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BRIEF REPORT



Multidisciplinary treatment of opioid use disorder in primary care using the collaborative care model

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ABSTRACT

Background: Treatment of opioid use disorder (OUD) is highly effective, but access is limited and care is often fragmented. Treatment in primary care can improve access to treatment and address psychiatric and physical co-morbidities in a holistic, efficient, and non-stigmatizing way. The Collaborative Care Model (CCM) of behavioral health integration into primary care has been widely disseminated and shown to improve outcomes and lower costs when studied for depression, but its use in treating substance use disorders has not been well documented. **Methods:** We used a mixed-methods approach to examine the impact of implementing multidisciplinary treatment of OUD in our health system's five primary care clinics using the framework of the CCM, with care shared between the primary care clinician (PCP), behavioral health clinician, and medical assistant. The implementation included staff education, creation of electronic health record tools, and implementation support, and was evaluated using data from the electronic health record, the medical staff office, and a clinician survey. **Results:** Over the last 2 years of implementation, the number of waived providers increased from 11 to 35, providers prescribing for 5 or more patients increased from 2 to 18, and patients initiated on buprenorphine increased from 4/month to 18/month. 180-day treatment retention was 53%, and 81% of patients had consistently negative urine drug testing. Psychiatric and medical comorbidities were common, 70 and 44%, respectively. Although PCPs who prescribed buprenorphine found working in this model enjoyable and effective, the majority of non-waivered PCPs remained reluctant to participate. **Conclusions:** In our experience, treatment of OUD in primary care utilizing the CCM effectively addresses OUD and commonly comorbid anxiety and depression, and leads to an expansion of treatment. Successful implementation of OUD treatment requires addressing negative attitudes and perceptions.

KEYWORDS

Buprenorphine; collaborative care model; opioid use disorder; medications for addiction treatment (MAT); behavioral health integration

Introduction

We are in the midst of an epidemic of opioid use disorder (OUD) and overdose deaths. Treatment with medications for OUD (MOUD) is highly effective and is the evidence-based standard of care^{1,2}. However, the majority of people who could benefit from MOUD do not receive it due to limited treatment capacity, stigma, and financial and logistical barriers to accessing care. Our system has traditionally siloed addiction treatment into specialty centers, limiting access and fragmenting care³. The Drug Addiction Treatment Act of 2000 (for physicians) and the SUPPORT act of 2018 (for physician assistants and nurse practitioners) allow primary care providers (PCPs) and other office-based clinicians to become waived to prescribe buprenorphine, a partial opioid agonist, for the treatment of OUD. Integrating management of OUD into primary care has several advantages, including improved access to care, reduced stigma by mainstreaming treatment, and concurrent care of co-morbid

psychiatric and medical conditions. Primary care clinicians are experts in the longitudinal care of chronic conditions, and already have most of the skills needed to address the chronic disease of addiction⁴.

Common themes of successful models of primary care based treatment of OUD include the importance of a multidisciplinary team approach and on-site psychosocial services⁵. The predominant models feature a team-based approach where the non-PCP staff focuses on the OUD⁵⁻⁸. The Collaborative Care Model (CCM) of behavioral health integration adds a behavioral health clinician (BHC, LICSW), supervised by a consulting psychiatrist, to the primary care team and utilizes a registry to proactively track patients. This model has traditionally focused on depression and anxiety and has been shown to improve both behavioral and physical health outcomes, lower costs, and increase patient and provider satisfaction^{9,10}. Patients under treatment for OUD commonly have comorbid psychiatric

conditions- and treating these conditions improves addiction treatment outcomes¹¹.

We sought to implement the treatment of OUD in the primary care clinics of our health system using the CCM, which we had recently introduced in our clinics to better address depression and anxiety. This approach has the potential to simplify and streamline treatment and improve outcomes by having the collaborative care team (including the PCP) address OUD together with co-morbid anxiety or depression. We are aware of only one published study examining the treatment of OUD with the CCM¹². This showed significantly more evidence-based treatment and abstinence from opioids at 6 months compared with usual care, but the impact was limited by low use of MOUD (13% of patients). Another trial examining the use of the CCM to address OUD recently started to recruit patients¹³. The goals of this article are to describe our care model, report our experience with implementing it, and evaluate its impact using a mixed-methods approach.

Methods

Program description and implementation

We piloted the Collaborative Care Model for treatment of depression and anxiety at a single primary care site in our nonprofit academic health system, starting in September 2017, and later disseminated to four additional sites. We deployed the model after a BHC was hired and onboarded at a given site. By the end of our analysis, we had nine full-time equivalent (FTE) BHCs seeing adults. These BHCs are supervised by 0.5 FTE of a general psychiatrist, who makes recommendations but does not provide direct patient care. A core team from the academic center consisting of 2 psychiatrists, a BHC, a PCP, a project manager, and others led the implementation, with guidance from the University of Washington's AIMS (Advancing Integrated Mental health Solutions) center (<https://aims.uw.edu/>). This team worked closely with clinical and administrative leaders from each of the primary care sites. The care model included the addition of screening for behavioral health disorders (depression, anxiety, unhealthy alcohol or drug use) using an electronic questionnaire completed either before the visit through the electronic health record (EHR) patient portal or on a tablet when checking in at the visit. Positive screens trigger best practice advisory alerts in the EHR, which link to "smartsets" providing decision support, patient education materials, and efficient ordering of medications, labs, and referrals.

After successfully deploying the CCM to improve the care of depression or anxiety, we launched an initiative to add treatment of OUD to the model. Educational sessions on OUD and its treatment were provided to each site during regular meeting times, consisting of 2–3 all-staff meetings focusing on understanding addiction and reducing stigma, and a 1-h clinician meeting given in person and available online. BHCs were asked to read "Brief Treatment for Substance Use Disorders: A Guide for Behavioral Health Providers" developed for the SUMMIT trial¹²

(<https://www.rand.org/pubs/tools/TL147.html>). PCPs were encouraged to take the training required to obtain the waiver to prescribe buprenorphine. We developed workflows for the care of patients with OUD, including alternating visits between the waived PCP and the BHC to reduce demand on the PCP's schedule. Intakes, including screening for appropriateness for OUD treatment in primary care, are done by the BHC. Patients with OUD were identified by screening and case finding in the context of primary care practice and included a mix of patients already stable on buprenorphine from outside programs and those new to treatment.

Brief counseling is provided at each visit, and patients are referred to mutual support groups and outside counseling based on need and patient preference. Visit intervals start out as once/week and increase to every 4 weeks as the patient achieves a more stable recovery. PCP appointments for MOUD are mixed into their regular clinic schedule, with comorbidities, preventive care, and acute issues addressed concurrently. Visits are supported by a medical assistant (MA), who collects urine for drug screening, queries the Prescription Drug Monitoring Program, ensures completion of the Brief Addiction Monitor (BAM) questionnaire¹⁴, and cues buprenorphine prescription refills. We created a unique visit type in the EHR to electronically cue the BAM questionnaire and initiate the MA workflow. Additional documents, note templates, and EHR tools were also developed. Implementation teams received support through regular meetings with core project staff, and clinician decision-making is supported by an organization-wide guideline, EHR-based e-consults with addiction specialists, and a monthly learning collaborative. PCP visits are billed using the usual evaluation and management CPT codes, and BHC visits are billed using psychotherapy codes. In the CCM, most BHC work for depression and anxiety is done by phone and has not been reimbursable until Psychiatric Collaborative Care Model (COCCM) CPT codes 99492, 99493, and 99494 were introduced in 2018.

Evaluation

Medical staff office records were used to track the number of waived PCPs in the system. Data were extracted from the electronic health record (EHR) to examine the number of patients newly prescribed buprenorphine from one of 5 primary care sites and the number of patients receiving prescriptions for each waived clinician. The National Quality Forum recommends 180-day treatment retention as a quality metric, as extended buprenorphine treatment is associated with improved outcomes¹⁵. We calculated treatment retention for patients initiating buprenorphine between April 1, 2019 and March 31, 2020 by looking for an active prescription for buprenorphine in the EHR 180 days after the initial prescription. Patient demographics, insurance information, urine drug test results, BAM questionnaire responses, and psychiatric and medical comorbidities were obtained from the EHR for patients with an active buprenorphine prescription during the last year of evaluation (April 1, 2019 to

March 31, 20). We sent a questionnaire about satisfaction with the Collaborative Care Model to all primary care staff on June 30, 2020, including questions about having a waiver, interest or experience in prescribing buprenorphine, and an opportunity to make free-text comments. Statements made by staff during the learning collaborative sessions supplemented these comments.

Results

Note: we used evaluation metrics ending in March 2020, to avoid influence of the coronavirus pandemic on our outcomes.

Before our implementation efforts, few PCPs in the five clinics of our health system were waived and two physicians were each prescribing for over 20 patients (the lead author as PCP, and a colleague at another clinic assuming buprenorphine prescribing, but not primary care, for patients transferred from our overburdened specialty addiction program). The majority of waived clinicians had not prescribed yet and were reluctant to do so without the availability of additional in-clinic behavioral and case-management support. Two years later, the number of waived PCPs rose from 11 to 35 (of 136 total PCPs, 26% were waived), with 27 of 35 (77%) writing at least one prescription. The number of PCPs prescribing buprenorphine for five or more patients in the past year rose from two to 18. Of the 35 waived PCPs, 18 were in Family Medicine (14 MD/DO, 1 APRN and 3 PA) and 17 were in Internal Medicine (15 MD/DO and 2 PA).

Our main measure of reach was number of patients newly initiated on buprenorphine per month. This number rose to a peak of 18/month from a prior mean of under 4/month 2 years earlier (see graph). There were 167 patients in active treatment between April 2019 and March 2020. Of these, 58% were male, 42% were female, 98% were white and all spoke English. Urine drug tests were consistently negative for opioids in 81% of these patients, with 18 patients having one positive test, and six had two or more. As a result, 824 urine drug tests were done, with 91 (11%) of these positive for opioids. 101 patients completed 540 BAM questionnaires; use of opioids in the past week was denied in 91% of responses. Our program's 180-day treatment retention was 53% (49/92). Of the 167 patients treated for OUD by our program in the past year, 70% had depression or anxiety (58% had anxiety, 51% had depression) and 44% had a comorbid chronic medical condition. For insurance, 41% of patients had commercial coverage, 33% Medicaid, 20% Medicare, and 6% were uninsured (Figure 1).

Clinician survey

Sixty-three clinicians responded to the all-staff survey: 16 (25%) with a waiver to prescribe buprenorphine, and 47 without. Of those with a waiver, four stated they had prescribed for five or more patients, seven prescribed for 1–4 patients, and five had not yet been prescribed. Those without a waiver were asked if they were interested in

prescribing buprenorphine in primary care; 5 said “yes,” 14 said “maybe,” and 26 (58%) said “no.” Based on free-text comments and discussions during learning collaborative meetings, PCPs who prescribed buprenorphine had a generally positive experience with the model and felt that sharing care with the BHC was effective and enjoyable. Many commented that they found working with patients with OUD gratifying, impactful, and rewarding. In spite of this, the majority of unwavering PCPs remained reluctant to complete waiver training or participate in the model. Reasons cited included concerns about additional time demands on already overwhelmed practices, lack of interest, a belief that treatment of OUD is outside the scope of primary care, and the perception that more counseling, case management, and other resources would be required to be successful.

Discussion

Primary care clinicians are reluctant to prescribe buprenorphine without having the support of a multidisciplinary team¹⁶. The Collaborative Care Model is the best-studied and most widely implemented model of integrating behavioral health into primary care¹⁰, but we are aware of only one study examining its use to address OUD¹². Our experience shows that treatment of OUD in primary care utilizing the CCM is feasible, and results in increased prescribing of buprenorphine by PCPs. The early adopter PCPs working within this model felt that sharing care with a BHC was effective and enjoyable. Our 180-day retention rate of 53% is significantly higher than retention rates recently reported using a national prescription database¹⁷: 30.3% for primary care and 26.7% for specialist and other prescribers.

A major advantage of this model is a team approach that addresses depression and anxiety together with the OUD, given that the large majority of patients with OUD have one or both of these comorbidities and that addressing psychiatric comorbidities leads to better outcomes¹¹. In addition, it de-stigmatizes opioid use disorder by integrating its care with that of other chronic diseases in primary care. The CCM has usually focused on the treatment of depression and anxiety¹⁰. Our experience suggests that broadening the scope of this model to include treatment of OUD is a promising way to reduce the current OUD treatment gap in a way that concurrently addresses commonly comorbid conditions and may improve retention and outcomes of treatment.

A major challenge to implementing treatment of OUD in primary care is overcoming negative attitudes and perceptions. Primary care and institutional leadership were initially reluctant. Both OUD and buprenorphine are associated with stigma and misunderstanding that needs to be overcome at the all-staff level; this culture change takes time and can be done explicitly through training and implicitly through positive experiences of early adopters. There remains more work to be done, both locally and nationally, to address PCPs' low interest in treating OUD^{18,19}. Education and experience addressing addiction during medical school and residency are needed¹⁸. Indeed, clinicians choosing to prescribe

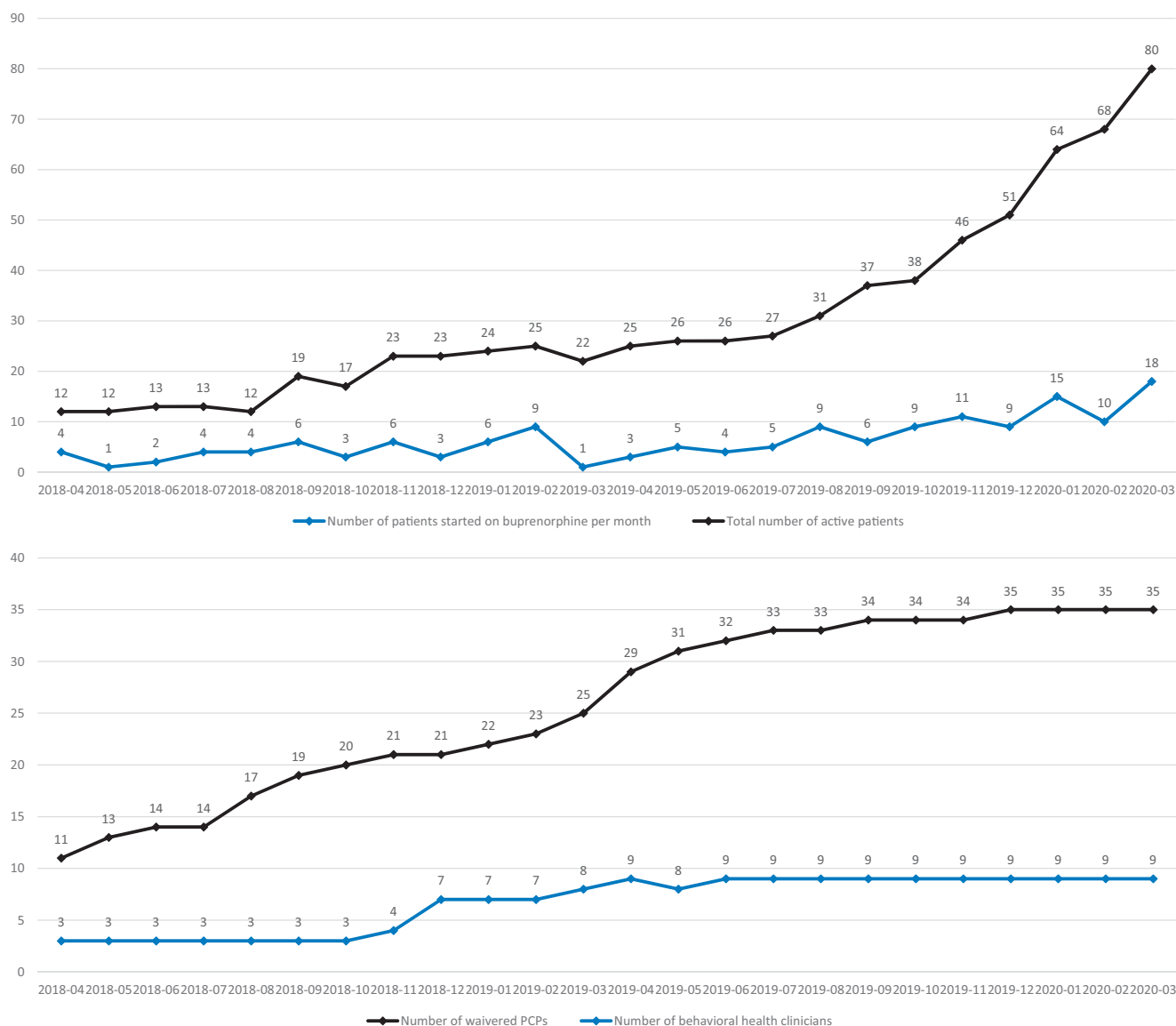


Figure 1. Number of patients started on buprenorphine per month and total number of active patients in primary care, compared with growth of waived providers and behavioral health clinicians during implementation. *Note:* Pilot of CCM for OUD started September 2017 at the Lebanon GIM site. Prior to this, 2 physicians were prescribing buprenorphine; these “legacy” patients were excluded from the number of active patients.

buprenorphine in our program tended to be residents in our teaching clinic or staff who recently completed residency and who often had exposure to MOUD in their training. These staff clinicians soon also faced a barrier cited by non-participating clinicians: full panels and limited availability to take on new patients or see patients for the quick follow-up needed for patients being initiated on buprenorphine. Our model attempts to address this issue by alternating visits with the BHC to reduce the number of PCP visits. Another potential solution is recognizing the increased visit frequency required by patients with OUD through assigning them a higher weight in determining panel size.

Another barrier is the perception that most patients require more extensive counseling and support services than could be offered in primary care. Studies have shown that adding more intensive counseling to buprenorphine and brief primary care-based counseling does not improve outcomes^{20,21}, and that medication alone can be highly effective²¹. There is an emerging consensus toward “low

threshold” prescribing of buprenorphine and removing requirements to attend counseling in order to get medication^{22–24}. Primary care based treatment has the potential to offer rapid access to medication, and the relatively brief counseling (20–30 min weekly at first) is effective for most patients. External counseling and resources can be added as needed and desired by the patient.

Limitations

We implemented this practice innovation in a single health system with no comparison group. Patients were almost exclusively white and English speaking. The model unfolded gradually over 2 years as resources for BHCs became available, limiting a pre-post evaluation to clarify the effect of the interventions versus natural history (e.g., increased visibility of the opioid epidemic and efforts from outside of our health system to encourage waiver training). Implementing

the Collaborative Care Model requires an investment of time and money, and we are fortunate that our institution supported our startup efforts. Our BHC staffing remains less than half of the estimated need and the success and reach of OUD treatment may have been limited by suboptimal staffing.

Conclusions

Treatment of OUD in primary care utilizing the CCM effectively addresses OUD and commonly comorbid anxiety and depression, and leads to an expansion of treatment access. Although participating clinicians find treating OUD using this model to be enjoyable and effective, their nonparticipating colleagues remained reluctant to prescribe buprenorphine. Successful implementation of OUD treatment requires addressing negative attitudes and perceptions.

Authors' contributions

All authors collaborated in the design and workflows of the intervention. CB took the lead in writing this manuscript, and all authors provided feedback and contributed to revisions.

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Disclosure statement

None of the authors report a conflict of interest.

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References

- [1] Volkow ND, Jones EB, Einstein EB, Wargo EM. Prevention and treatment of opioid misuse and addiction: a review. *JAMA Psychiatry*. 2019;76(2):208–216.
- [2] Leshner AI, Dzau VJ. Medication-based treatment to address opioid use disorder. *JAMA*. 2019;321(21):2071–2072.
- [3] Donroe JH, Tetrault JM. Narrowing the treatment gap in managing OUD. *CMAJ*. 2018;190(9):E236–E237.
- [4] Donroe JH, Bhatraju EP, Tsui JI, Eledman EJ. Identification and management of OUD in primary care: an update. *Curr Psychiatry Rep*. 2020;22(5):23.
- [5] Korthuis PT, McCarty D, Weimer M, et al. Primary care-based models for the treatment of opioid use disorder: a scoping review. *Ann Intern Med*. 2017;166(4):268–278.
- [6] Department of Vermont Health Access managed care entity. Vermont buprenorphine clinical practice guidelines. 2015. <http://dvha.vermont.gov/for-providers/buprenorphine-practice-guidelines-revised-final-10-15.pdf>. Accessed April 12, 2017.
- [7] LaBelle CT, Han SC, Bergeron A, Samet JH. Office-based opioid treatment with buprenorphine (OBOT-B): statewide implementation of the Massachusetts collaborative care model in community health centers. *J Subst Abuse Treat*. 2016;60:6–13.
- [8] Boston Medical Center. *Policy and Procedure Manual of the Office-Based Addiction Treatment Program for the Use of Buprenorphine and Naltrexone Formulations in the Treatment of Substance Use Disorders*. Boston, MA: Boston Medical Center; 2016.
- [9] Unutzer J, Katon W, Callahan CM, et al. Collaborative care management of late-life depression in the primary care setting: a randomized controlled trial. *JAMA*. 2002;288(22):2836–2845.
- [10] Archer J, et al. Collaborative care for depression and anxiety problems. *Cochrane Database of Systematic Reviews*. 2012;(10). DOI: 10.1002/14651858.CD006525.pub2.
- [11] Ghabrash MF, Bahreman A, Veilleux M, et al. Depression and outcomes of methadone and buprenorphine treatment among people with opioid use disorders: a literature review. *J Dual Diagn*. 2020;16(2):191–207.
- [12] Watkins KE, Ober AJ, Lamp K, et al. Collaborative care for opioid and alcohol use disorders in primary care: the SUMMIT randomized clinical trial. *JAMA Intern Med*. 2017;177(10):1480–1488.
- [13] Meredith LS, Komaromy MS, Cefalu M, et al. Design of CLARO: a randomized trial of collaborative care for opioid use disorder and co-occurring depression and/or PTSD. *Contemp Clin Trials*. 2021;104:106354.
- [14] DePhilippis D, Goodman J, Beamer K, Bloedorn S. Brief addiction monitor (BAM) manual for use in SUD group treatment for non-VA clinicians. 2014. https://www.mentalhealth.va.gov/communityproviders/docs/BAM_in_group_tx_for_NON_VA_5_7_14.pdf. Accessed August 3, 2020.
- [15] NQF 3175. 2019. https://qpp.cms.gov/docs/QPP_quality_measure_specifications/CQM-Measures/2019_Measure_468_MIPSCQM.pdf. Accessed July 21, 2020.
- [16] Huhn AS, Dunn KE. Why aren't physicians prescribing more buprenorphine? *J Subst Abuse Treat*. 2017;78:1–7.
- [17] Olfson M, Zhang V, Schoenbaum M, King M. Buprenorphine treatment by primary care providers, psychiatrists, addiction specialists, and others. *Health Aff*. 2020;39(6):984–992.
- [18] McGinty EE, Stone EM, Kennedy-Hendricks A, Bachhuber MA, Barry CL. Medication for opioid use disorder: a national survey of primary care physicians. *Ann Intern Med*. 2020;173(2):160–162.
- [19] Louie D, Assefa M, McGovern M. Attitudes of primary care physicians toward prescribing buprenorphine: a narrative review. *BMC Fam Pract*. 2019;20(1):157.
- [20] Fiellin DA, Barry DT, Sullivan LE, et al. A randomized trial of cognitive behavioral therapy in primary care-based buprenorphine. *Am J Med*. 2013;126(1):74.e11–74.e17.
- [21] Carroll KM, Weiss RD. The role of behavioral interventions in buprenorphine treatment: a review. *Am J Psychiatry*. 2017;174:738–747.
- [22] Sigmon SC, Ochalek TA, Meyer AC, et al. Interim buprenorphine vs. waiting list for opioid dependence. *N Engl J Med*. 2016;375(25):2504–2505.
- [23] Wakeman SE, Larochelle MR, Ameli O, et al. Comparative effectiveness of different treatment pathways for opioid use disorder. *JAMA Netw Open*. 2020;3(2):e1920622.
- [24] National Academies of Science. *Engineering and Medicine. Medications for Opioid Use Disorder save Lives*. Washington, DC: National Academies Press; 2019.