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Location of Medication-Assisted Treatment for Opioid Addiction: In Brief

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SUMMARY

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Location of Medication-Assisted Treatment for Opioid Addiction: In Brief

The substantial burden of opioid abuse related to the current opioid epidemic in the United States has resulted in a disparity between the need for substance abuse treatment and the current capacity. Methadone and buprenorphine are two medications used in medication-assisted treatment (MAT) for opioid use disorder (OUD). Methadone and buprenorphine are both opioids; their use to treat opioid use disorders is often called *opioid agonist treatment* or *therapy* (OAT) or *opioid agonist MAT*. As controlled substances, methadone and buprenorphine are subject to additional regulations. Methadone may be used to treat opioid addiction within federally certified opioid treatment programs (OTP)—often referred to as methadone clinics. Buprenorphine may be used to treat opioid use disorder in two settings: (1) within an OTP and (2) outside an OTP pursuant to a Drug Addiction Treatment Act (DATA) waiver.

The federal government has taken steps to increase the availability of MAT in response to the escalation of opioid overdoses and deaths in recent years. Policy efforts to address the opioid epidemic have corresponded with increased treatment availability, yet access to substance abuse treatment has not kept pace with the increasing rates of opioid addiction in the United States. Geographic information is important in accurately evaluating treatment capacity. Treatment location may be especially relevant to understanding the discrepancy between need and capacity. The current report identifies the geographic location of MAT providers using methadone and buprenorphine (opioid agonist treatment) in the United States. The analysis uses Substance Abuse and Mental Health Services Administration (SAMHSA) data to identify the number and location of (1) federally certified opioid treatment programs and (2) practitioners with DATA waivers. The geographic location of OTPs and DATA-waived practitioners are displayed in several national and regional maps.

Identifying the location of OAT providers may have utility in increasing accessibility to treatment. However, simply increasing capacity for treatment may not effectively increase availability (or decrease opioid-related overdoses) if treatment providers are not located in areas of need. The current analysis does not evaluate need—by locating opioid-related overdose hospital admissions and deaths for instance. It does, however, provide an initial step in assessing how treatment providers are dispersed geographically. Other factors, such as substance use treatment financing, stigma, and waiting periods for services may also affect OAT availability. Practitioners are subject to state laws and regulations regarding prescribing privileges which affect their eligibility for DATA waivers and, in turn, the availability of treatment. Congress may incorporate geographic factors in strategies designed to increase capacity and availability of treatment.

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Introduction

The substantial burden of opioid abuse related to the current opioid epidemic in the United States has resulted in a disparity between the need for substance abuse treatment and the current capacity of the health care delivery system to meet that need. In 2017, over 47,600 people died of opioid-related drug overdoses in the United States.[1] In that same year, an estimated 11.4 million people aged 12 and older misused opioids, including 11.1 million misusers of prescription pain relievers and 886,000 heroin users.[2] The majority of individuals in need of treatment do not receive it. In 2016, one-fifth (21.1%) of those with any opioid use disorder (OUD)[3] received specialty substance abuse treatment, including 37.5% of those with heroin use disorder and 17.5% of those with prescription pain reliever use disorders.[4]

Opioid Agonist Medication-Assisted Treatment

Medication-assisted treatment (MAT) is the combined use of medication and other services to treat addiction. MAT is widely accepted as the most effective treatment for opioid use disorder.[5] Three medications are currently used in MAT for opioid addiction: methadone, buprenorphine, and naltrexone (naloxone, a medication used to reverse opioid overdose, is not used to treat opioid use disorders). Methadone and buprenorphine are both opioids; their use to treat opioid use disorders is often called *opioid agonist treatment* (OAT), *opioid agonist MAT*, *opioid substitution therapy*, or *opioid replacement therapy*.[6] Methadone or buprenorphine may be used both in the short term to mitigate the immediate withdrawal symptoms associated with discontinuing use of the opioid of abuse and over extended periods to maintain abstinence and prevent relapse. Descriptions of medication-assisted treatments for opioid use disorder and commonly used acronyms are included in the textbox below.

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[1] U.S. Department of Health and Human Services (HHS), National Institutes of Health (NIH), National Institute on Drug Abuse (NIDA), *Overdose Death Rates*, Updated August 2018, https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates and HHS, Centers for Disease Control and Prevention (CDC), *Opioid Overdose Deaths in the United States, 1999-2017*, NCHS Data Brief, No. 329, 2018, https://www.cdc.gov/nchs/products/databriefs/db329.htm.

[2] See HHS, SAMHSA, *Key Substance Use and Mental Health Indicators in the United States: Results from the 2017 National Survey on Drug Use and Health*, HHS Publication No. SMA 18-5068, NSDUH Series H-53, 2018, https://www.samhsa.gov/data/report/2017-nsduh-annual-national-report.

[3] *Opioid use disorder* is the official diagnostic term for "a problematic pattern of opioid use leading to clinically significant impairment or distress," as defined in the current edition of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-5).

[4] HHS, SAMHSA, *SAMHSA Shares Latest Behavioral Health Data, Including Opioid Misuse*, October 12, 2017, https://newsletter.samhsa.gov/2017/10/12/samhsa-new-data-mental-health-substance-use-including-opioids/. The data on heroin-related deaths reported in this source is drawn from HHS, Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Vital Statistics System (NVSS). All other data are drawn from SAMHSA's National Survey on Drug Use and Health (NSDUH).

[5] See, for example, Nora Volkow, Emily Jones, and Emily Einstein, et al., "Prevention and Treatment of Opioid Misuse and Addiction: A Review," *JAMA Psychiatry*, vol. 76, no. 2 (February 2019), pp. 208-216.

[6] In the current report, the terms *opioid agonist treatment* (OAT) or *opioid agonist MAT* will be used. An opioid "agonist" activates opioid receptors in the human brain, whereas an opioid "antagonist" blocks those same receptors from being activated.

Opioid Use Disorder Treatments and Acronyms Used

Treatment	Description
Buprenorphine	A synthetic opioid medication that acts as a partial agonist at opioid receptors. It does not produce the euphoria and sedation caused by full opioid agonists but is able to reduce or eliminate withdrawal symptoms and carries a low risk of overdose. It is available by prescription from qualified health providers who have obtained Drug Addiction Treatment Act of 2000 (DATA) waivers.[7]
Buprenorphine/Naloxone	Often referred to by the brand name Suboxone®, it is a combination of buprenorphine and naloxone. Naloxone is a full opioid antagonist used to block the effects of other opioids. It is activated if the buprenorphine is injected instead of dissolved by mouth.
Medication-Assisted Treatment (MAT)	The combined use of medication and other services (such as counseling) to treat addiction. Three medications are currently used in MAT for opioid addiction: methadone, buprenorphine, and naltrexone.
Methadone	A long-acting synthetic opioid agonist medication that can prevent withdrawal symptoms and reduce craving in opioid-addicted individuals. It is available through specially licensed opioid treatment programs (OTPs).
Opioid Agonist Treatment (OAT)	The use of methadone or buprenorphine in medication-assisted treatment. It is also referred to as *opioid agonist MAT*, *opioid substitution therapy*, or *opioid replacement therapy*.
Opioid Treatment Programs (OTPs)	Federally certified substance abuse treatment facilities—often called methadone clinics—that offer opioid medications in addition to counseling and other services for individuals addicted to heroin or other opioids.
Opioid Use Disorder (OUD)	The official diagnostic term for "a problematic pattern of opioid use leading to clinically significant impairment or distress," as defined in the current edition of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-5).
Naltrexone	The third FDA-approved medication used in MAT, it is a synthetic opioid antagonist that blocks opioids from binding to their receptors and thereby prevents any euphoric effect. Naltrexone is not an opioid and therefore is not regulated under the Controlled Substances Act.

Source: CRS analysis and also U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse, *Principles of Drug Addiction Treatment: A Research-Based Guide (Third Edition)*, NIH Publication No. 12-4180, December 2012, https://www.drugabuse.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition. Last updated January, 2018 and Suzuki, Joji, *Buprenorphine Formulations: A Practical Summary for Clinicians*, Psychopharmacology Institute, Clinical Psychopharmacology Education for Prescribers CME/CE Program, September 11, 2017, https://psychopharmacologyinstitute.com/substance-use-disorders/buprenorphine-formulations-practical-summary-clinicians/.

As controlled substances, methadone and buprenorphine are regulated under the Controlled Substances Act (CSA; 21 U.S.C. §§801 et seq.).[8] Under the CSA, methadone may be used to treat opioid addiction within an inpatient setting, such as a hospital, or in a federally certified opioid treatment program (OTP). Federally certified OTPs—often referred to as methadone clinics—offer opioid medications, counseling, and other services for individuals addicted to heroin or

[7] Title XXXV of P.L. 106-310.

[8] Naltrexone, which is not an opioid, does not carry an addiction risk and is not regulated under the CSA. Naltrexone may be used in an OTP, or may be provided outside an OTP by health care professionals who are allowed to prescribe drugs, without federal DATA waivers.

other opioids. With few exceptions, the use of methadone to treat opioid addiction is limited to OTPs. Treatment within an OTP may be in an inpatient or outpatient capacity, though typically it occurs on an outpatient basis. There are no federal limits on the number of patients that can be treated at an OTP. However, in 2016 HHS determined—through SAMHSA survey data—that an OTP could manage, on average, 262 to 334 patients at any given time.[9] For more information on federal regulations regarding opioid treatments, see CRS In Focus IF10219, *Opioid Treatment Programs and Related Federal Regulations*, by Johnathan H. Duff.

Buprenorphine may be used to treat opioid use disorder in two settings: (1) within an OTP and (2) outside an OTP pursuant to a waiver.[10] A physician or other practitioner (e.g., physician assistant or nurse practitioner)[11] may obtain a waiver to administer, dispense, or prescribe buprenorphine outside an OTP. This is commonly known as a DATA waiver, drawing its name from the law that established the waiver authority: the Drug Addiction Treatment Act of 2000 (DATA 2000).[12] To qualify for a waiver, a practitioner must notify the Health and Human Services (HHS) Secretary[13] of the intent to use buprenorphine to treat opioid use disorders and must certify that he or she

- is a qualifying practitioner;[14]
- can refer patients for appropriate counseling and other services; and
- will comply with statutory limits on the number of patients that may be treated at one time.

The patient limit is 30 individuals during the first year and may increase to 100 after one year or immediately if the practitioner holds additional credentialing or operates in a qualified practice setting.[15] The patient limit may increase to 275 after one year under certain conditions specified in regulation.[16] Practitioners are subject to state laws and regulations regarding prescribing privileges and therefore may not be eligible in all states. Similar to methadone treatment, MAT with buprenorphine typically takes place in an outpatient setting. For a more detailed account of the federal regulations related to buprenorphine, see CRS Report R45279, *Buprenorphine and the Opioid Crisis: A Primer for Congress*, by Johnathan H. Duff.

[9] For more details, see HHS, SAMHSA, "Medication Assisted Treatment for Opioid Use Disorders," 81 *Federal Register* 44711-44739, July 8, 2016.

[10] Federal law regulates buprenorphine differently depending on whether it is being used to treat opioid use disorders (as opposed to pain).

[11] The SUPPORT Act (P.L. 115-271) expanded the definition of "qualifying other practitioner" to include clinical nurse specialists, certified registered nurse anesthetists, and certified nurse midwives. Practitioners are subject to state laws and regulations surrounding prescribing privileges and therefore may not be eligible in all states.

[12] Title XXXV of P.L. 106-310, The Children's Health Act of 2000; waivers are sometimes referred to as "X waivers."

[13] The DATA waiver system is managed by SAMHSA.

[14] The term "qualifying practitioner" is defined in 21 U.S.C. §823(g)(2)(G)(iii) to mean a qualifying physician, a qualifying other practitioner (i.e., a nurse practitioner or physician assistant), or for the period beginning on October 1, 2018 and ending on October 1, 2023, a qualifying other practitioner who is a clinical nurse specialist, certified registered nurse anesthetist, or certified nurse midwife, each of whom must meet specified requirements. Practitioners are subject to state laws and regulations regarding prescribing privileges and therefore may not be eligible in all states.

[15] 21 U.S.C. §823(g)(2)(B)(iii), as amended by the SUPPORT Act (P.L. 115-271). "Additional credentialing" is defined in 42 C.F.R. §8.2 and "qualified practice setting" is defined in 42 C.F.R. §8.615.

[16] 42 C.F.R. Part 8 Subpart F.

Policy Considerations

The federal government has taken steps to increase the availability of opioid agonist MAT in response to the escalation of opioid overdoses and deaths in recent years. Both Congress and the Administration have implemented policies intended to increase access to methadone and buprenorphine, such as changes to the DATA waivers.[17] The Comprehensive Addiction and Recovery Act of 2016 (CARA; P.L. 114-198), for instance, provided qualifying nurse practitioners and physician assistants temporary eligibility to obtain DATA waivers. The SUPPORT for Patients and Communities Act (P.L. 115-271), enacted in 2018, made the authority for qualifying nurse practitioners and physician assistants to obtain DATA waivers permanent and expanded the definition of "qualifying other practitioners" to include other midlevel providers such as clinical nurse specialists, certified registered nurse anesthetists, and certified nurse midwives.[18] The law also authorized programs to establish additional comprehensive opioid recovery centers that offer a "full continuum of treatment services" including all FDA-approved medications used in MAT[19] as well as "regional centers of excellence in substance use disorder education" that would aim to improve health professional training in substance abuse treatment.[20]

Policy efforts to address the opioid epidemic have corresponded with increased MAT availability. The percentage of substance abuse treatment facilities providing buprenorphine treatment increased from 14% in 2007 to 29% of all facilities in 2017.[21] Additionally, the number of DATA-waived physicians with a 30-patient limit increased nine-fold from 2003 to 2012—from 1,800 physicians to 16,095. Physicians with a 100-patient limit tripled in the latter half of that span—from 1,937 in 2007 to 6,103 in 2012.[22]

Despite this increase, access to substance abuse treatment has not kept pace with the mounting rates of opioid addiction in the United States.[23] Additionally, while the capability to treat patients with buprenorphine has expanded through an increase in DATA waivers, practitioners with these waivers are not treating to capacity. A 2018 study by SAMHSA leadership found that the number of patients being treated by DATA-waived providers included in their study was substantially

[17] Congress has authorized and funded grant programs aimed at increasing access to treatment for opioid addiction, including but not limited to MAT. For example, Section 1003 of the 21st Century Cures Act (P.L. 114-255, enacted in December 2016) authorizes the State Targeted Response to the Opioid Crisis grant program, which supports states in addressing the opioid abuse crisis. Another example is Section 103 of the Comprehensive Addiction and Recovery Act (P.L. 114-198) which authorized funding for Community-based Coalition Enhancement Grants to Address Local Drug Crises.

[18] 42 C.F.R. §§8.610 - 8.655; of note, the term "physician" in this report refers to DATA-waived providers prior to the expanded eligibility provided by CARA. The term "practitioner" is used to include physicians and eligible midlevel providers as permitted by CARA and the SUPPORT Act.

[19] P.L. 115-271 §7121

[20] P.L. 115-271 §7101

[21] HHS, SAMHSA, *National Survey of Substance Abuse Treatment Services (N-SSATS): 2017. Data on Substance Abuse Treatment Facilities*, Rockville, MD, July 2018, p. 16.

[22] HHS, SAMHSA, *Medication-Assisted Treatment: Physician and Program Data*, Last updated November 26, 2018, https://www.samhsa.gov/medication-assisted-treatment/physician-program-data.

[23] Christopher Jones, Melisa Campopiano, and Grant Baldwin et al., "National and State Treatment Need and Capacity for Opioid Agonist Medication-Assisted Treatment," *American Journal of Public Health*, vol. 105, no. 8 (August 2015), pp. e55-363.

lower than the authorized waiver patient limit.[24] The percentage of clinicians prescribing buprenorphine at or near the patient limit in the month prior to the study was 13.1%.[25]

Geographical Analysis

Geography is essential to accurately evaluating opioid agonist MAT capacity. Treatment location may be especially relevant to understanding any discrepancy between need and capacity: where services are located may be more important than how many patients a practitioner is allowed to treat. According to the 2018 study on DATA-waived clinicians, the top reason practitioners cited for not prescribing buprenorphine was lack of patient demand. This suggests a discrepancy between OAT practitioners and patients in need. DATA-waived practitioners may not be in the areas with the most need for treatment, for instance. Other barriers may also exist that prevent patients from accessing services. Factors affecting the treatment gap may include health insurance coverage, reimbursement for treatment services, transportation, stigma, awareness of treatment options and availability, and motivation for recovery, among others.

The current report identifies the geographic location of opioid agonist treatment providers in the United States. The analysis uses SAMHSA data to identify the number and location of (1) federally certified opioid treatment programs and (2) practitioners with DATA waivers. Data are displayed nationally as well as by county.

The location of opioid agonist MAT providers does not necessarily equate to availability of treatment. Other aforementioned factors, such as treatment costs, demand for services, wait times, and awareness of options also affect treatment availability. The current report does not attempt to evaluate the availability, accessibility, or total capacity for treatment of any area. It also does not assess need for treatment services—an essential factor in classifying discrepancies between demand for treatment and capacity of services.

Methodology

The Substance Abuse and Mental Health Services Administration, a branch of HHS which oversees the certification of opioid treatment programs and the buprenorphine waiver program, provides the number and location of OTPs and daily updates on the number and location of DATA-waived practitioners.[26] Using these data, CRS plotted 99% of OTP locations (1,652 OTPs) and 99% of publicly-available DATA-waived practitioner locations (40,016 practitioners) using the geospatial software ArcGIS.[27] As of June 1, 2019, the number of federally certified OTPs in the United States was 1,674. The total number of DATA-waived providers with a 30-patient limit exceeded 50,000 and those with a 100-patient limit exceeded 12,000.[28] The number of

[24] Christopher M. Jones and Elinore F. McCance-Katz, "Characteristics and Prescribing Practices of Clinicians Recently Waivered to Prescribe Buprenorphine for the Treatment of Opioid Use Disorder," *Addiction*, October 15, 2018, pp. 1-12.

[25] Ibid.

[26] This does not include Puerto Rico or the U.S. Territories. Not all DATA-waived practitioners are included due to some practitioners opting not to be listed publicly on SAMHSA's website.

[27] http://www.arcgis.com/index.html

[28] As aforementioned, the current geospatial analysis did not include all DATA-waived practitioners due to some practitioners opting not to be listed publicly on SAMHSA's website.

practitioners with a 275-patient limit totaled over 4,800.[29] This provides the capacity for at least 4 million patients to be treated with buprenorphine through DATA-waived providers.[30]

CRS generated a series of maps to depict the distribution of DATA-waived providers and neighboring OTPs in 2018. There are two maps at the national level in **Figure 1** and **Figure 2**, and two for the Northeast and parts of the Midwest in **Figure 3**. The latter maps shade in each county based on the number of DATA-waived providers in that county and demarcate each OTP with a purple dot. The shading of each county was determined using Jenks natural breaks optimization, a statistical method used to create "fair" categories. As a result, each level of shading does not follow a consistent range. The smallest shading category (1-32 DATA-waived practitioners in a county) is much smaller in range than the largest (446-871 DATA-waived practitioners in a county) on account of this method.

The Northeast region of the United States is displayed in a separate map for greater visibility of the high number of OTPs within a relatively small geographic area. (Other areas experiencing highly clustered OTPs, such as California and Florida, are more easily discerned on the national map and are therefore not displayed in additional maps.) Parts of the Midwest are displayed in a regional map for greater visibility of areas disproportionately affected by the opioid crisis.[31] These maps present location of OAT providers only. Geography is one indication of adequacy of treatment capacity but other factors—such as population density and the size of the affected populations in the area—are also relevant. This analysis only examines the geographic location of OAT providers.

Results

Results depicted in **Figure 1**, **Figure 2**, and **Figure 3** show that opioid agonist medication-assisted treatment services are not evenly distributed across the country.[32] The maps in **Figure 2** and **Figure 3** depict the location of federally certified OTPs and the number of DATA-waived practitioners in each county. Results from this analysis indicated that:

- 1,217 counties (39% of counties nationally)—populated by an estimated 17.5 million people (of 321 million nationally, or 5.5% of the population)—had no DATA-waived practitioners.
- Nearly 2,500 counties (80% nationally), populated by an estimated 77.5 million people (24% of the population), had no OTPs and 1,202 counties (38%), populated by 16.8 million people (5.2%), had neither an OTP nor a DATA-waived practitioner.

[29] HHS, SAMHSA, *Medication-Assisted Treatment: Physician and Program Data*, Last updated November 26, 2018, https://www.samhsa.gov/medication-assisted-treatment/physician-program-data.

[30] Ibid. Since there are no federal limits on the number of patients that can be treated at an OTP, the buprenorphine treatment capacity analysis here does not include patients who could be treated with buprenorphine at an OTP.

[31] Defined here as Ohio, West Virginia, Kentucky, Indiana, western Pennsylvania, and eastern Illinois.

[32] Further, OTPs are not necessarily accessible to all residents in a given area. For instance, several states/localities operate OTPs through correctional facilities. The Bernalillo County Detention Center in New Mexico, for example, operates an OTP for inmates, as does Riker's Island in New York. Generally, states have not equipped their correctional facilities with OTPs (with the exception of Rhode Island which administers a system of OTPs through its correctional facilities). Arizona, Connecticut, DC, Georgia, Maryland, New York, and Rhode Island all have OTPs located in, or affiliated with, correctional facilities. CRS was not able to determine whether the population served is strictly inmates however. In all, CRS was able to identify 13 OTPs servicing detention centers in these data. Therefore, the presence of an OTP may not indicate that OTP is accessible for the general population in some cases.

- Of the over 1,200 counties with no OAT providers, nearly half (45%) are classified as *rural* according to the U.S. Census.[33] These counties are primarily located in the Midwest and South; Texas (13% of counties with no OTPs or DATA-waived practitioners), Georgia (6%), Kansas (6%), Nebraska (5%), Iowa (5%), and Missouri (5%) have the highest percentages of counties with no OTPs or DATA-waived providers.
- Twenty-five counties with no OTPs or DATA-waived practitioners had more than 50,000 residents.[34]

It is important to consider that county size and population are not necessarily indicators of substance abuse treatment need. Counties are also not equivalent in geographic area, shape, and population size and therefore comparisons on treatment availability strictly across the county level may not be appropriate. Additionally, the absence of OAT providers does not necessarily equate to lack of access (adjacent counties may offer treatment for instance and patients may travel for inpatient treatment). Similarly, the presence of providers does not necessarily equate to treatment availability, particularly within counties that encompass large geographic areas.

Policy Implications

Federal lawmakers have sought to increase the capacity for opioid use disorder treatment with MAT to address the ongoing opioid epidemic. Thus far in the 116th Congress, policymakers have introduced nearly a dozen bills explicitly pertaining to opioid use disorder treatment expansion. For example, one bill would remove some requirements for health providers to receive DATA waivers to administer buprenorphine, with the intention that more practitioners would then pursue these waivers.

Identifying the location of OAT providers may be essential to increasing accessibility to treatment. Simply increasing capacity for treatment may not effectively increase availability (or decrease opioid-related overdoses) if treatment providers are not located in areas of need. While the current analysis does not evaluate need—by locating opioid-related overdose hospital admissions and deaths for instance—it does provide an initial step in assessing how treatment providers are dispersed geographically.[35] Other factors, such as substance use treatment financing, may also affect OAT availability. Practitioners are also subject to state laws and regulations regarding prescribing privileges which affect the eligibility of providers for DATA waivers and, in turn, the availability of treatment.

Congress may consider incorporating geographic factors in strategies designed to increase capacity and availability of treatment. For instance, policymakers may acknowledge the dispersion of treatment providers within small geographic units and the proximity of OTPs to DATA-waived practitioners when drafting legislation. Rural areas may not have the same volume of need for substance use disorder treatment as urban areas, yet they may possess additional barriers to care that make accessibility to treatment challenging. For example, patients traveling long distances to receive daily methadone at an OTP may face obstacles related to transportation

[33] Defined as having no urban cluster or urbanized area within its boundaries. Urban clusters are defined as having a population of 2,500-50,000 people and urbanized areas are defined as having 50,000 or more people.

[34] Livingston Parish in Louisiana (137,096 people), Kendall County in Illinois (122,933), Carver County in Minnesota (98,799), Platte County in Missouri (96,899), and Vermillion County in Illinois (79,207) had the highest number of residents of the counties with no OTPs or DATA-waived providers.

[35] Indicators of treatment need, such as drug overdose death and hospital admission data, are not available for every county. Therefore, CRS was not able to compare treatment capacity with need for treatment on a national scale.

or infrastructure that make continuity of treatment difficult. Additionally, DATA-waived providers alone may not have the resources to provide complementary services such as counseling and behavioral therapies, or housing and vocational services.

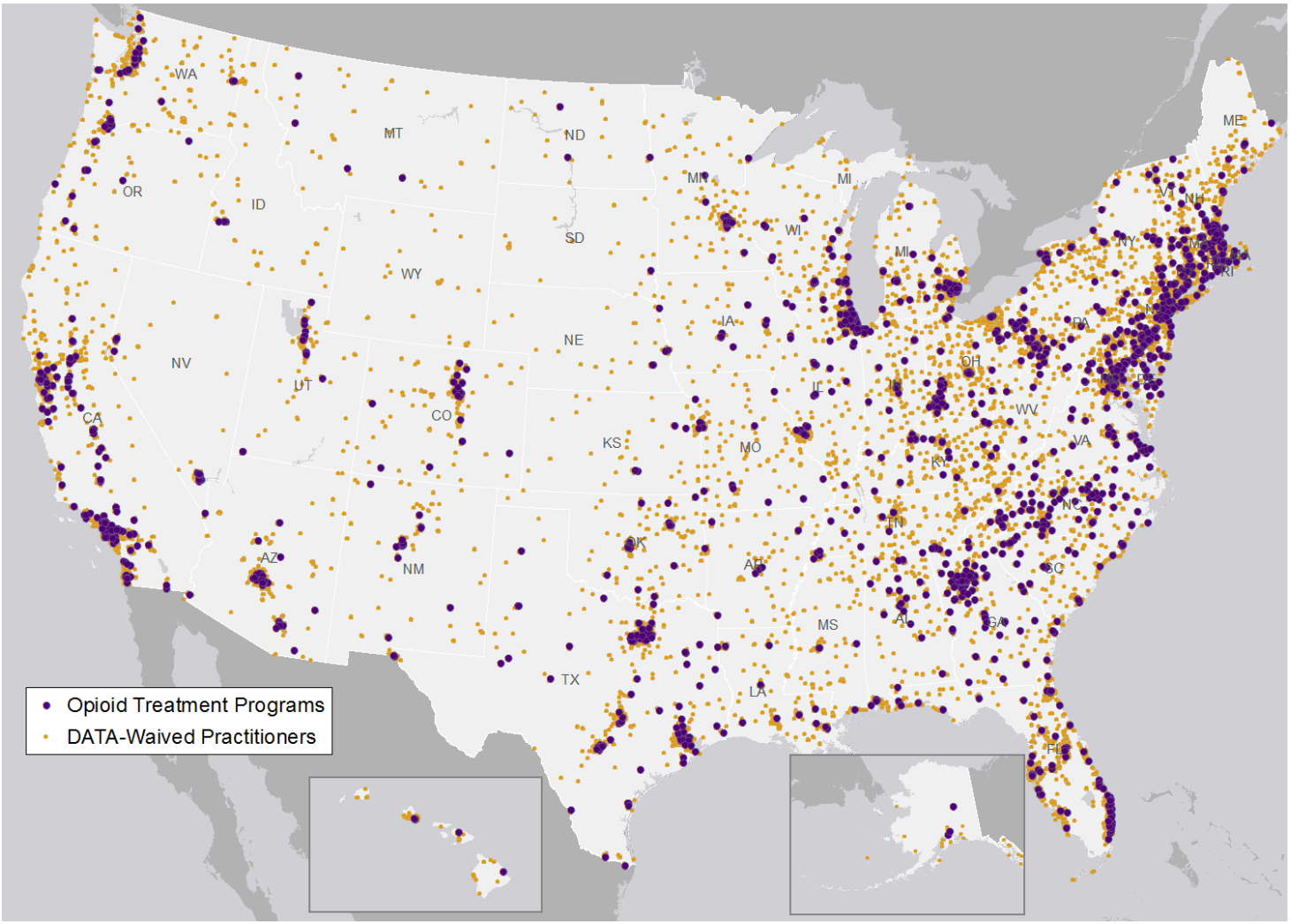
Some individual states have sought to address geographical obstacles to care through treatment and policy strategies. Vermont, for example, operates a "hub-and-spoke" system, in which patients seeking treatment for OUD establish care at an OTP (the "hub") where they receive more intensive services, often during their initial entry to treatment when such concentration of services is more necessary.[36] Once patients are stabilized, they transition to a DATA-waived provider in their community for maintenance treatment with buprenorphine (the "spoke"), and other services. If patients relapse, they may return to the OTP until they are ready to transition back to outpatient buprenorphine, and the cycle continues. Throughout their treatment, patients are followed by the same care management team who assist them in finding and accessing appropriate services. Vermont officials sought to ensure OTPs were distributed throughout the state (see **Figure 3**). A part of Vermont's hub and spoke strategy has been to divide resources geographically throughout the state to reduce the number of areas without treatment. Other states, such as New Jersey and Washington, addressed geographic barriers by operating mobile methadone units, known as "methadone vans," which travelled from OTPs to provide daily methadone medication to rural and other hard-to-reach patients.[37] Other states have offered similar mobile services with buprenorphine.

Increasing the quantity of treatment providers may only be effective in addressing the opioid epidemic if access to treatment is also addressed. Both examples provided above, for instance, seek to not only expand treatment capacity, but also enhance accessibility by attending to location of services in relation to the patient population. Geography alone is not the only barrier; stigma, financing, and patient willingness may also influence the amount and utilization of services. Congress may explore additional solutions, such as the use of telemedicine services where possible. Nevertheless, identifying the location of providers may be an important step for policymakers seeking to increase availability of treatment for opioid use disorder.

[36] John R. Brooklyn and Stacey C. Sigmon, "Vermont Hub-and-Spoke Model of Care for Opioid Use Disorder: Development, Implementation, and Impact," *Journal of Addiction Medicine*, vol. 11, no. 4 (2017), pp. 286-292.

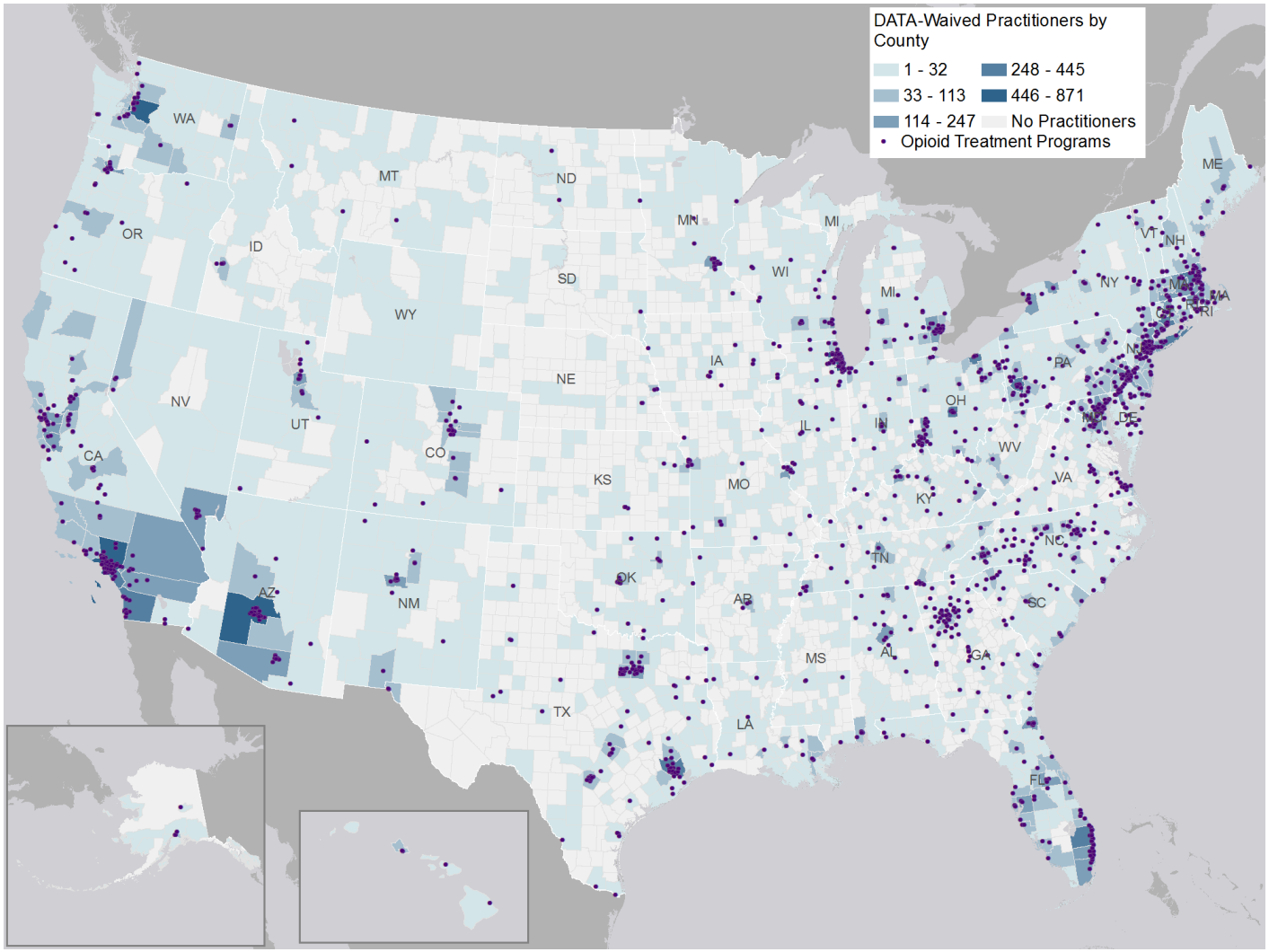
[37] See, for example, Gerod Hall, Charles J. Neighbors, and Jude Iheoma, et al., "Mobile opioid agonist treatment and public funding expands treatment for disenfranchised opioid-dependent individuals," *Journal of Substance Abuse Treatment*, vol. 46 (2014), pp. 511-515.

Figure 1. Location of Opioid Treatment Programs and DATA-Waived Practitioners in the United States



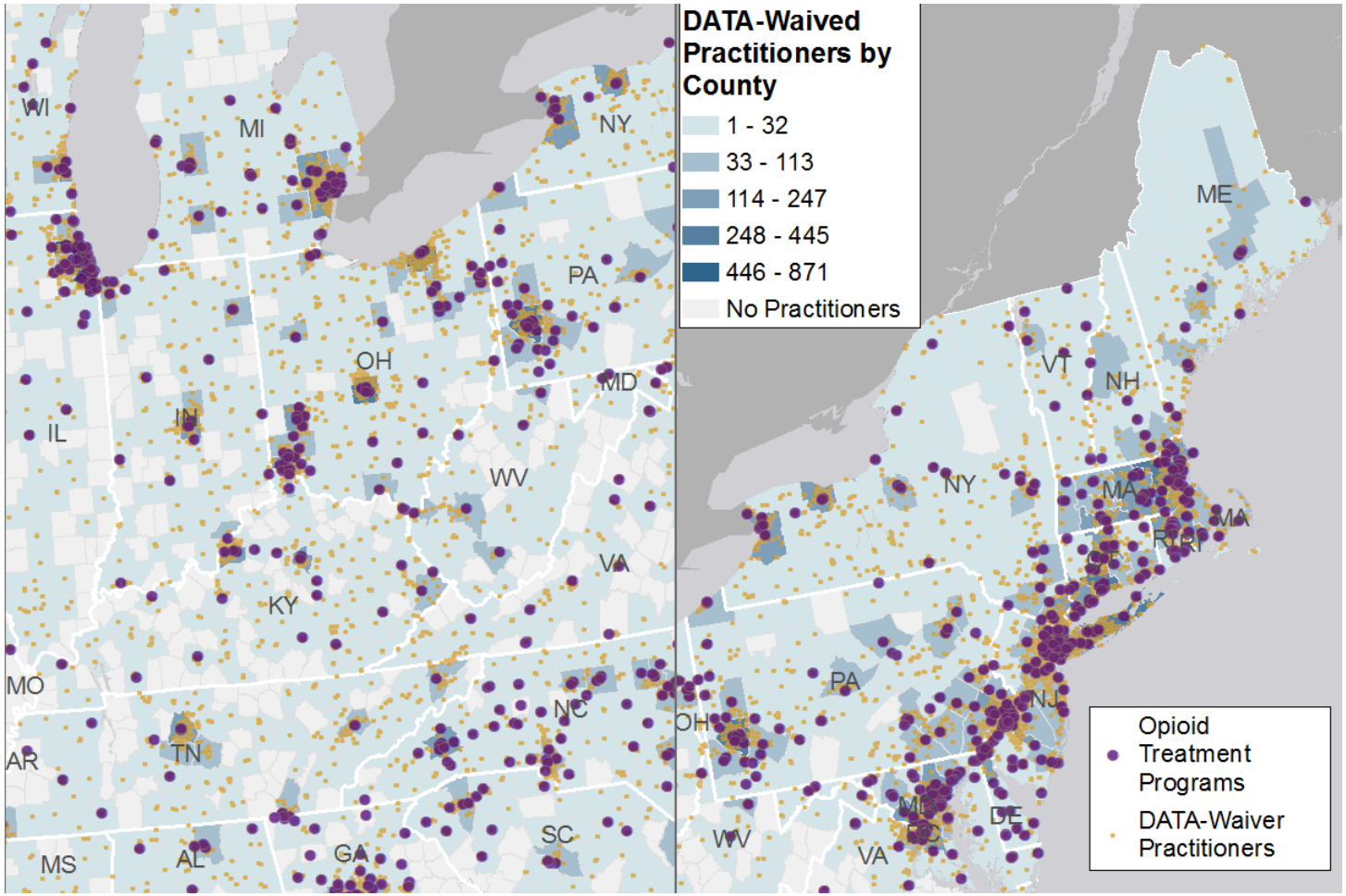
Source: CRS analysis using data from the Substance Abuse and Mental Health Services Administration as of May 9, 2019.

Figure 2. Location of Opioid Treatment Programs and DATA-Waived Practitioners by County in the United States



Source: CRS analysis using data from the Substance Abuse and Mental Health Services Administration as of May 9, 2019.

Figure 3. Location of Opioid Treatment Programs and DATA-Waived Practitioners by County in Selected Regions



Source: CRS analysis using data from the Substance Abuse and Mental Health Services Administration as of May 9. 2019.

Notes: States in the Northeast region are displayed for greater visibility of the high number of OTPs within a relatively small geographic area. Parts of the Midwest, including Ohio, West Virginia, Kentucky, Indiana, western Pennsylvania, and eastern Illinois are displayed for greater visibility of areas disproportionately affected by the opioid crisis.

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