



# Maintaining treatment and prevention programs for opioid use disorders during the coronavirus disease 2019 pandemic

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## Purpose of review

The current article reviews the impact of the biggest health crisis for many decades, coronavirus disease 2019 (COVID-19), on opioid treatment programs and the strategies adopted for maintaining opioid treatment programs during the pandemic.

## Recent findings

The difficulty of access to opioid treatment services and the mental health problems accompanying opioid use disorders are the two main challenges to maintaining accessible and effective opioid treatment. Many countries and institutions issued guidance and recommendations to address these challenges. General coping strategies, loosening of policies, telemedicine, and depot buprenorphine are four main strategies to cope with the challenges posed by the pandemic.

## Summary

There were considerable obstacles to maintaining opioid intervention programs during the COVID-19 pandemic. Strategies addressing the obstacles are identified. Research in this area needs to be strengthened.

## Keywords

coronavirus disease 2019, opioid treatment programs, strategy

## INTRODUCTION

The year 2020 witnessed a health crisis sweeping the globe – the coronavirus (severe acute respiratory syndrome coronavirus 2) disease 2019 (COVID-19) pandemic. According to the WHO COVID-19 dashboard, the number of confirmed cases has exceeded 100 million [1]. This pandemic has brought unprecedented challenges to all facets of medical practice including treatment of opioid use disorder (OUD). Maintaining opioid treatment programs is essential for people with OUD because of the associated reduction in all-cause mortality, overdose and bloodborne diseases [2]. Facing enormous obstacles, policy makers and practitioners in OUD treatment implemented many actions to mitigate the impact on opioid treatment. In this review, we summarize the impact of COVID-19 on opioid treatment programs, the guidance and recommendations issued by different countries and institutions, and strategies to maintain opioid treatment programs during the pandemic. We conclude by providing recommendations and suggestions for future directions on this topic. The findings of the studies reviewed and our recommendations may be of relevance for similar pandemics and other healthcare crises.

## THE IMPACT OF CORONAVIRUS DISEASE 2019 ON SUBSTANCE USE AND TREATMENT PROGRAMS

The COVID-19 pandemic posed the threat of serious disruption to the provision of opioid treatment. As the first country affected by COVID-19, China responded to the impact of COVID-19 on opioid users and opioid treatment programs such as methadone maintenance [3–5]. With COVID-19 becoming a pandemic globally, many other countries sought to address the effects of COVID-19 and the associated lockdowns on OUD, especially countries with an existing opioid crisis, such as the United States [6,7]. A limited number of studies have shown the increased risk of OUD during the COVID-19

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## KEY POINTS

- There were great challenges in maintaining opioid treatment programs during the COVID-19 pandemic.
- Several strategies for maintaining opioid treatment programs were implemented in many countries.
- We recommend a combination of different strategies, maintaining these strategies, and focusing on the mental health of people with opioid use disorder.
- Quantitative research of high-quality needs to be strengthened.

pandemic [8,9<sup>a</sup>,10]. A study evaluating data from emergency medical services (EMS) between January 2020 and April 2020 revealed the increased EMS opioid overdose daily rates indicating that opioid overdoses were rising [9<sup>a</sup>].

The challenges to opioid treatment programs during COVID-19 are summarized as follows:

- (1) The biggest challenge is the difficulty of accessing opioid treatment services, which are designed to facilitate initiation of opioid substitution treatment (OST) and its continuity. Lock down, physical distancing guidelines, and social isolation to control the pandemic presented challenges for needle and syringe exchange programs, OST, and naloxone distribution. Subsequently, there was an increased risk of infectious diseases like hepatitis C, relapse to illicit opioid use, and overdose [5,11,12,13<sup>a,b</sup>]. In addition, illicit opioid markets were influenced by restrictions during the COVID-19 pandemic, which can result in more overdoses and more patients seeking treatment [14].
- (2) Mental health problems accompanying OUD during the pandemic was another challenge to opioid treatment programs. Pandemic-related stressors have exacerbated anxiety, dysphoria, and other negative emotions of people with OUD who may use opioids as a coping strategy. This can influence the effect of opioid treatment indirectly [15,16<sup>a</sup>], and make overall treatment more complex [15,17,18].

## RESPONSES AND STRATEGIES TO MAINTAIN OPIOID TREATMENT PROGRAMS DURING THE PANDEMIC

In responding to the challenges of maintaining opioid treatment programs during the COVID-19 pandemic, countries and institutions published guidance and recommendations (Table 1). These provided

directions on ways of continuing opioid treatment, in relation to the individual situations of different countries or regions. Notwithstanding the fact that there cannot be one guidance which applies to all countries, we summarize several main themes of the strategies from the latest published literature.

### General coping strategies

Overall strategies to maintain opioid treatment programs during the pandemic were developed in China and other countries. Comprehensive assessment protocols were developed for people with OUD when they were treated in hospital for COVID-19 and efforts were made to provide and continue OUD treatment for them [5,19]. Maintaining the provision of needle and syringe programs is highlighted by several authors [20<sup>a</sup>,21,22]. Mail-based needle and syringe distribution services, home delivery and vending machine were suggested as these measures provide increased accessibility for patients, no-contact service, and around-the-clock convenience [13<sup>a,b</sup>,20<sup>a</sup>,22].

Many authors have emphasized the importance of emergency treatment for overdoses and expanding naloxone access as the number of opioid overdoses could rise sharply [12,20<sup>a</sup>,23]. Delivery of naloxone kits by mail, increased street-based outreach, and distributing take-home naloxone in public areas were adopted [12]. A widely adapted coping strategy is to implement mobile measures. For instance, the mobile unit for urine specimen collection offered good access and obtained high satisfaction scores [24]. Mobile van delivery of extended-release medications for youth with OUD showing positive feedback, this being a promising treatment modification adapted to the COVID-19 pandemic [25<sup>a</sup>]. These strategies are not complicated for OUD services, practitioners, and patients to put into effect.

### Loosening policies

From reviewing articles discussing policies on opioid treatment programs, it is clear the word *loosening* has become a key term in opioid treatment programs. Take-home medication for OUD has become more possible and flexible during the pandemic. Clear guidance was provided by the Substance Abuse and Mental Health Administration (SAMHSA) in the United States for a longer period of take-home medication (28 days for stable patients and 14 days for less stable patients) [26]. SAMHSA also made the decision that in-person examination for buprenorphine prescription is not mandatory during the pandemic and patients could be prescribed the buprenorphine via telehealth, though this did not apply for methadone treatment [26]. A study of the

**Table 1.** Guidance and recommendations on maintaining opioid treatment programs during coronavirus disease 2019

| No. | Institution/Country/Authors  | Date               | Guidance/Recommendation  | Content on maintaining opioid treatment programs   |
|-----|--|--------------------|--|--|
| 1   | United Nations Office of Drugs and Crime   | March 2020         | Suggestions about treatment, care and rehabilitation of people with drug use disorder in the context of the COVID-19 pandemic ( <a href="https://www.unodc.org/unodc/en/covid-19-policy-documents.html">https://www.unodc.org/unodc/en/covid-19-policy-documents.html</a> )  | Address continued access to the services<br>Address the safety of the staff and the patients at the services<br>Continuity of low-threshold services<br>Continuity of psycho-social therapies<br>Continuity of pharmacological therapy<br>Make sure the premises of the services are clean and hygienic<br>Provide people with information on and means to protect themselves at every possible occasion<br>Support homeless people, including people with drug use disorders<br>Under no condition should a person be denied access to healthcare based on the fact that they use drugs |
| 2   | United States DEA  | March 2020         | Use of Telephone Evaluations to Initiate Buprenorphine Prescribing ( <a href="https://www.deadiversion.usdoj.gov/coronavirus.html">https://www.deadiversion.usdoj.gov/coronavirus.html</a> )   | Prescribing buprenorphine to new patients with OUD for maintenance treatment or detoxification treatment following an evaluation via telephone voice calls, without first performing an in-person or telemedicine evaluation   |
| 3   | SAMHSA   | March 2020         | OTP Guidance ( <a href="https://www.samhsa.gov/coronavirus">https://www.samhsa.gov/coronavirus</a> )   | Flexibility of take-home medication  |
| 4   | EMCDDA   | Updated March 2020 | The implications of COVID-19 for PWUD and drug service providers ( <a href="https://www.emcdda.europa.eu/publications/topic-overviews/covid-19-and-people-who-use-drugs_en">https://www.emcdda.europa.eu/publications/topic-overviews/covid-19-and-people-who-use-drugs_en</a> )   | Ensuring service continuity<br>Service provider protection during the pandemic – important interventions to consider   |
| 5   | Farhoudian, A., Baldacchino, A., Clark, N., et al. ISAM  | March–April 2020   | COVID-19 and Substance Use Disorders: Recommendations to a Comprehensive Healthcare Response. An International Society of Addiction Medicine Practice and Policy Interest Group Position Paper ( <a href="http://bcn.lums.ac.ir/browse.php?a_code=A-10-2476-1&amp;sid=1&amp;slc_lang=en">http://bcn.lums.ac.ir/browse.php?a_code=A-10-2476-1&amp;sid=1&amp;slc_lang=en</a> ) | Protocol for opioid pharmacotherapy provision<br>Considerations regarding different stages of maintenance therapy<br>Urine/Saliva drug testing   |
| 6   | SDF  | Updated May 2020   | Guidance on contingency planning for people who use drugs and COVID-19 ( <a href="http://www.sdf.org.uk/covid-19-guidance/">http://www.sdf.org.uk/covid-19-guidance/</a> )   | Maintaining services that support and treat people who are affected by problem drug use<br>Ensuring that people using their service and others are supported to comply with government guidance on social distancing, self-isolating, and shielding  |
| 7   | CRISM  | May–July 2020      | A series of six national guidance documents in relation to the COVID-19 pandemic and people who use substances ( <a href="https://crism.ca/projects/covid/">https://crism.ca/projects/covid/</a> )   | Supporting people who use substances in shelter settings during the COVID-19 pandemic<br>Telemedicine support for addiction services<br>Harm reduction worker safety<br>Recovery environments<br>Supporting people who use substances in acute care settings during the COVID-19 pandemic<br>Strategies to help individuals self-isolate for people who use drugs  |
| 8   | The Chinese Association of Drug Abuse Prevention and Treatment<br>The Academic Group of Drug Dependence of the Chinese Society of Psychiatry<br>The Academic Group of Addiction of the Chinese Society of Psychosomatic Medicine<br>The Speciality Committee of Addiction Medicine of the Chinese Psychiatrist Association | July 2020          | Expert consensus on the prevention and treatment of substance use and addictive behavior-related disorders during the COVID-19 pandemic ( <a href="https://gpsych.bmj.com/content/33/4/e100252">https://gpsych.bmj.com/content/33/4/e100252</a> )  | Provide a safer medical environment and alleviate patient concerns about infection during daily medication<br>Pay more attention to the education and prevention of COVID-19 and screening evaluations<br>Maintain the stability of the treatment plan and prevent additional substance addiction  |

**Table 1 (Continued)**

| No. | Institution/Country/Authors | Date                 | Guidance/Recommendation  | Content on maintaining opioid treatment programs   |
|-----|-----------------------------|----------------------|--|--|
| 9   | ACMT                        | August 2020          | ACMT Position Statement: Caring for Patients with Opioid Use Disorder during Coronavirus Disease Pandemic ( <a href="https://link.springer.com/article/10.1007/s13181-020-00800-9">https://link.springer.com/article/10.1007/s13181-020-00800-9</a> )  | Recommendations on Government/Drug Enforcement Agency, Healthcare Systems and Facilities, Payers and Local Initiatives to Increase Access to Care, and Healthcare Providers to modify regulations and practices related to providing treatment for OUD while reducing the need for in-person visits              |
| 10  | CIHR                        | November 2020        | Rapid review of the impacts of 'Big Events' on people who use drugs and delivery of harm reduction and drug treatment services: Implications for strengthening systems in response to COVID-19 ( <a href="https://cihr-irsc.gc.ca/e/52044.html">https://cihr-irsc.gc.ca/e/52044.html</a> )   | Drug market and service disruptions increase drug-related risks Psychological and financial instability increase drug-related risk The need for flexibility to support people who use drugs to reduce risk Preparedness plans Considerations for women, Indigenous peoples, and visible minorities who use drugs |
| 11  | England                     | Updated January 2021 | COVID-19: guidance for commissioners and providers of services for people who use drugs or alcohol ( <a href="https://www.gov.uk/government/publications/covid-19-guidance-for-commissioners-and-providers-of-services-for-people-who-use-drugs-or-alcohol/covid-19-guidance-for-commissioners-and-providers-of-services-for-people-who-use-drugs-or-alcohol">https://www.gov.uk/government/publications/covid-19-guidance-for-commissioners-and-providers-of-services-for-people-who-use-drugs-or-alcohol/covid-19-guidance-for-commissioners-and-providers-of-services-for-people-who-use-drugs-or-alcohol</a> ) | Access to opioid substitution treatment Depot buprenorphine, NSPs Drug detoxification  |

ACMT, The American College of Medical Toxicology; CIHR, Canadian Institutes of Health Research; COVID-19, coronavirus disease 2019; CRISM, Canadian Research Initiative in Substance Misuse; DEA, Drug Enforcement Administration; EMCDDA, European Monitoring Centre for Drugs and Drug Addiction; ISAM, International Society of Addiction Medicine; NSPs, needle and syringe programs; OTP, Opioid Treatment Program; OUD, opioid use disorder; PWUD, people who use drugs; SAMHSA, Substance Abuse and Mental Health Services Administration; SDF, Scottish Drugs Forum.

low-threshold buprenorphine program in Baltimore showed that 96.5% of the patients returned for a second visit after their initial assessment by telehealth and 63.7% were engaged for 30 days or longer, which indicated the feasibility and the benefit of this loosening policy [27<sup>■</sup>].

Another flexible strategy in some countries is to permit pharmacists to prescribe medications for OUD, given the shortage of OUD medical practitioners; this is termed 'leveraging the role' of pharmacists [26,28,29<sup>■</sup>]. Pharmacists acting as healthcare providers for people with OUD in inpatient settings and outpatient settings addressed some of the difficulties that existed in access to OUD medications [26,28,29<sup>■</sup>]. Apart from pharmacists, some authors recommended that other medical practitioners could be authorized to prescribe for people with OUD temporarily if usual prescribers are unavailable [6<sup>■</sup>].

Suspending or relaxing mandatory urine drug testing was also seen in OUD treatment during the pandemic [30]. Mandatory urine drug screens or testing could bring risk of exposure to COVID-19 and have negative impacts on patients' mental health and the clinician–patient relationship [30,31]. Some authors made suggestions that mandatory urine drug screens or testing in stable patients should not be necessary in the process of opioid treatment [30,31]. In fact, according to a qualitative study on clinicians, many of them required urine drug screens less often or not at all [32<sup>■</sup>]. Targeted urine drug testing and a patient-centered approach were encouraged [31].

**Telemedicine**

Telemedicine or telehealth, a product of modern technology, is based on communication systems like the telephone and Internet, and many types of digital device. Four different forms of telemedicine were summarized by Vidal-Alaball *et al.* [33]: first, online consultations using telephone or videoconference; second, telemonitoring/screening; third, sensors such as GPS trackers; and fourth, chatbots. The benefits associated with telemedicine are obvious. Telemedicine overcomes the obstacle that patients from remote locations have difficulty in accessing medical resources. Direct physical contact is greatly reduced by telemedicine to prevent the transmission of COVID-19 and other respiratory diseases. Follow-up can be implemented by telemedicine, which is quite convenient and helps save the time of both patients and clinicians. It also has strengths in cost saving, medical training, and data collecting and monitoring [33].

Studies have investigated the effectiveness of telemedicine in the field of opioid treatment pre-COVID-19. A systemic review examined literature on telemedicine-delivered treatment interventions



for substance use disorder (SUD) [34<sup>22</sup>]. These studies revealed improved retention in patients who use telemedicine for opioid treatment [34<sup>22</sup>]. Though with substantial methodological limitations, they find that telemedicine for SUDs is met with high-patient satisfaction. It offers much promise, especially when treatments are less available otherwise [34<sup>22</sup>]. Another study showed good or excellent agreement between face-to-face and telephone assessment of clients with substance use (41% for opioid treatment) [35]. Although adopting a quite simple form of telemedicine, this study reflects the possibility and effectiveness of telemedicine applied in opioid treatment programs. In the era of COVID-19, in accommodating to social distancing regulations, telemedicine is highlighting its value in supporting medical practice [36]. It is clear that opioid treatment program can be converted from in-person care to telemedicine-supported care [37,38<sup>23</sup>,39].

Several authors have described the utilization of telemedicine in their programs either through videoconference, mobile app, telephone, or wearable device during the COVID-19 pandemic [37,39–41]. Some of them are preexisting programs whereas others are newly developed telemedicine measures adapted to the pandemic. They reported effective delivery of care by telemedicine practices. In a qualitative study, 18 front-line clinicians permitted to prescribe buprenorphine were interviewed on their experiences of the transition to telemedicine [32<sup>22</sup>]. In this study, a large proportion of clinicians were using telemedicine. Clinicians described positive impacts of telemedicine and some negative concerns including the quality and safety of widespread use of telemedicine for OUD treatment [32<sup>22</sup>].

Obstacles encountered in telemedicine for opioid treatment included lack of necessary devices such as smartphones or networked computers, and how to maintain confidentiality. For patients who are not able to access telemedicine equipment, a novel ‘telephone booth’ model has emerged in Los Angeles [42]. Patients come to the telephone booth alone and can communicate with the physician through the telephone and computer placed in the booth. This telephone booth ensured social distancing during the COVID-19 pandemic and helps patients without telemedicine equipment to continue their treatment. Evaluation showed that this model was quite successful and effective [42].

### Utility of depot buprenorphine

Depot buprenorphine, or long-acting injectable buprenorphine (LAIB), is a long-acting medication for OUD, which is injected subcutaneously for people with OUD at weekly or monthly intervals [43<sup>22</sup>]. Depot

buprenorphine is available in some countries such as Canada, Australia, the United States, and a number of European countries [43<sup>22</sup>]. Patients needing medication for OUD have an option to choose the longer acting treatment of depot buprenorphine in place of daily dosing. Some authors suggest that depot buprenorphine is a valuable resource which should be well utilized during the COVID-19 pandemic [13<sup>22</sup>,43<sup>22</sup>]. A clinic specifically designed to provide LAIB in response to the COVID-19 pandemic for people with OUD is described from Australia [14]. A rapid upscale of depot buprenorphine was implemented in custodial settings in a city in Australia [44]. This long-acting treatment offers great convenience and avoids frequent attendances at clinics, thus reducing the frequency of contact with others and reducing opportunities for viral transmission. Importantly, depot buprenorphine prevents withdrawal from and overdoses of opioids. Application of depot buprenorphine frees time for clinicians to engage in other clinical activities [44]. The challenges of depot buprenorphine utilization include how to deliver it to patients who are in self-isolation. Transfer from methadone to depot buprenorphine is still poorly documented and evaluated and may require inpatient treatment [14,43<sup>22</sup>].

### For special groups of patients

Youth, pregnant women and incarcerated people with OUD are taken into consideration by some authors, given that they are more vulnerable [25<sup>22</sup>,45–47]. To ensure continuation of treatment for youth with OUD and to reduce COVID-19 associated risks, authors reported implementation of mobile van delivery of extended-release medications [25<sup>22</sup>]. Authors suggest that the COVID-19 pandemic also created a generational opportunity to augment family involvement in tele-intervention across the youth OUD services continuum [45]. For pregnant women, regulations that have an adverse influence can be changed and telepsychology services integrated with existing treatment programs [48,49]. Telemedicine and depot buprenorphine were supplied to maintain opioid treatment for incarcerated people with OUD [44,47].

## RECOMMENDATIONS AND FUTURE DIRECTIONS

Though the number of research reports was limited, several strategies were effective in maintaining opioid treatment programs during the COVID-19 pandemic. In the future, the strategies listed above, which are not independent of each other, could be combined to optimize the provision of opioid treatment programs. For example, the ‘loosening policy’ on the initiation of buprenorphine prescription and

telemedicine could be coordinated to further mitigate the adverse effects of the pandemic on delivery of treatment [40]. Second, as it has become ‘a new normal’ for people with OUD and practitioners, some changes in opioid treatment programs during the pandemic could be maintained after the pandemic [18,40]. Third, the mental health of people with OUD should not be neglected, especially comorbid mental health disorders and OUD. Telemedicine is a good method to address this situation. And last but not least, as quantitative research of high quality is limited, in the future, research should be strengthened to provide enough evidence for these strategies.

## CONCLUSION

Facing tremendous challenges of maintaining opioid treatment programs during the COVID-19 pandemic, policy makers and practitioners have developed novel policies, approaches, and specific managements. General coping strategies, loosening policies, telemedicine, and the advantages of depot buprenorphine are summarized and considerations are also discussed in relation to special groups. The combination of different strategies, maintaining these strategies, and focusing on the mental health of people with OUD is emphasized. Quantitative research of high quality will be needed in the future.

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## Conflicts of interest

There are no conflicts of interest.

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- of special interest
- of outstanding interest

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