

Access to Medications for Opioid Use Disorder for Persons With Human Immunodeficiency Virus in the United States: Gaps in Coverage by State AIDS Drug Assistance Programs

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Life-saving medications for opioid use disorder are inaccessible for people with human immunodeficiency virus relying on the AIDS Drug Assistance Programs (ADAP) in 40% of jurisdictions. Funding/policies should address this through increasing access through ADAP and the Ryan White HIV/AIDS Program (RWHAP), partnerships between RWHAP and substance use programs, and other state/federal initiatives.

Keywords. access to medications; AIDS Drug Assistance Program; health policy; opioid use disorder.

In the United States (US), the harms associated with opioid use disorder (OUD) have intensified in recent years, particularly for people who inject drugs. Opioid injection-related human immunodeficiency virus (HIV) outbreaks have occurred across the US, and injection drug use (IDU) accounts for surging hepatitis C virus infections [1]. Meanwhile, overdose deaths continue to climb to an all-time high [1]. Addressing OUD among people with HIV (PWH) merits attention as it impacts individual and public health. PWH with OUD are at risk of worse HIV outcomes and transmission to sexual and needle-sharing partners [2]. Medications for OUD (MOUD) among PWH lead to higher viral suppression rates, prevent drug overdose, and decrease mortality, yet <20% of PWH with OUD receive MOUD [3, 4].

Received 20 December 2021; editorial decision 25 January 2022; accepted 27 January 2022; published online 7 March 2022.

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Open Forum Infectious Diseases® 2022

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Access to MOUD may be limited for uninsured or underinsured PWH. In 2018, 82% of uninsured PWH received Ryan White HIV/AIDS Program (RWHAP) services [5]. RWHAP also provides critical support for underinsured PWH: 38% and 62% of PWH with private insurance and Medicare, respectively [5]. In 2020, RWHAP identified strategies to address OUD among PWH including the provision of MOUD and naloxone for overdose reversal within RWHAP-funded programs [6]. However, MOUD access for RWHAP clients is not guaranteed. RWHAP's state AIDS Drug Assistance Programs (ADAPs) serve as the safety-net payer of certain prescription drugs for uninsured PWH. ADAPs are mandated to cover antiretroviral therapy and can provide other medications. Each state sets its ADAP eligibility criteria and formulary.

In 2009, only 6 states included buprenorphine on their ADAP formulary [7]. No study has examined ADAPs' MOUD coverage in the past decade, despite the intensifying opioid crisis and the importance of access to MOUD for individual and public health. We examined inclusion of MOUD in ADAP formularies alongside other policy and public health factors that can affect population risk of adverse OUD outcomes.

METHODS

Data Sources and Study Design

The primary outcome was ADAPs' MOUD coverage as reported for 2020 by the National Alliance of State and Territorial AIDS Directors. Data source details are shown in [Supplementary Table 1](#). We examined selected medications approved by the US Food and Drug Administration and recommended by the American Society of Addiction Medicine to treat OUD or reverse opioid overdose: buprenorphine, naloxone (injectable and intranasal), and co-formulated buprenorphine and naloxone [8]. We did not examine ADAP coverage of methadone due to its controlled dispensation or naltrexone given data that it is inferior to other MOUD in preventing overdose [9]. Other variables of interest (from Kaiser Family Foundation and AIDSvu) were rates of opioid-related overdose deaths, rates of IDU-related new HIV diagnoses (including diagnoses attributed to both IDU and being a man who has sex with men), and Medicaid expansion status.

We conducted a cross-sectional analysis for 52 jurisdictions (50 US states; Washington, District of Columbia [DC]; and Puerto Rico), using the most recently available data. The University of North Carolina Institutional Review Board deemed this study not to be human subjects research.

Analysis

We categorized rates of opioid-related overdose deaths and IDU-related new HIV diagnoses into tertiles. We examined

ADAPs' MOUD coverage stratified by rate tertiles and Medicaid expansion status. We focused on jurisdictions in the highest rate tertiles and without Medicaid expansion. Jurisdictions with no data for a variable were excluded from the relevant analysis but included in other analyses.

RESULTS

Overall, ADAPs cover naloxone in 30 (58%) jurisdictions, buprenorphine (alone or co-formulated with naloxone) in 24 (46%) jurisdictions, and both buprenorphine and naloxone in 23 (44%) jurisdictions (Table 1, Supplementary Table 2). In 21 (40%) jurisdictions, neither buprenorphine nor naloxone (in any formulation) is covered by ADAP. Among the 12 jurisdictions without Medicaid expansion, 9 (75%) have an ADAP that covers neither buprenorphine nor naloxone, while only 2 (17%) have an ADAP that covers both.

In 2019, age-adjusted rates of opioid-related overdose mortality ranged from 3.5 to 43.0 deaths per 100 000. Among the 17 jurisdictions in the highest tertile (≥ 19.9 deaths per 100 000), ADAPs cover both buprenorphine and naloxone in 10 (59%) jurisdictions, while ADAPs cover neither in 4 (24%) jurisdictions (Delaware, Kentucky, Maine, and Vermont). In those 4 jurisdictions, the opioid-related overdose mortality rates were 43.0, 24.6, 26.4, and 20.7 deaths per 100 000 in 2019, respectively. In addition, in 2 (17%) jurisdictions (Tennessee and West Virginia), ADAPs cover naloxone but not buprenorphine. In Tennessee and West Virginia, respectively, 2019 opioid-related overdose mortality rates were 23.4 and 41.4 deaths per 100 000. Tennessee has not adopted Medicaid expansion, while it has been adopted by the 16 other jurisdictions in the highest tertile of opioid-related overdose mortality.

The rate of new HIV diagnoses attributed to IDU ranged from 0 to 3.83 diagnoses per 100 000 in 2018. Of the 17 jurisdictions in the highest tertile of new IDU-related HIV diagnoses (≥ 1.48 cases per 100 000), ADAPs cover both buprenorphine and naloxone in 9 (53%) jurisdictions, naloxone but not buprenorphine in 4 (24%) jurisdictions, and neither in 4 (24%) jurisdictions.

Seven jurisdictions were in the highest tertiles for both opioid-related overdose mortality and new IDU-related HIV diagnosis rates. For those, ADAPs cover both buprenorphine and naloxone in 5 jurisdictions (Massachusetts, New Jersey, Ohio, Pennsylvania, and DC), only naloxone in 1 jurisdiction (West Virginia), and neither in 1 jurisdiction (Kentucky).

DISCUSSION

Neither buprenorphine nor naloxone, 2 core tools in the care of people with OUD, is accessible through ADAPs in 40% of jurisdictions overall, in 75% of jurisdictions without Medicaid expansion, and in 24% of jurisdictions with the highest opioid-related overdose mortality. Lack of MOUD access through ADAPs is a critical gap to be filled, most urgently in states with

high opioid-related overdose mortality, where OUD prevalence among PWH might be higher, and states without Medicaid expansion, where PWH may be likelier to rely on ADAP for MOUD coverage as their safety-net prescription drug payer.

In 2019, only 3.5% of RWHAP clients received substance use disorder (SUD) outpatient care, indicating a lack of access to SUD and OUD services overall in RWHAP [10]. MOUD for PWH and integration of OUD/HIV treatment lead to improved outcomes including viral suppression, which in turn can prevent HIV transmission, and reduced mortality [1, 2]. Improving MOUD access for RWHAP clients could also help address demographic disparities in MOUD treatment rates [1], as PWH who are Black or Hispanic, not US-born, identify as bisexual, or reside in a state without Medicaid are likelier to be uninsured than other PWH [5]. Although guidelines recommend screening for and treating SUD among PWH [11], optimal treatment of OUD is not feasible without medication access.

State ADAPs should strongly consider adding all MOUD to their formularies, especially if there is a strong need in their population. In line with its HIV/ODU care integration goals, the Health Resources and Services Administration HIV/AIDS Bureau (HAB/HAB) could encourage ADAPs to do so. However, ADAPs may need additional funding and capacity building support. Though decisions about formulary inclusion are largely left to states, the ability to expand ADAP formularies beyond antiretroviral therapy is often impacted by budget considerations, with low-resourced states without Medicaid expansion tending to have the most restrictive formularies overall. Despite increases in RWHAP funding through the federal Ending the HIV Epidemic initiative, base funding for ADAP has largely been flat funded in recent years [12]. Clinicians and advocates can call for increased RWHAP support and funding to add MOUD to ADAP formularies.

A holistic effort from states, HRSA/HAB, and other federal agencies (including the Substance Abuse and Mental Health Services Administration [SAMHSA]) can better integrate OUD services into RWHAP care. Increasing access to MOUD through ADAPs is necessary, but insufficient alone, to comprehensively address OUD among PWH. Additional factors may influence MOUD uptake and accessibility, such as OUD-associated stigma, the burdensome ADAP enrollment/renewal process, and separate funding and care delivery silos for RWHAP, mental health, and SUD programs. HRSA/HAB could further support OUD treatment integration into RWHAP service delivery by simplifying ADAP enrollment/renewal and increasing collaboration between RWHAP and SUD treatment services to increase OUD treatment capacity. For example, the influx of funding to state agencies via SAMHSA State Opioid Response funding could further support OUD treatment capacity building for RWHAP.

This national study's strengths include combining recent, state-level data to evaluate vulnerable ADAP clients'

Table 1. State AIDS Drug Assistance Program Coverage of Medications for Opioid Use Disorder by Jurisdiction, With Opioid-Related Overdose Deaths, Injection Drug Use-Related HIV Diagnoses, and Medicaid Expansion

Jurisdiction	ADAP Coverage ^a		Opioid-Related Overdose Deaths ^b		New IDU-Related HIV Diagnoses ^c		Adopted Medicaid Expansion ^d
	Buprenorphine	Naloxone	Rate	Tertile	Rate	Tertile	
Alabama ^a	No	No	8.9	Middle	0.85	Lowest	No
Alaska	No	No	10.9	Middle	1.16	Middle	Yes
Arizona	No	Yes	18.4	Middle	1.60	Highest	Yes
Arkansas	No	No	7.0	Lowest	0.88	Lowest	Yes
California	No	Yes	7.9	Lowest	1.56	Highest	Yes
Colorado	Yes	Yes	10.6	Middle	1.38	Middle	Yes
Connecticut	Yes	Yes	31.7	Highest	0.95	Middle	Yes
District of Columbia	Yes	Yes	33.7	Highest	3.83	Highest	Yes
Delaware	No	No	43.0	Highest	0.97	Middle	Yes
Florida	No	No	18.7	Middle	1.73	Highest	No
Georgia	No	No	8.2	Lowest	1.37	Middle	No
Hawaii	Yes	Yes	3.5	Lowest	0.67	Lowest	Yes
Idaho	Yes	Yes	7.6	Lowest	0.42	Lowest	Yes
Illinois	No	No	17.5	Middle	0.92	Middle	Yes
Indiana	Yes	No	19.9	Highest	1.33	Middle	Yes
Iowa	No	Yes	5.4	Lowest	0.68	Lowest	Yes
Kansas	No	No	6.7	Lowest	1.00	Middle	No
Kentucky	No	No	24.6	Highest	2.00	Highest	Yes
Louisiana	Yes	Yes	12.6	Middle	2.10	Highest	Yes
Maine	No	No	26.4	Highest	0.52	Lowest	Yes
Maryland	Yes	Yes	34.0	Highest	1.32	Middle	Yes
Massachusetts	Yes	Yes	28.9	Highest	2.52	Highest	Yes
Michigan	Yes	Yes	18.5	Middle	0.92	Middle	Yes
Minnesota	No	No	7.8	Lowest	0.81	Lowest	Yes
Mississippi	No	No	8.5	Lowest	1.01	Middle	No
Missouri	Yes	Yes	18.8	Middle	1.01	Middle	Yes ⁱ
Montana	No	No	7.2	Lowest	0.78	Lowest	Yes
Nebraska	Yes	Yes	3.6	Lowest	0.44	Lowest	Yes
Nevada	No	No	11.7	Middle	1.97	Highest	Yes
New Hampshire ^f	Yes	Yes	29.1	Highest	Yes
New Jersey	Yes	Yes	28.4	Highest	1.73	Highest	Yes
New Mexico	Yes	Yes	20.0	Highest	1.31	Middle	Yes
New York	Yes	Yes	14.9	Middle	1.53	Highest	Yes
North Carolina	No	No	18.1	Middle	1.11	Middle	No
North Dakota	Yes	Yes	5.9	Lowest	0.48	Lowest	Yes
Ohio	Yes	Yes	31.5	Highest	1.75	Highest	Yes
Oklahoma	No	Yes	6.9	Lowest	1.48	Highest	Yes
Oregon	Yes	Yes	7.6	Lowest	1.60	Highest	Yes
Pennsylvania	Yes	Yes	25.1	Highest	1.70	Highest	Yes
Puerto Rico ^g	No	No	1.32	Middle	N/A
Rhode Island	Yes	Yes	23.3	Highest	0.88	Lowest	Yes
South Carolina	No	No	17.6	Middle	0.93	Middle	No
South Dakota ^h	No	No	4.5	Lowest	0.69	Lowest	No
Tennessee	No	Yes	23.4	Highest	1.07	Middle	No
Texas	No	No	5.1	Lowest	1.68	Highest	No
Utah	No	No	13.3	Middle	0.84	Lowest	Yes
Vermont	No	No	20.7	Highest	0	Lowest	Yes
Virginia	No	Yes	15.1	Middle	0.81	Lowest	Yes
Washington	Yes	Yes	10.5	Middle	1.58	Highest	Yes
West Virginia	No	Yes	41.4	Highest	2.46	Highest	Yes
Wisconsin	Yes	Yes	16.6	Middle	0.37	Lowest	No
Wyoming	Yes	Yes	8.3	Lowest	0.62	Lowest	No

Table 1. Continued

Data sources are described in [Supplementary Table 1](#).

Abbreviations: ADAP, AIDS Drug Assistance Program; HIV, human immunodeficiency virus; IDU, injection drug use.

^aADAP coverage in 2020, obtained from the National Alliance of State and Territorial AIDS Directors unless otherwise noted. Buprenorphine includes buprenorphine alone or co-formulated with naloxone. Naloxone includes injectable and intranasal formulations for overdose reversal.

^bAge-adjusted rates in 2019 per 100 000 persons, obtained from the Kaiser Family Foundation. Tertiles are ≤ 8.5 , 8.5–19.8, and ≥ 19.9 deaths per 100 000.

^cRates in 2018 per 100 000 persons aged ≥ 13 years, obtained from AIDSvU. Tertiles are ≤ 0.88 , 0.89–1.47, and ≥ 1.48 cases per 100 000. Includes cases attributed to both IDU and being a man who has sex with men.

^dMedicaid expansion status updated September 2021, obtained from the Kaiser Family Foundation.

^eADAP coverage in 2021, obtained from the Alabama Department of Public Health.

^fHIV diagnosis reporting by year and acquisition risk factor was not available for New Hampshire.

^gAge-adjusted opioid overdose mortality was not available, and Medicaid status not applicable, for Puerto Rico.

^hADAP coverage in 2021, obtained from the South Dakota Department of Health.

ⁱMedicaid expansion in Missouri is planned to take effect October 2021.

MOUD access in the context of the US opioid epidemic and the Affordable Care Act. However, we only examined ADAPs' MOUD coverage. ADAP clients may have other ways of accessing MOUD, or other barriers besides ADAP coverage alone. We evaluated MOUD need among PWH using proxy measures (statewide overdose mortality and IDU-related HIV diagnoses). Future studies should investigate other barriers to MOUD access and utilization among PWH, including lack of HIV provider awareness/comfort with MOUD, limited access to buprenorphine prescribers, and utilization management or financial barriers for insured PWH.

State ADAPs are the safety net to provide key medications for uninsured/underinsured PWH. Given the intensifying opioid epidemic and the established benefits of MOUD, it is critical that MOUD are available to PWH with OUD. With appropriate funding and support, ADAPs have the opportunity to play a critical role in promoting improved care for PWH with OUD.

Supplementary Data

Supplementary materials are available at *Open Forum Infectious Diseases* online. Consisting of data provided by the authors to benefit the reader, the posted materials are not copyedited and are the sole responsibility of the authors, so questions or comments should be addressed to the corresponding author.

Notes

Disclaimer. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health (NIH).

Financial support. This work was supported by the National Institute of Allergy and Infectious Diseases at the NIH (grant number K08AI136644 to K. A. M.) and the National Institute on Drug Abuse (grant number K23DA049946 to A. J. S.; grant number T32DA007250 training support to T. D.-M.).

Potential conflicts of interest. K. A. M. reports an investigator-initiated research grant from, and stock ownership in, Gilead Sciences, Inc. All other authors report no potential conflicts of interest.

All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

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