

# Pharmacists and opioid use disorder care during COVID-19: Call for action

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## Abstract

Opioid use disorder (OUD) is a chronic relapsing condition characterized by problematic opioid use causing significant impairment in daily life. Medication for opioid use disorder using buprenorphine, methadone, and naltrexone with behavioral therapy reduces illicit opioid use and risk of overdose death. Despite evidence and decades of experience, barriers limit access to treatment and care for individuals with OUD. Barriers include a lack of treatment centers particularly in rural areas, regulations on buprenorphine prescribing, and stigma from the community and health care professionals. While many barriers are longstanding, the coronavirus disease 2019 (COVID-19) pandemic-forced isolation and associated stress has exacerbated challenges for individuals with mental health conditions such as OUD. Pharmacists are well-positioned to bridge existing gaps in OUD care, particularly during the COVID-19 pandemic. Roles for pharmacists include OUD risk identification and screening, referral of patients to treatment and support programs, ensuring medication access, expanding naloxone access, and advocacy initiatives. This review article identifies barriers to care for patients with OUD during the COVID-19 pandemic and explores opportunities and resources for pharmacists to improve OUD care during the pandemic and beyond.

## KEYWORDS

access to treatment, COVID-19, medication access, opioid use disorder, pharmacist

## 1 | INTRODUCTION

Substance use disorder (SUD) is a life-long condition with a multi-factorial impact on individuals, families, communities, and societies.<sup>1</sup> The Substance Abuse and Mental Health Services Administration (SAMHSA) reported that 1 in 12 American adults (18.7 million) meet criteria for an SUD diagnosis and 1 in 5 (46.6 million) have a mental health condition.<sup>2</sup> In 2019, 70 980 fatal drug overdoses occurred in the United States with 36 500 from synthetic opioids.<sup>3</sup> Opioid use disorder (OUD) is a subset of SUD that is defined as problematic opioid use leading to significant impairment in an individual's life.<sup>1</sup> As pandemics disproportionately affect individuals with medical and psychiatric comorbidities including OUD, the risk for overdose also increases.<sup>4</sup>

The World Health Organization announced the novel coronavirus disease 2019 (COVID-19) on March 12, 2020, which is projected to be the largest mass casualty event in the U.S.<sup>5,6</sup> Opioid overdoses and deaths in 2020 were higher compared with 2019 as the COVID-19 pandemic has challenged individuals' resilience and resources.<sup>7</sup> Drug overdose deaths in the U.S. rose by approximately 29% between September 2019 and September 2020 to 90 237, the highest number of overdose deaths ever recorded in a 12-month period.<sup>7</sup> Despite reduced COVID-19 cases and increasing national vaccination rates, the future remains uncertain regarding barriers to accessing OUD care due to new COVID-19 variants, return to indoor gatherings, and the next influenza season.<sup>8</sup>

The stressors, isolation, psychological consequences, lock-down orders limiting outpatient services, and financial hardships associated

TABLE 1 OUD care resources for pharmacists

Role	Action	Resource
Screen and identify	Complete SBIRT training	SBIRT for SUD in Primary Care Settings Learning Modules <a href="https://learning.pcssnow.org/p/SBIRTforSUD#tab-product_tab_contents_9">https://learning.pcssnow.org/p/SBIRTforSUD#tab-product_tab_contents_9</a> SBIRT training & video online courses <a href="https://www.sbirt.care/training.aspx">https://www.sbirt.care/training.aspx</a> SBIRT education with free webinars <a href="https://www.sbirteducation.com/">https://www.sbirteducation.com/</a>
Referral	Refer and assist patients with locating OUD care	OUD behavioral health treatment, buprenorphine treatment provider, and MAT center (including methadone) locator: U.S. Department of Health and Human Services Opioid Treatment Program Locator <a href="https://www.hhs.gov/opioids/treatment/index.html">https://www.hhs.gov/opioids/treatment/index.html</a> SAMHSA Behavioral Health Treatment Services Locator <a href="https://findtreatment.samhsa.gov/">https://findtreatment.samhsa.gov/</a> <a href="https://www.findtreatment.gov/">https://www.findtreatment.gov/</a> SAMHSA Opioid Treatment Program Directory by State <a href="https://dpt2.samhsa.gov/treatment/directory.aspx">https://dpt2.samhsa.gov/treatment/directory.aspx</a> MAT Treatment Finder <a href="https://www.workithealth.com/locations/">https://www.workithealth.com/locations/</a> Anonymously Seek OUD Treatment via NAABT's Treatment Match <a href="https://www.treatmentmatch.org/index.php">https://www.treatmentmatch.org/index.php</a> SAMHSA's National Helpline <a href="https://www.samhsa.gov/find-help/national-helpline">https://www.samhsa.gov/find-help/national-helpline</a> Mental Health and Addiction Insurance Help <a href="https://www.hhs.gov/programs/topic-sites/mental-health-parity/mental-health-and-addiction-insurance-help/index.html%20">https://www.hhs.gov/programs/topic-sites/mental-health-parity/mental-health-and-addiction-insurance-help/index.html%20</a>
Medication access expansion	Contact State opioid treatment authorities (SOTA) to maintain supplies of buprenorphine and naloxone  Assist patients in locating pharmacies that dispense buprenorphine  Increase awareness of MOUD shortages  Provide and administer naltrexone in ambulatory clinics and community pharmacies	State Opioid Treatment Authorities <a href="https://www.samhsa.gov/medication-assisted-treatment/sota">https://www.samhsa.gov/medication-assisted-treatment/sota</a>  SAMSHA Buprenorphine Pharmacy Lookup <a href="https://www.samhsa.gov/bupe/lookup-form">https://www.samhsa.gov/bupe/lookup-form</a>  ASHP Drug Shortages List <a href="https://www.ashp.org/Drug-Shortages/Current-Shortages/Drug-Shortages-List?page=CurrentShortages&amp;loginreturnUrl=SSOCheckOnly">https://www.ashp.org/Drug-Shortages/Current-Shortages/Drug-Shortages-List?page=CurrentShortages&amp;loginreturnUrl=SSOCheckOnly</a> FDA Drug Shortages <a href="https://www.accessdata.fda.gov/scripts/drugshortages/default.cfm">https://www.accessdata.fda.gov/scripts/drugshortages/default.cfm</a>  SAMHSA's Brief Guide to the Use of Naltrexone as Treatment of OUD <a href="https://store.samhsa.gov/product/Clinical-Use-of-Extended-Release-Injectable-Naltrexone-in-the-Treatment-of-Opioid-Use-Disorder-A-Brief-Guide/SMA14-4892R">https://store.samhsa.gov/product/Clinical-Use-of-Extended-Release-Injectable-Naltrexone-in-the-Treatment-of-Opioid-Use-Disorder-A-Brief-Guide/SMA14-4892R</a> An Exploratory Study on Pharmacist-Provided Naltrexone Injection Service in Wisconsin <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6630204/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6630204/</a>
De-stigmatization	Use nonstigmatizing language   Join anti-stigma campaigns	Terms to Use and Avoid When Talking About Addiction <a href="https://www.drugabuse.gov/nidamed-medical-health-professionals/health-professionals-education/words-matter-terms-to-use-avoid-when-talking-about-addiction">https://www.drugabuse.gov/nidamed-medical-health-professionals/health-professionals-education/words-matter-terms-to-use-avoid-when-talking-about-addiction</a> Glossary of Addiction-Related Words by the Recovery Research Institute <a href="https://www.recoveryanswers.org/addiction-ary/">https://www.recoveryanswers.org/addiction-ary/</a> Preferred Language when Talking about Mental Illness <ul style="list-style-type: none"> <li><a href="https://everymind.org.au/mental-health/understanding-mental-health/language-and-stigma">https://everymind.org.au/mental-health/understanding-mental-health/language-and-stigma</a></li> <li><a href="https://www.healthpartners.com/blog/mental-illnesses-terms-to-use-terms-to-avoid/">https://www.healthpartners.com/blog/mental-illnesses-terms-to-use-terms-to-avoid/</a></li> <li><a href="https://www.newvitaewellness.com/news-events/person-centered-language-and-recovery-what-you-need-to-know">https://www.newvitaewellness.com/news-events/person-centered-language-and-recovery-what-you-need-to-know</a></li> </ul> Joining the Movement Against Stigma <a href="https://www.shatterproof.org/our-work/ending-addiction-stigma/how-you-can-fight-stigma">https://www.shatterproof.org/our-work/ending-addiction-stigma/how-you-can-fight-stigma</a> Reducing Stigma Surrounding SUD <a href="https://www.opioidlibrary.org/featured_collection/reducing-stigma-surrounding-substance-use-disorders-creating-a-community-based-anti-stigma-initiative/">https://www.opioidlibrary.org/featured_collection/reducing-stigma-surrounding-substance-use-disorders-creating-a-community-based-anti-stigma-initiative/</a> Approaches to Reduce Stigma

TABLE 1 (Continued)

Role	Action	Resource
		<a href="https://www.ncbi.nlm.nih.gov/books/NBK384914/">https://www.ncbi.nlm.nih.gov/books/NBK384914/</a> Pledge to be Stigma-Free <a href="https://www.nami.org/Get-Involved/Pledge-to-Be-StigmaFree">https://www.nami.org/Get-Involved/Pledge-to-Be-StigmaFree</a>
Harm reduction	Improve naloxone access and overdose education	All About Naloxone <a href="https://www.shatterproof.org/naloxone?gclid=CjwKCAiA9vOABhBfEiwATCi7GFxT5mFdeXlhjwRFiX110jP9xoWuxqAOKnAoA5fKHooelBovlyMTtRoCBrcQAvD_BwE">https://www.shatterproof.org/naloxone?gclid=CjwKCAiA9vOABhBfEiwATCi7GFxT5mFdeXlhjwRFiX110jP9xoWuxqAOKnAoA5fKHooelBovlyMTtRoCBrcQAvD_BwE</a> Where to get Naloxone <ul style="list-style-type: none"> <li>• <a href="https://prevent-protect.org/individual-resources/where-to-get-naloxone/">https://prevent-protect.org/individual-resources/where-to-get-naloxone/</a></li> <li>• <a href="https://www.goodrx.com/blog/heres-how-to-get-naloxone-the-opioid-overdose-antidote-without-a-prescription/">https://www.goodrx.com/blog/heres-how-to-get-naloxone-the-opioid-overdose-antidote-without-a-prescription/</a></li> </ul> Naloxone Overdose Prevention Laws by State <a href="http://www.pdaps.org/datasets/laws-regulating-administration-of-naloxone-1501695139">http://www.pdaps.org/datasets/laws-regulating-administration-of-naloxone-1501695139</a> Expansion of Naloxone FAQs <a href="https://www.samhsa.gov/sites/default/files/programs_campaigns/medication_assisted_expansion-of-naloxone-faq.pdf">https://www.samhsa.gov/sites/default/files/programs_campaigns/medication_assisted_expansion-of-naloxone-faq.pdf</a> Community Naloxone Box Distribution <a href="https://nalobox.org/">https://nalobox.org/</a> Overdose Educational and Naloxone Distribution (OEND) Toolkit <a href="https://prescribeprevent.org/wp2015/wp-content/uploads/TIPSWhitePaper.pdf">https://prescribeprevent.org/wp2015/wp-content/uploads/TIPSWhitePaper.pdf</a>
	Refer patients to syringe access programs and provide needles and syringes	Find Harm Reduction Resources Near You <a href="https://harmreduction.org/resource-center/harm-reduction-near-you/">https://harmreduction.org/resource-center/harm-reduction-near-you/</a> Syringe Exchange Program Locator in the U.S. <a href="https://www.nasen.org/map/">https://www.nasen.org/map/</a>
	Promote proper opioid disposal	FDA Safe Opioid Disposal Toolkit <a href="https://www.fda.gov/drugs/ensuring-safe-use-medicine/safe-opioid-disposal-remove-risk-outreach-toolkit">https://www.fda.gov/drugs/ensuring-safe-use-medicine/safe-opioid-disposal-remove-risk-outreach-toolkit</a> U.S. HHS's Guide to Safely Dispose of Drugs <a href="https://www.hhs.gov/opioids/prevention/safely-dispose-drugs/index.html">https://www.hhs.gov/opioids/prevention/safely-dispose-drugs/index.html</a> At-Home Drug Disposal <a href="https://deterasystem.com/">https://deterasystem.com/</a>
Education	Engage patients using motivational interviewing	Talking to Someone Struggling with Opioid Addiction <a href="https://pcssnow.org/resource/motivational-interviewing-talking-with-someone-struggling-with-opioid-addiction/">https://pcssnow.org/resource/motivational-interviewing-talking-with-someone-struggling-with-opioid-addiction/</a> How to Talk to Your Patients with OUD <a href="https://www.ama-assn.org/delivering-care/opioids/how-talk-about-substance-use-disorders-your-patients">https://www.ama-assn.org/delivering-care/opioids/how-talk-about-substance-use-disorders-your-patients</a> SAMHSA's Guide for Enhancing Motivation for Change in SUD Treatment <a href="https://store.samhsa.gov/sites/default/files/d7/priv/tip35_final_508_compliant_-_02252020_0.pdf">https://store.samhsa.gov/sites/default/files/d7/priv/tip35_final_508_compliant_-_02252020_0.pdf</a> NIH Motivational Interviewing Patient Simulation <a href="https://www.drugabuse.gov/nidamed-medical-health-professionals/ctn-dissemination-initiative/blending-initiative-motivational-interviewing-cmece-patient-simulation">https://www.drugabuse.gov/nidamed-medical-health-professionals/ctn-dissemination-initiative/blending-initiative-motivational-interviewing-cmece-patient-simulation</a> Brief Referral to Treatment Provider Training Algorithm <a href="https://www.mcstap.com/docs/Brief-negotiated_interview_and_active_referral_to_treatment-%28Page%201%29.pdf">https://www.mcstap.com/docs/Brief-negotiated_interview_and_active_referral_to_treatment-%28Page%201%29.pdf</a>
	Educate patients, support persons, and health care team	<i>To Educate Health Care Providers:</i> American Family Physicians Article on Medical Treatment Options for OUD <a href="https://www.aafp.org/afp/2019/1001/p416.html">https://www.aafp.org/afp/2019/1001/p416.html</a> SAMHSA Evidence-Based Practices Resource Center <a href="https://www.samhsa.gov/ebp-resource-center">https://www.samhsa.gov/ebp-resource-center</a> SAMHSA Opioid Overdose Toolkit <a href="https://store.samhsa.gov/sites/default/files/d7/priv/information-for-prescribers.pdf">https://store.samhsa.gov/sites/default/files/d7/priv/information-for-prescribers.pdf</a> <i>To Educate Patients/Support Persons:</i> Opioid Patient Education Hub <a href="https://www.cmeoutfitters.com/patient-resources-hub/">https://www.cmeoutfitters.com/patient-resources-hub/</a> Patient resources for SUD during the COVID-19 Pandemic <a href="https://www.drugabuse.gov/nidamed-medical-health-professionals/resources-to-help-your-patients-sud-during-covid-19-pandemic">https://www.drugabuse.gov/nidamed-medical-health-professionals/resources-to-help-your-patients-sud-during-covid-19-pandemic</a>

(Continues)

TABLE 1 (Continued)

Role	Action	Resource
Advocacy	Support federal and state legislative priorities by contacting Members of Congress and signing petitions	Contact Congress members via ASHP efforts <a href="https://www.ashp.org/Advocacy-and-Issues/Whats-New/Opioid-Action?loginreturnUrl=SSOCheckOnly">https://www.ashp.org/Advocacy-and-Issues/Whats-New/Opioid-Action?loginreturnUrl=SSOCheckOnly</a> Contact your legislators regarding national advocacy group initiatives <a href="https://www.thenationalcouncil.org/policy-action/write-your-legislators/?vsrc=%2fcampaigns%2f66971%2frespond#/">https://www.thenationalcouncil.org/policy-action/write-your-legislators/?vsrc=%2fcampaigns%2f66971%2frespond#/</a> Sign Petitions Against Addiction <a href="https://p2a.co/A0VxYRC">https://p2a.co/A0VxYRC</a> Advocate for Fighting Addiction <a href="https://www.shatterproof.org/advocacy">https://www.shatterproof.org/advocacy</a> Tell the Biden Administration to Make Addiction a Priority <a href="https://takeaction.shatterproof.org/kYBRFGy">https://takeaction.shatterproof.org/kYBRFGy</a>
	Contact elected officials to support OUD-related bills and initiatives	How to Contact Your Elected Officials <a href="https://www.usa.gov/elected-officials">https://www.usa.gov/elected-officials</a> <ul style="list-style-type: none"> <li>Ask them to promote the following efforts:               <ul style="list-style-type: none"> <li>Addition of methadone to statewide PDMPs</li> <li>Methadone dispensing in community pharmacies as a unit of an OTP</li> <li>Deregulation of pharmacist buprenorphine prescribing</li> </ul> </li> </ul> Ask your elected officials to support the following bills: Empowering Pharmacists in the Fight Against Opioid Abuse Act <a href="https://www.congress.gov/bill/115th-congress/house-bill/4275?q=%7B%22search%22%3A%5B%22pharmacist%22%5D%7D&amp;s=6&amp;r=74">https://www.congress.gov/bill/115th-congress/house-bill/4275?q=%7B%22search%22%3A%5B%22pharmacist%22%5D%7D&amp;s=6&amp;r=74</a> Expanded Pharmacist Access to Opioid Abuse Treatment Act of 2017 <a href="https://www.congress.gov/bill/115th-congress/house-bill/3991?q=%7B%22search%22%3A%5B%22pharmacist%22%5D%7D&amp;r=77&amp;s=6">https://www.congress.gov/bill/115th-congress/house-bill/3991?q=%7B%22search%22%3A%5B%22pharmacist%22%5D%7D&amp;r=77&amp;s=6</a> Addiction Prevention and Responsible Opioid Practices Act <a href="https://www.congress.gov/bill/116th-congress/senate-bill/4242/text?q=%7B%22search%22%3A%5B%22pharmacist%22%5D%7D&amp;r=17&amp;s=7">https://www.congress.gov/bill/116th-congress/senate-bill/4242/text?q=%7B%22search%22%3A%5B%22pharmacist%22%5D%7D&amp;r=17&amp;s=7</a> Opioid Prescription Verification Act of 2019 <a href="https://www.congress.gov/bill/116th-congress/house-bill/4810?q=%7B%22search%22%3A%5B%22pharmacist%22%5D%7D&amp;s=5&amp;r=9">https://www.congress.gov/bill/116th-congress/house-bill/4810?q=%7B%22search%22%3A%5B%22pharmacist%22%5D%7D&amp;s=5&amp;r=9</a> The 2018 Comprehensive Addiction and Recovery Act (CARA) 2.0 Act <a href="https://www.congress.gov/bill/115th-congress/senate-bill/2456/text">https://www.congress.gov/bill/115th-congress/senate-bill/2456/text</a>
	Apply for expansion grants to support advocacy efforts	SAMHSA Grant Resources <a href="https://www.samhsa.gov/grants/grant-announcements/sm-20-012">https://www.samhsa.gov/grants/grant-announcements/sm-20-012</a> CCBHC Expansion Grants <a href="https://www.samhsa.gov/grants/grant-announcements/sm-21-013">https://www.samhsa.gov/grants/grant-announcements/sm-21-013</a> NHSC Substance Use Disorder Workforce Loan Repayment Program <a href="https://nhsc.hrsa.gov/loan-repayment/nhsc-sud-workforce-loan-repayment-program.html">https://nhsc.hrsa.gov/loan-repayment/nhsc-sud-workforce-loan-repayment-program.html</a> NIDA Funding Opportunities <a href="https://www.drugabuse.gov/funding/nida-funding-opportunities">https://www.drugabuse.gov/funding/nida-funding-opportunities</a>
	Join opioid task forces and committees	Search online to learn how you can participate in your state's opioid task force or committee. Examples from different states are included below. Massachusetts Opioid Task Force <a href="https://www.opioidtaskforce.org/committee-sign-up/">https://www.opioidtaskforce.org/committee-sign-up/</a> Michigan Overdose Data to Action (MODA) <a href="https://www.preventionnetwork.org/moda">https://www.preventionnetwork.org/moda</a>

Abbreviations: ASHP, American Society of Health-System Pharmacists; CCBHC, Certified Community Behavioral Health Clinic; COVID-19, coronavirus disease 2019; FDA, Food and Drug Administration; HHS, Health and Human Services; MAT, Medication-Assisted Treatment; MOUD, Medication for Opioid Use Disorder; NAABT, National Alliance of Advocates for Buprenorphine Treatment; NHSC, National Health Service Corps; NIDA, National Institute on Drug Abuse; NIH, National Institute of Health; OTP, Opioid Treatment Program; OUD, Opioid Use Disorder; PDMP, Prescription Drug Monitoring Program; SAMHSA, Substance Abuse and Mental Health Services Administration; SBIRT, Screening, Brief Intervention and Referral to Treatment; SUD, Substance Use Disorder.

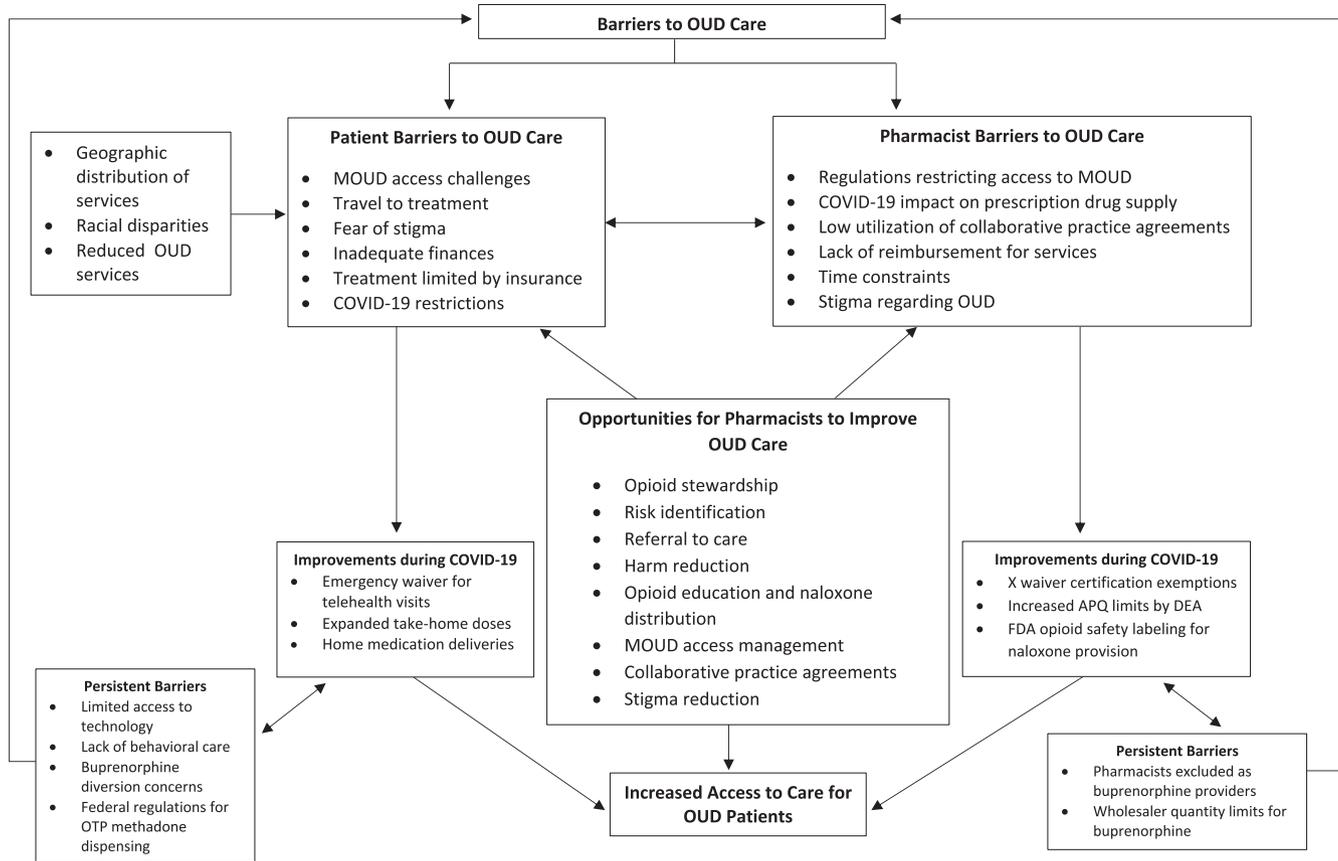
with COVID-19 increase the risk of nonadherence with treatment and discontinuing OUD care.<sup>9</sup> The early symptoms of COVID-19 infection such as fever, chills, and body aches may be confused with opioid withdrawal prompting individuals to seek an opioid source instead of

medical care and testing.<sup>10</sup> Treatment with medications for opioid use disorder (MOUD) combines medications and behavioral therapy to decrease the risk of opioid overdose.<sup>1</sup> The three Food and Drug Administration (FDA) approved MOUD agents in the U.S. are the

opioid agonists, methadone (available only through certified opioid treatment programs [OTPs]) and buprenorphine (prescribing is limited to waived providers), and the opioid antagonist, naltrexone.<sup>1,11</sup> When administered as a MOUD, these agents show reduced illicit opioid use, improved retention in treatment, and decreased risk of overdose death compared with placebo.<sup>1</sup> Naltrexone long-acting intramuscular injection (Vivitrol), which is available as the brand name product only, is primarily prescribed for OUD and alcohol use disorder; oral formulations are available as well.<sup>1</sup> Naltrexone is not a controlled substance, therefore it does not require regulatory oversight.<sup>1</sup> Despite documented clinical effectiveness and safety, MOUD is underutilized, as over 70% of individuals with OUD do not receive treatment.<sup>12</sup> During the pandemic, MOUD access has been further limited.<sup>13</sup>

The increased opioid overdoses during the pandemic represent a call to action for health care professionals, including pharmacists. While barriers exist, pharmacist opportunities to improve outcomes related to opioid use during the COVID-19 pandemic include opioid stewardship, risk identification, referral to care, harm reduction, MOUD access management, stigma reduction, and advocacy efforts.<sup>6,14</sup> This review aims to (a) identify barriers to care for patients with OUD during the COVID-19 pandemic, (b) identify barriers to pharmacists in providing care to patients with OUD, and (c) describe opportunities and provide resources for the pharmacist to overcome

barriers to OUD care during the COVID-19 pandemic and beyond. The authors conducted a comprehensive PubMed literature review using the following Medical Subject Headings (MeSH) terms: OUD, access to treatment, medication access, COVID-19, and pharmacist. To identify policies, the authors reviewed state and national policy implementation during 2020 to 2021 to highlight activity related to treatment of OUDs during the COVID-19 pandemic. To obtain information on specific programs and policies, the authors searched the federal register, Drug Enforcement Agency (DEA), U.S. Department of Health and Human Services (HHS), and professional organization websites including the Substance Abuse and Mental Health Services Administration (SAMHSA), the American College of Clinical Pharmacy (ACCP), and the American Pharmacists Association (APhA). Resources for pharmacists (Table 1) were selected from government or professional sources and based on public availability, applicability to various states and pharmacy practice settings, no cost, and ease of use. In the event of differing views regarding inclusion of references or resources, the primary and senior author independently reviewed content before reaching a mutual decision. The reader is invited to select resources from the table aligning with their community/local/state strategic plan or advocacy mission for OUD care. A conceptual framework depicting the relationship between patient barriers, pharmacist barriers, and pharmacist opportunities to improve care is presented in Figure 1.



**FIGURE 1** Conceptual framework—barriers to OUD care. APQ, aggregate production quotas; COVID-19, coronavirus disease 2019; DEA, drug enforcement agency; FDA, food and drug administration; MOUD, medications for opioid use disorder; OTP, opioid treatment program; OUD, opioid use disorder

## 2 | BARRIERS TO CARE FOR PATIENTS WITH OUD DURING THE COVID-19 PANDEMIC

Geographic distribution shows disparities in treatment for OUD, particularly among rural communities, pregnant women, and African Americans.<sup>15,16</sup> Programs for OUD treatment and access to MOUD became increasingly difficult during the COVID-19 pandemic as treatment programs temporarily closed, reduced services, or shortened hours making it difficult to accomplish mandatory in-person examinations before initial prescribing.<sup>13</sup> Without access to daily buprenorphine or methadone doses, individuals risk withdrawal or recurrence of disorder.<sup>5</sup> In March 2020, the DEA temporarily allowed DEA-registered physicians to prescribe controlled substances including buprenorphine via telehealth visits.<sup>17</sup> The emergency waiver allows providers to be reimbursed by the Centers for Medicaid and Medicare Services (CMS) for MOUD services, including prescriptions, even if provided remotely on the first visit and using only audio (eg, phone visits).<sup>17</sup> African Americans with OUD are at greater risk of COVID-19, and those with OUD and COVID-19 have greater odds of hospitalization and mortality compared with Whites with these conditions.<sup>15</sup> Racial disparities, such as lack of access to buprenorphine office-based treatment in African American communities, were improved by telehealth availability during the COVID-19 pandemic.<sup>15</sup> While telehealth has been embraced to reduce contagion, clinics and patients with limited technology resources, no internet access, or lack of privacy may not be able to participate.<sup>9,18</sup> Patients may choose to continue face-to-face care, yet visits can interfere with work or school, particularly when the clinic is far from home.<sup>19</sup> Individuals may have issues obtaining a legitimate prescription for MOUD as rural mid-level providers may cite diversion as a reason for not prescribing buprenorphine; however, buprenorphine diversion is described as a means to share treatment with family and friends who do not have access to treatment.<sup>20</sup> This may be mitigated by increasing access to treatment among all populations.

In response to social distancing, some OTPs provide an increased number of take-home methadone doses in place of required supervised on-site administration.<sup>13</sup> This alternative to daily in-person visits without additional behavioral treatment may cause regression of some individuals.<sup>13</sup> Guidelines were developed by SAMHSA for providing OTP methadone during the COVID-19 pandemic.<sup>21</sup> Stable patients in OTP were granted a temporary allowance of up to 28 days of take-home doses, which allowed continuing treatment while minimizing exposure to COVID-19.<sup>21</sup> Individual states allowed telehealth for counseling and physician visits, expanded take-home methadone using an emergency waiver, or delivery of methadone doses to the patient's home.<sup>21</sup> Not all states adopted the SAMHSA guidelines, creating a barrier to access.

Among the factors impeding access to buprenorphine treatment is the limited number of Drug Addiction Treatment Act (DATA) waived (X waived) providers in active practice compared with the number of opioid overdose deaths on a county level.<sup>22</sup> Providers may train and become waived then decide not to prescribe

buprenorphine, may prescribe under their limit, or accept only cash for office-based treatment because of low reimbursement or payer regulations.<sup>23</sup> As of April 27, 2021, the U.S. Department of HHS issued new guidelines providing an exemption from certain certification requirements related to X waiver training to expand prescribing of buprenorphine.<sup>11,24</sup> Per the new guidelines, physicians, physician assistants, nurse practitioners, clinical nurse specialists, certified registered nurse anesthetists, and certified nurse midwives with a controlled substance license can treat up to 30 patients at any one time with buprenorphine.<sup>11,24</sup> Before prescribing buprenorphine, the provider must submit a notice of intent to SAMSHA. Providers are still required to complete DATA waiver training, and the exemptions do not apply if treating above the 30 patient limit.<sup>11,24</sup> Pharmacists are not addressed or included as providers in the new guidelines and remain unable to prescribe buprenorphine.<sup>11</sup>

An ongoing concern is the suboptimal provision of naloxone for opioid overdose reversal, as patients with OUD without a history of overdose are less likely to be prescribed naloxone than those with a history of overdose.<sup>25</sup> Individuals at highest risk of overdose, such as those injecting heroin or illicit manufactured fentanyl, may not have regular contact with a pharmacist.<sup>26</sup> High cost and fear of stigma are barriers to obtaining naloxone at a pharmacy for persons who inject drugs.<sup>26</sup> Disparities in naloxone access are exacerbated by race/ethnicity, homelessness, health status, income, health insurance, and access to OUD treatment.<sup>26</sup> Pharmacists can collaborate with community partners to distribute emergency naloxone boxes in public areas where persons inject drugs to decrease overdose deaths.<sup>27</sup> The FDA recently updated labeling for all opioids and MOUD recommending routine provision of naloxone with every new and refilled prescription.<sup>28</sup> COVID-19 related increases in opioid deaths represent a call to pharmacists to extend overdose prevention education to patients and their support persons.<sup>6</sup>

## 3 | BARRIERS TO PHARMACISTS PROVIDING CARE TO PATIENTS WITH OUD

The FDA began monitoring the COVID-19 pandemic effect on the human drug supply chain in January 2020 to anticipate shortages of drug products manufactured in China.<sup>29</sup> The lockdowns in China and the domestic export restrictions in India caused a supply reduction in generics and active pharmaceutical ingredients from major global pharmaceutical manufacturers.<sup>29,30</sup> The pandemic caused medication shortages risking interruption of therapy for vulnerable individuals including those prescribed MOUD.<sup>31</sup>

Individuals receiving methadone or buprenorphine treatment may have difficulties with medication adherence due to federal and state regulations limiting prescribing and dispensing. The DEA enforces annual Aggregate Production Quotas (APQ) for pharmaceutical manufacturers, limiting production of high demand controlled substances.<sup>32</sup> Production limits are set to provide enough controlled substances to meet patient care needs while preventing an excess supply for diversion. The controlled substance order limit from a wholesaler or

distributor is based on usual volume of legitimate prescriptions dispensed at a specific pharmacy.<sup>32</sup> Recently, the DEA increased the APQ for methadone to ensure that OTPs have sufficient supplies to treat patients with OUD.<sup>32</sup> However, it is unclear whether or not this change will remain in effect after the public health emergency. Furthermore, wholesaler quantity limits for an individual community pharmacy may be a factor in limiting patient access to buprenorphine despite the increased APQ.<sup>33</sup> This may create a challenge for pharmacists to accommodate an increase in buprenorphine prescriptions from new providers and treatment programs.

Pharmacist participation in collaborative practice agreements (CPAs) to expand MOUD and naloxone prescribing is an opportunity to improve OUD care.<sup>34,35</sup> However, pharmacist participation in naloxone standing orders or CPAs remains suboptimal and there are few MOUD pharmacist collaborative prescribing practices.<sup>26,35</sup> Primary barriers to pharmacist participation in naloxone education and distribution are lack of reimbursement and time.<sup>34</sup> These barriers are applicable to pharmacist provision of MOUD care in addition to acceptance by the treatment team.<sup>34</sup>

Stigma regarding MOUD has been reported for decades and persists during the pandemic.<sup>36</sup> Examples of stigmatizing actions include pharmacists denying access to MOUD when presented with a legitimate prescription, viewing MOUD as “substituting one addiction for another,” or simply neglecting to offer professional services to patients who have an OUD diagnosis.<sup>37</sup> As hospitals and clinics are focused on treating patients with COVID-19, care for patients with OUD who are currently stigmatized by health care systems may be overlooked.<sup>18</sup> A nonvalidated survey revealed knowledge deficits regarding MOUD medications among pharmacist preceptors ( $n = 85$ ).<sup>37</sup> Despite limitations of small sample and one state, the findings emphasize the need for pharmacists to examine their attitudes toward MOUD and update their knowledge on the etiology of OUD.<sup>19</sup> Targeted education addressing misconceptions regarding OUD may reduce stigma to improve care. As language perpetuates stigma against OUD, this review attempts to use nonstigmatizing language.<sup>38</sup>

Patients requiring chronic opioid therapy for legitimate pain conditions may experience stigmatizing behavior from pharmacists and other health care professionals.<sup>39</sup> Patients receiving chronic opioid therapy risk precipitation of agonial pain and withdrawal when their opioid prescriptions are abruptly discontinued because of provider fear of regulatory oversight and/or restrictive payer prescribing policies.<sup>39</sup>

#### 4 | PHARMACIST OPPORTUNITIES AND RESOURCES TO OVERCOME OUD CARE BARRIERS DURING COVID-19 AND BEYOND

As the most accessible health care professionals, particularly in rural communities, several actions and resources are identified for pharmacists to improve COVID-19-related access barriers (Table 1).<sup>40</sup> While these actions are important during the pandemic, they are applicable in the future. Interventions are described in the areas of identification,

education, and referral of patients with OUD; expanded medication access; harm reduction; and advocacy efforts to remove regulatory and policy barriers.<sup>14,41,42</sup>

#### 5 | IDENTIFICATION OF PATIENTS WITH UNDIAGNOSED OUD AND PHARMACIST INTERVENTIONS

During the pandemic, individuals with OUD who were reluctant to visit a clinic because of contagion risk and undiagnosed individuals with OUD may have visited the pharmacy more frequently than traditional care settings.<sup>40</sup> Screening for OUD, providing education, and referral to treatment are opportunities to expand community pharmacy practice.<sup>14,43</sup> Pharmacists on the front lines of COVID-19 vaccine administration in the community have an opportunity to engage patients about OUD risk and care.<sup>6</sup> While OUD screening and education are not currently reimbursed and may increase pharmacist workload, the benefits include improved provider collaboration and community partnerships.<sup>26</sup> While not yet described in the literature, pharmacists may consider using pharmacy technicians and/or student pharmacists or trainees as care extenders.

Screening, Brief Intervention, and Referral to Treatment (SBIRT) tools identify and reduce risks associated with problematic medication and alcohol use.<sup>26</sup> While the SBIRT tool is not yet validated for screening opioid analgesic misuse in a community pharmacy setting, its use is supported by limited data encouraging further studies and practice reports.<sup>43</sup> Pharmacists can use motivational interviewing skills to identify opportunities for intervention and care, particularly as an individual's decision to enter and remain in treatment for OUD is motivated by several factors. Materials and training on motivational interviewing and SBIRT skills specific to OUD are available for pharmacists to enhance patient communication (Table 1). Patients with OUD may have complex and emergent concerns beyond the scope of pharmacist practice; therefore, it is imperative to provide links to medical and behavioral care in the health system or community.<sup>44</sup>

Routine review of the statewide prescription drug monitoring program (PDMP) every time a patient fills a controlled substance prescription allows pharmacists to intervene regarding high-risk behaviors, promote education, and refer patients to OUD care programs.<sup>41</sup> Increasingly, states are requiring some type of PDMP review before prescribing controlled substances, especially for opioids.<sup>45</sup> Yet, few hospitals enable prescribers or pharmacists to query the PDMP from within the electronic medical record (EMR) or integrate PDMP data into their EMR without having to manage multiple disconnected software systems.<sup>45</sup> To improve clinic and/or pharmacy workflow, pharmacists can use authorized delegated support staff to obtain PDMP reports before review.

As of August 2020, OTPs are permitted to enroll in a state PDMP and report methadone dispensing data into the PDMP if required by state regulation.<sup>46</sup> Therefore, it is not standard practice to have methadone dispensed from an OTP included in a PDMP. Pharmacists must encourage patients to inform all providers involved in their care about

their methadone treatment to avoid serious drug interactions, adverse effects, and missed doses. Reporting naloxone prescribing and administration to the PDMP increases naloxone provision to potentially high-risk patients.<sup>47</sup> As PDMPs are state regulated, pharmacists can engage in state level committees and task forces to ensure best practice as active system users.

## 6 | REFERRAL AND PROMOTING CONTINUATION OF OUD CARE DURING THE PANDEMIC

Pharmacists can use their trusted relationship with patients to connect individuals with OUD and their support persons to local programs for emergent or ongoing treatment.<sup>44</sup> While many OTPs have re-opened among stabilizing or decreasing COVID-19 cases, virtual options continue to be available for patients reluctant to seek face-to-face care. In the event of resurging COVID-19 cases, vigilance is advised as treatment centers may be forced to uphold capacity limits or restrict in-person care. Pharmacists can provide referral to face-to-face or telehealth behavioral health treatment services, buprenorphine treatment providers, and methadone treatment centers located by a patient's zip code of residence (Table 1).<sup>26</sup> Telehealth options, while not preferred by all individuals, can be recommended for individuals wishing to avoid in-person treatment risks or for patients without local clinics. Pharmacists can be sensitive to their patients' ability to use technology for telehealth services and offer support to ensure continuity of medication. Pilot programs support pharmacist-initiated referrals to treatment in a variety of settings including community pharmacies.<sup>26</sup>

## 7 | IMPROVING MOUD ACCESS

Pharmacists can develop innovative approaches to increase access to MOUD. The availability of naltrexone without provider restriction or OTP requirement provides the opportunity to recommend and administer naltrexone through CPA.<sup>48</sup> Pharmacists can also partner with buprenorphine providers through a CPA, which demonstrated increased patient adherence to MOUD and patient/provider satisfaction when conducted within a community pharmacy.<sup>35</sup> To ensure an adequate supply of buprenorphine in community pharmacies particularly amidst COVID-19 drug shortages, pharmacists may petition their wholesaler to obtain an increase in their individual controlled substance order limit to meet the demand of legitimate prescriptions.<sup>49</sup> The State Opioid Treatment Authority (SOTA) in each state regulates MOUD, OTPs, and access to naloxone; SAMHSA coordinated with the SOTAs to allow buprenorphine prescribing via telehealth during the COVID-19 pandemic.<sup>17</sup> Pharmacies can contact their SOTA to ensure maintenance of adequate buprenorphine and naloxone supply.<sup>50</sup> Pharmacists can collaborate with professional organizations and health care systems to anticipate shortages and develop networks and protocols to maintain supplies (Table 1).

## 8 | PREVENTION OF RECURRENCE OF OUD AND HARM REDUCTION

Pharmacists are essential partners in preventing recurrence of disorder and overdose when access to treatment is limited and daily routines are disrupted by shelter-in-place orders.<sup>10</sup> Strategies include ensuring medication adherence, delivery and administration of medications, communicating with providers, and providing naloxone.<sup>10</sup> Given the increased mortality and risk of recurrence associated with OUD during the COVID-19 pandemic, pharmacists must increase efforts to provide naloxone and opioid overdose education via standing orders or CPA, which are available to pharmacists in most states.<sup>7,9,34,40</sup> Integration of interventions in the EMR can help overcome time constraints, such as electronic order set alerts for patients at high overdose risk to prioritize naloxone and overdose prevention/education.<sup>26,34</sup> Pharmacists can implement interprofessional opioid education and naloxone distribution (OEND) services from emergency departments using program toolkits.<sup>51</sup> Public distribution of naloxone offers no cost, low stigma access in communities with high rates of opioid overdoses, yet does not provide in-person training or assistance.<sup>27</sup> Individuals receiving MOUD are at an elevated risk of overdose and frequently encounter a pharmacist.<sup>26</sup> Pharmacists can work with recovery groups and providers to ensure that individuals and their support persons have access to naloxone and opioid overdose response education.<sup>26</sup>

Communication with the MOUD provider is imperative to discuss possible misuse in the event of lost prescriptions, early refill requests, or concurrent disorders indicated by prescriptions for benzodiazepines or amphetamines.<sup>52</sup> Finally, pharmacists can offer harm reduction strategies by ensuring that patients are familiar with syringe access programs and by providing needles and syringes to prevent bloodborne infection while the pandemic limits program staffing and access.<sup>53</sup> Pharmacists can conduct needs assessments and guide patients to syringe and harm reduction programs located by zip code (Table 1).

## 9 | DE-STIGMATIZATION AND EDUCATION

An ethical responsibility of the pharmacist includes de-stigmatization and education of individuals with OUD, their support persons, and the health care team.<sup>6,14</sup> For pharmacists, education on myths surrounding reluctance to dispense MOUD is imperative to improve medication access. Furthermore, the risk of stigmatizing patients with pain in general is problematic, highlighting the responsibility of the pharmacist to balance access to opioids with the responsibility to prevent misuse and diversion.

Educational tools on stigma are available for different audiences (Table 1). Pharmacists must consider the impact of word choice, tone, and body language when speaking to and about patients with OUD.<sup>38</sup> Pharmacists may develop anti-stigma campaigns and educational materials, with national organizations providing access to these materials (Table 1).

Academic pharmacists can work with their affiliated schools of pharmacy to expand OUD topics in the didactic and experiential curriculum. To develop competency for future practice, an interprofessional education team experience focusing on optimal management for individuals with OUD may be beneficial. Multiple grant funds, including the Certified Community Behavioral Health Clinic (CCBHC) Expansion Grant program, are available to pharmacists for educating patients and health care professionals on OUD care and treatment, ensuring MOUD access, and supporting stigma-reducing interventions.<sup>54</sup>

## 10 | ADVOCACY INITIATIVES DURING THE COVID-19 PANDEMIC AND BEYOND

Advocacy efforts are important during the COVID-19 pandemic to provide required resources and expedite changes in practice. In several states, pharmacists are stakeholders on interprofessional task forces addressing the increase in opioid overdose deaths during the COVID-19 pandemic and expediting referral to treatment.<sup>55</sup> Pharmacists can work with their local and state pharmacy associations to meet with their legislators to introduce bills aimed to improve public health. Pharmacists can contact their elected officials to request their support on legislative initiatives and bills in Congress. National organizations promote multiple federal and state priorities supporting OUD care and provide convenient opportunities to contact Members of Congress. We have identified several initiatives requiring legislative support in Table 1.

Pharmacists must reach out to their elected officials to reduce limitations on access to MOUD. While methadone is dispensed from OTPs, using a community pharmacy as an OTP dispensing unit improved patient access to therapy.<sup>26</sup> Pharmacy-based methadone dispensing is common in other countries including Canada, the United Kingdom, and Australia.<sup>56</sup> A cohort study of 3743 patients from 43 methadone maintenance clinics across Ontario suggests that on-site clinic pharmacy methadone dosing results in a greater likelihood of retention in methadone maintenance therapy compared with community off-site pharmacy dosing.<sup>56</sup> These findings underscore the importance of community pharmacist collaboration with the treatment team and supportive patient monitoring at the pharmacy level. Payer and pharmacy level barriers to long-acting MOUD injectable formulations (eg, naltrexone intramuscular and buprenorphine subcutaneous formulations) must be addressed. Pharmacists may lobby through their state association to limit third party payer restrictions, allow fast track prior authorization, and improve reimbursement.<sup>57</sup>

Pharmacists can advocate for Congress to amend the Controlled Substance Act to allow primary care-based delivery of methadone and community pharmacy-based dispensing.<sup>19,58</sup> Advocacy efforts by organizations including the American Society of Health Systems Pharmacists are working to deregulate buprenorphine and extend provider status to pharmacists.<sup>59</sup> Despite the new HHS guidelines exempting certain certification requirements for buprenorphine prescribing via an X waiver, deregulation of buprenorphine for all providers is an ongoing consideration highlighted by limited MOUD during the COVID-19 pandemic.<sup>6,24,42</sup> Individual states such as Rhode Island

have initiatives to include pharmacists in collaborative buprenorphine prescribing.<sup>60</sup> Pharmacists can advocate for independent or collaborative prescribing of buprenorphine through state and national organizations during the public health emergency and beyond. Pharmacists can also advocate for addition of OTP-dispensed methadone to their state's PDMP to ensure appropriate monitoring, prompt provision of naloxone, and promote continuation of therapy. Lastly, pharmacists can advocate for removal of reimbursement and training barriers to providing essential OUD care and overdose prevention services in community practice settings.<sup>6,14,26</sup> Dissemination of pharmacist experience within innovative pharmacy practice models for OUD care is encouraged at national, state, and local meetings in addition to publishing findings in interprofessional journals.

## 11 | CONCLUSION

While many barriers discussed in this review predate the COVID-19 pandemic and subsequent viral surges, unprecedented events highlighted disparities faced by patients with OUD. Practice changes, education, elimination of biases toward OUD care, and advocacy efforts are key to serving this vulnerable population. Existing resources must be evaluated and utilized, with the creation of new programs to address patient challenges. The call to action for pharmacists is now.

### CONFLICT OF INTEREST

The authors declare no conflict of interest.

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**How to cite this article:** Mohammad I, Berri D, Tutag Lehr V. Pharmacists and opioid use disorder care during COVID-19: Call for action. *J Am Coll Clin Pharm*. 2022;5(2):203-213. doi:10.1002/jac5.1556