011.30
WA	7,705,281	24	\$4,075,745.00	\$169,822.71
WI	5,893,718	14	\$2,340,338.00	\$167,167.00
WV	1,793,716	22	\$3,683,255.00	\$167,420.68
WY	576,851	4	\$652,800.00	\$163,200.00

**Table 2: Total AIMS Centers and AIMS Funding per State by Population**

Population		Mean			
		Total Centers with AIMS Funding	Total AIMS Funding within State	Clinics per 100,000 Population	Funding per 1,000 Population
1st quartile	1,036,075	10.6	\$1,811,968	1.1	\$1,810
2nd quartile	3,131,062	13.9	\$2,331,479	0.5	\$771
3rd quartile	6,032,026	20.6	\$3,491,114	0.3	\$584
4th quartile	15,763,240	45.5	\$7,788,573	0.3	\$493
average	6,499,592	22.7	\$3,862,934	0.5	\$921
median	4,505,836	17.0	\$2,892,010	0.8	\$1,291

However, these relationships reversed when we adjusted for population size. Indeed, the number of clinics per 100,000 state residents and total state funds per 1,000 state residents were greater for states in the 1st quartile than the 2nd, 3rd, or 4th quartiles. The number of clinics per 100,000 state residents was 1.1 for the 1st quartile, 0.5 for the 2nd quartile, 0.3 for 3rd quartile, and 0.3 for the 4th quartile. The total funding per 1,000 population was 1,810 for the 1st quartile, 771 for the 2nd quartile, 584 for the 3rd quartile, and 493 for the 4th quartile.

### **AIMS Funding by HPSA Designations**

Table 3 displays the number of HPSA designated areas and population within HPSA designated areas. Table 4 and 5 offer summary statistics to facilitate a comparison between Tables 1 and 3. Specifically, we calculated the average number of AIMS Centers, AIMS funding within state, and AIMS funding per facility for each quartile of HPSA designation and population within an HPSA designation. The first quartile contains the states with the fewest HPSA designations and smallest state population living in a HPSA, and the fourth quartile contains the highest number of HPSA areas and largest population living in a HPSA.

Table 4 demonstrates that as the number of HPSA designations within a state increased, so too did the number of AIMS centers within a state and total AIMS funding received. However, when we adjusted for population size, the relationship disappeared. For instance, states within the 1st quartile of HPSAs had an average of 9.8 AIMS centers compared with 16.1 centers for states within the 2nd quartile, 21.5 centers for states in the 3rd quartile, and 43.4 centers for states in the 4th quartile. When we adjusted the number of centers for the size of the population, we observed no relationship between number of HPSAs and clinics per 100,000 population. Indeed, the number of clinics per 100,000 population in the 1st, 2nd, 3rd, and 4th was 0.6, 0.5, 0.5, and 0.6, respectively.

Table 5 displays a similar positive correlation between population living within a HPSA-designated area and total AIMS funding per state. However, unlike the results displayed in Table 4, we found that this relationship did not disappear after adjusting for population, but reversed. In Table 5, we report averages for each quartile of population within HPSA designated area. We observed a positive relationship between the population within HPSA-designated areas and the number of AIMS centers within a state and total AIMS funding per state. Indeed, states in the highest quartile of population of designated HPSAs received more money (average: \$7,431,179.23) and had more clinics (average: 43.5 clinics) than states in the third (average: \$3,129,365.1; average: 19 clinics), second (average: \$2,682,326.8; average: 16 clinics), and first (average: \$2,224,144.5; average: 13 clinics) quartiles.

However, when we adjusted for population, we observed the reverse relationship. As the population within HPSAs grew, the number of AIMS centers per 100,000 and total AIMS funding per 1,000 within a state decreased. Indeed, states in the 1st quartile of population living in a HPSA had 0.9 centers per

**Table 3: HPSA Designations and Population Within Designated HPSAs by State**

State	HPSA Designations	Population of Designated HPSAs	State	HPSA Designations	Population of Designated HPSAs
AK	304	383,692	MS	83	3,190,018
AL	61	2,927,845	MT	118	905,132
AR	51	1,194,257	NC	196	3,586,372
AZ	210	2,884,369	ND	72	308,352
CA	578	11,511,663	NE	80	1,036,048
CO	65	2,898,698	NH	22	93,150
CT	38	1,110,816	NJ	36	40,892
DC	10	133,945	NM	83	1,363,019
DE	11	209,638	NV	52	2,445,765
FL	210	6,413,096	NY	178	4,100,603
GA	89	5,216,988	OH	116	2,572,754
HI	31	496,032	OK	116	1,688,933
IA	95	1,812,869	OR	126	1,911,961
ID	66	1,746,975	PA	123	1,703,246
IL	188	7,776,706	RI	12	395,297
IN	84	4,694,347	SC	70	2,249,599
KS	123	1,366,146	SD	58	452,753
KY	114	2,903,930	TN	69	3,154,955
LA	152	3,421,725	TX	424	15,323,174
MA	56	273,105	UT	46	2,803,378
MD	48	1,293,314	VA	90	2,494,482
ME	61	285,644	WA	172	2,983,580
MI	242	4,201,672	WI	119	2,179,569
MN	120	2,092,250	WV	106	788,500
MO	250	1,836,532	WY	27	566,581

**Table 4: Total AIMS Centers and AIMS Funding per State by HPSA Designation**

Mean						
Number of HPSAs	Population of HPSAs	Total Centers with AIMS Funding	Total AIMS Funding within State	Clinics per 100,000 Population	Funding per 1,000 Population	
1st quartile	30.4	898,588.8	9.8	\$1,665,544.8	0.6	\$97,508.9
2nd quartile	69.8	1,890,873.7	16.1	\$2,734,835.2	0.5	\$87,700.2
3rd quartile	110.8	2,143,733.3	21.5	\$3,623,140.6	0.5	\$86,814.9
4th quartile	248.5	5,102,703.5	43.4	\$7,409,769.0	0.6	\$98,553.6
Average	114.9	2,548,487.3	22.7	\$3,862,933.8	0.5	\$92,642.8
Median	84.0	1,874,246.5	17.0	\$2,892,010.0	0.4	\$62,987.8



100,000 state residents and received \$149,833.3 in funding per 100,000 state residents. In comparison, states in the 4th quartile had 0.4 centers per 1,000 state residents and received \$59,638.0 in funding per 1,000 state residents.

**Table 5: Total AIMS Centers and AIMS Funding per State by Population Within HPSA Designation**

Population of HPSAs	Number of HPSAs	Mean					
		Total Centers with AIMS Funding	Total AIMS Funding with-in State	Mean AIMS Funding per Facility	Clinics per 100,000 Population	Funding per 1,000 Population	
1st quartile	340,583.2	62.0	13.0	\$2,224,144.5	\$171,991.1	0.9	\$149,833.3
2nd quartile	1,421,440.6	99.3	16.0	\$2,682,326.8	\$168,440.8	0.5	\$88,820.0
3rd quartile	2,530,383.3	99.1	18.5	\$3,129,365.1	\$168,668.8	0.3	\$50,559.7
4th quartile	5,813,453.8	205.0	43.5	\$7,431,179.2	\$170,824.2	0.4	\$59,638.0
Average	2,548,487.3	114.9	22.7	\$3,862,933.8	\$170,135.8	0.5	\$88,497.3
Median	1,874,246.5	84.0	17.0	\$2,892,010.0	\$170,118.2	0.4	\$62,987.8

### AIMS Funding by Opioid Overdose Rates

Table 6 presents the age-adjusted opioid overdose rates per 100,000 state residents. The five states with the lowest opioid overdose deaths were Nevada, South Dakota, Texas, North Dakota, and Iowa. West Virginia, Washington, D.C., Ohio, Maryland, and Pennsylvania had the highest opioid overdose death rates.

Table 7 presents the 2019 age-adjusted opioid overdose death rate per 100,000 state residents. Similar to the summary tables above, Table 7 offers a comparison of this measure with the number of AIMS Centers, total AIMS Center funding, and AIMS funding per facility. The goal of this table is to assess if differences in opioid overdose rates align with variation in AIMS funding.

Table 7 suggests that there is no relationship between the opioid overdose rate and AIMS funding distribution. Prior to adjusting for population size, states in the 2nd quartile for the opioid overdose rate had the highest number of AIMS centers (28.8) and received the most AIMS funding (\$4,908,839.0), followed by states in the 3rd quartile (23.9 centers, \$4,111,592.3), 4th quartile (21.3 centers, \$3,598,764.0), and 1st quartile (16.8 centers, \$2,851,667.5). The opioid overdose rate also did not correlate with the number of clinics per 100,000 state residents or funding per 1,000 state population, though the 4th quartile did receive more funding adjusted for population (\$1,007.4) than the other quartiles.

### State-Level Behavioral Health Provider Counts

Table 8 compares the number of providers in the states to the number of AIMS centers and amount of AIMS funding. Specifically, we examined how the count of psychologists, social workers, and psychiatrists in a state relate to the distribution of AIMS resources. Similar to the findings presented in Table 5, we found that the relationship between provider count and AIMS centers and funding was positive prior to adjusting for state population and negative after the adjustment. We observed this pattern for all three provider types.

As the quartile increased, states were more likely to have higher numbers of AIMS centers and receive more AIMS funding. States in the 4th quartile had an average number of 11,042.0 psychologists, 25,592.5 social workers, and 2182.8 psychiatrists compared with 789.4 psychologists, 1,778.5 social workers, and 117.8 psychiatrists for states in the 1st quartile. States in the 4th quartile for all provider groups also had more AIMS centers (psychologists: 46.8, social workers: 41.1, psychiatrists: 45.4) and more AIMS center funding (psychologists: \$8,000,720.3, social workers: \$7,022,458.3, psychiatrists: \$7,745,740.5) than states in the 1st quartile.

**Table 6: Opioid Overdose Deaths per 100,000 Population**

State	2019 Opioid Overdose Deaths per 100,000 Population (age-adjusted rate)	State	2019 Opioid Overdose Deaths per 100,000 Population (age-adjusted rate)
AK	17.8	MT	14.1
AL	16.3	NC	22.3
AR	13.5	ND	11.4
AZ	26.8	NE	8.7
CA	15	NH	32
CO	18	NJ	31.7
CT	34.7	NM	30.2
DC	43.2	NV	20.1
DE	25.5	NY	18.2
FL	25.5	OH	38.3
GA	13.1	OK	16.7
HI	15.9	OR	14
IA	11.5	PA	35.6
ID	15.1	RI	29.5
IL	21.9	SC	22.7
IN	26.6	SD	10.5
KS	14.3	TN	31.2
KY	32.5	TX	10.8
LA	28.3	UT	18.9
MA	32.1	VA	18.3
MD	38.2	VT	23.8
ME	29.9	WA	15.8
MI	24.4	WI	21.1
MN	14.2	WV	52.8
MO	26.9	WY	14.1
MS	13.6		

**Table 7: Total AIMS Centers and AIMS Funding per State by Opioid Overdose Rate**

Opioid Overdose Rate	Mean				
	Total Centers with AIMS Funding	Total AIMS Funding within State	Clinics per 100,000 Population	Funding per 1,000 Population	
1st quartile	12.6	16.8	\$2,851,667.5	0.5	\$870.2
2nd quartile	17.5	28.8	\$4,908,839.0	0.6	\$966.7
3rd quartile	25.4	23.9	\$4,111,592.3	0.5	\$832.9
4th quartile	35.6	21.3	\$3,598,764.0	0.6	\$1,007.4
Average	22.7	22.7	\$3,862,933.8	0.5	\$921.0
Median	21.1	17.0	\$2,892,010.0	0.4	\$630.4

**Table 8: Average Total AIMS Centers and AIMS Funding by Mean Number of Providers**

Providers	Total Centers with AIMS Funding	Total AIMS Funding within State	Mean			
			AIMS Funding per Facility	Clinics per 100,000 Population	Funding per 1,000 Population	
<b>Psychologists</b>						
1st quartile	789.4	11.8	\$2,018,461.7	\$171,675.4	0.7	\$1,222.7
2nd quartile	1457.1	15.7	\$2,636,513.0	\$168,849.6	0.6	\$992.4
3rd quartile	3,912.4	21.0	\$3,563,962.9	\$169,177.5	0.3	\$551.9
4th quartile	11,042.0	46.8	\$8,000,720.3	\$170,735.9	0.3	\$516.6
Average	4,308.5	23.9	\$4,065,360.3	\$170,129.4	0.5	\$826.6
Median	2258	24.0	\$4,087,467.1	\$170,159.4	0.5	\$883.5
<b>Social workers</b>						
1st quartile	1,778.5	10.6	\$1,812,189.8	\$172,108.7	1.0	\$1,793.7
2nd quartile	3,941.1	12.8	\$2,150,108.1	\$169,330.5	0.5	\$838.8
3rd quartile	8,620.2	20.0	\$3,372,974.3	\$168,558.8	0.4	\$653.1
4th quartile	25,592.5	41.1	\$7,022,458.3	\$170,344.2	0.3	\$512.4
Average	10,901.3	22.7	\$3,862,933.8	\$170,135.8	0.5	\$921.0
Median	7132	17.0	\$2,892,010.0	\$170,118.2	0.4	\$630.4
<b>Psychiatrists</b>						
1st quartile	117.8	11.4	\$1,922,436.6	\$170,723.0	0.7	\$1,205.4
2nd quartile	277.3	14.2	\$2,397,244.8	\$169,838.0	0.8	\$1,346.4
3rd quartile	645.0	19.9	\$3,386,162.3	\$169,751.3	0.4	\$603.8
4th quartile	2,182.8	45.4	\$7,745,740.5	\$170,133.3	0.3	\$514.7
Average	805.7	22.7	\$3,862,933.8	\$170,135.8	0.5	\$921.0
Median	380.0	17.0	\$2,892,010.0	\$170,118.2	0.4	\$630.4

This positive association reversed when we used the population-adjusted rates of AIMS centers per 100,000 state residents and AIMS center funding per 1,000 population. States in the 1st quartile for all three provider groups had more clinics than all quartiles, except the psychologists' 2nd quartile of 0.8 clinics per 100,000 population. For instance, states in the 1st quartile had 1.0 center for every 100,000 residents compared with 0.5 for the 2nd quartile, 0.4 for the 3rd quartile, and 0.3 for the 4th quartile. Similarly, states in the lower quartiles received more AIMS center funding per state resident than states in higher quartiles, again with the exception of psychologists' 2nd quartile of \$1,346.4 per 1,000 state residents. For example, states in the highest quartile of average number of psychologists received \$1,222.7 in AIMS funding per 1,000 state residents compared with \$992.4 for the 2nd quartile, \$551.9 for the 3rd quartile, and \$516.6 for the 4th quartile.

## Conclusions

This research study adds to existing literature investigating the distribution of AIMS grant funds. The Office of Inspector General (OIG) audit examining the allocation of AIMS grant funds focused on decisions at the health center level. Specifically, the OIG's "objective was to determine whether health centers in selected states used their AIMS grant funding in accordance with federal requirements and grant terms." Given the OIG's finding that most health centers did not use their AIMS grant funding in accordance with

federal requirements, there has been interest in understanding other parts of the AIMS grant allocation process. This research project begins to fill that gap.

In this paper, we examine the allocation of AIMS grant funding to states. We are interested in learning if the number of centers receiving funds and the total amount of funding received at the state level correlates with the size of the state population, MH HSPA designations, behavioral health provider counts, and opioid overdose death rates.

After adjusting for population size, we observe no relationship between the age-adjusted opioid overdose deaths rate and number of AIMS centers and total AIMS center funding within a state. Our findings suggest that AIMS center funding was not higher in states with more opioid overdose deaths per state resident compared to states with fewer deaths due to opioids. As our data are at the state level, we are unable to tell if AIMS awards were allocated in a way to accommodate within-state differences in opioid overdose rates. Given that the AIMS grants were intended to “expand access to mental health and SUD services, focusing on the treatment, prevention, and awareness of opioid use disorders,” we recommend researchers conduct these county-level analyses. We would suggest that HRSA consider how data on opioid overdose death prevalence influences the allocation of awards intended to address the opioid crisis.

A notable result from our analysis is the negative association between the three MH provider types and the number of AIMS centers and AIMS funding per state. Specifically, we observe that as the mean numbers of psychologists, psychiatrists, and social workers in a state increase, the number of clinics per 100,000 state residents and funding per 1,000 state residents declines. Our data cannot distinguish between if centers in states with low numbers of these provider types were more likely to apply for AIMS funding or if HRSA was more likely to award funding to centers in states with low numbers of providers. Further, our data do not include other types of behavioral health providers essential to the opioid use disorder treatment workforce, including primary care doctors, peer support providers, and nurses. Given that an eligible use of AIMS Center funds was personnel increases, additional analyses are well-suited to further dissect this finding and assess if AIMS funding was allocated to communities in provider shortage areas.

An unexpected finding concerns the contradictory results regarding HPSA designation. We find that while the size of the population living in an HPSA designation is negatively correlated with the number of AIMS centers in a state and the total AIMS funding a state received, there is no association between the number of HPSAs in a state and the number of AIMS centers or funding. Given that health centers target underserved areas, we expected a positive correlation for both measures, in that states with HPSAs and more persons residing in HPSAs would receive more AIMS funds. Yet, we do not observe this result for either measure. Future research should examine this association to assess if serving a large population residing in an HPSA reduces or has no effect on the likelihood of applying for or receiving AIMS funds.

We highlight several limitations of this project. First, our data do not distinguish between applicants and awardees. Put another way, we cannot tell if the reason behind our findings is that centers did not apply for AIMS funds, or if HRSA did not award centers funding. For example, we do not know if centers residing in states with high numbers of psychologists were less likely to apply to the AIMS grant program than their peers in states with low numbers of psychologists, or if HRSA awarded AIMS grants in ways that penalized states with high numbers of psychologists. Future research should consider using a dataset capable of distinguish if effects occur at the application or awarding stage.

Second, our dataset only establishes correlations between opioid overdose deaths, HPSA designation, and provider counts and the total number of AIMS funding and centers within a state. Nowhere in this report do we suggest any causal associations. Nonetheless, our findings suggest opportunities for further causal or causal inference analyses. For instance, we encourage future work to examine if AIMS funding was indeed more likely to go to centers in states with fewer psychiatrists, psychologists, and social workers. These studies would help answer if AIMS funding helped correct for disparities in the behavioral health workforce across counties and states.

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