

Alcohol Use Disorder Treatment Practices at Denver Health

A Summary of Survey Findings Prepared by the Center for Addiction
Medicine Knowledge Management Team

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DENVER HEALTH
CENTER FOR ADDICTION MEDICINE™

Executive Summary

In June 2023, the Denver Health Center for Addiction Medicine (CAM) Knowledge Management Team conducted a survey of 174 clinicians from 22 service areas who served patients with alcohol use disorder (AUD). The goal of the survey was to understand factors influencing AUD treatment decisions and current practices and patterns of pharmacological and behavioral health treatments. Clinicians were also surveyed about internal and external referral practices for patients with AUD. The survey is part of a broader effort to develop an AUD continuum of care evaluation model at Denver Health that identifies diagnoses, screenings, treatment, and retention for patients with AUD.

Results suggest that many clinicians consider complex patient-level factors – such as willingness to engage in treatment – as well as socioeconomic factors – such as housing status – when determining treatment for patients with AUD. There were substantial differences in the pharmacological and behavioral health treatment options that clinicians used depending on the type of clinician and the service area at Denver Health. The behavioral health treatments and support services that were used most often, including motivational interviewing and warm handoffs, are not associated with distinct billing codes and therefore are challenging to track systematically. Clinicians who considered AUD severity for behavioral health treatment and referrals were more likely to report all types of treatment and referrals compared to those who did not consider AUD severity. Clinicians were more likely to provide or observe behavioral health treatments for patients with moderate AUD, compared to patients with mild *or* severe AUD.

These survey results provide a baseline for understanding AUD treatment practices across the Denver Health system. Because documentation quality varies throughout the continuum of care for patients with AUD - including documented diagnoses, referrals, and treatment – it is important to consider self-reported treatment practices alongside data extracted directly from electronic health records. Survey results will inform development of an AUD continuum of care model and identify areas of best practice as well as opportunities for quality improvement and additional training.

Introduction

Alcohol use disorder (AUD) continues to be a pervasive and complex health issue that impacts physical health, quality of life, and mental health of thousands of Denver Health patients each year. In 2021, nearly 18,000 (approximately 6%) of Denver Health patients were diagnosed with, screened positive, or were prescribed medication for an AUD¹. Many more patients with an AUD fell through the cracks due to stigma, data collection barriers to data access², and the lack of a systematic and universal approach to screen for alcohol misuse. Treatment for AUD, which can entail both pharmaceutical and behavioral health interventions, is complex. Treatment may vary by the type of healthcare clinician, service area, and a variety of patient characteristics. Variation in treatment practices coincides with challenges in systematically documenting the presence and treatment of AUD. These challenges make it difficult to understand the overall burden of AUD at health systems and to accurately track how many patients with AUD receive treatment.

At Denver Health, the Center for Addiction Medicine's (CAM's) Knowledge Management Team has prioritized developing infrastructure to comprehensively identify and track patients with AUD throughout their healthcare experience at Denver Health. In 2023, we successfully synthesized data from many sources – including alcohol diagnoses, screening, and medication orders – to estimate the overall burden of disease for patients with AUD and understand who successfully connects with treatment at Denver Health. This effort has included a collaborative effort between data scientists, CAM and clinic leadership, and the clinicians who work directly with patients. In addition to regular partner meetings, in June 2023 we launched a first-ever system-wide survey to understand the many ways clinicians treat patients with AUD. We received responses from 174 clinicians across outpatient and inpatient settings, including representation from outpatient behavioral health services (OBHS) and specialty clinics such as infectious disease, jail services, and school-based health centers.

This report summarizes the main findings from the treatment survey. It addresses key questions, including:

- What is the overall treatment landscape at DH?
 - o What types of treatment are offered?
- How does treatment vary by service area?
- What factors influence AUD treatment?
- Are obvious barriers or treatment challenges identified?
- How can results be used to advance patient care, continuum of care development, and other initiatives at DH?

Survey findings are central to building our AUD infrastructure so that we can comprehensively capture AUD treatment and understand where patients are falling through the cracks in connecting to and engaging in care.

¹ This estimate excludes patients with AUD that were seen solely at Denver CARES for withdrawal management.

² Due primarily to federal regulations regarding confidentiality of substance use disorder patient records indicated in 42 CFR Part 2

Methods

AUD Treatment Types

In Spring 2023 CAM's Knowledge Management Team worked with subject matter experts across Denver Health to identify a comprehensive list of treatments for AUD. We divided treatment types into two main categories: pharmaceutical treatment and behavioral health treatment. Within pharmaceutical treatment, we identified eight types of medications to treat AUD. These were divided into two groups (with some overlap): medications used to address alcohol withdrawal and medications primarily used for ongoing management of AUD. The four types of medications to treat alcohol withdrawal included benzodiazepines (e.g., Clorazepate or Tranxene, Chlordiazepoxide, Diazepam), gabapentin, Carbamazepine, and Phenobarbital. The five types of medications to treat ongoing AUD included naltrexone (e.g., Vivitrol, Revia), disulfiram (e.g., Antabuse), acamprosate (e.g., Campral), gabapentin, and topiramate (e.g., Topamax). gabapentin is used to treat both alcohol withdrawal and ongoing AUD.

We identified nine types of behavioral health treatments that we grouped into three broad categories:

1. Behavioral health treatments without a specific billing code (3 treatment types): These included a warm hand off, introduction to behavioral health, motivational interviewing, and any other behavioral health treatments. We wanted to learn about how often these interventions that don't have specific billing codes are happening and who and where they are most utilized, particularly because we cannot easily capture these interactions in the EHR. Although these interactions are less intensive than more targeted assessments, case management, or therapy visits, they can be important conversations and interactions that help guide patients towards other types of future treatment and can result in a positive interaction with the health care system.
2. Assessments and Evaluations (3 treatment types): These included SUD assessments, bio-psycho-social assessments, and brief screens. Assessments and evaluations are often documented with procedure codes and are more targeted than behavioral health treatments without a specific billing code listed above.
3. Billable therapy and documented case management (3 treatment types): These included brief interventions, targeted case management (8-15 minutes), and therapy interventions/follow up (16+ minutes). These behavioral health treatments are the most intensive and recorded using procedure codes so they can be more easily extracted from the EHR.

Respondents

The target respondent for the survey was any clinician working with patients with AUD. Clinicians can include a variety of roles, including physicians, nurses, counselors, case managers and social workers. Clinicians did not have to directly prescribe or treat patients with AUD and could include staff who primarily referred patients elsewhere for AUD treatment. Survey question text explicitly solicited feedback about both direct AUD treatment practices and experiences referring patients for particular types of treatment.

Survey Topics

The full survey can be found as Appendix A in this report. We developed a 34-item survey in REDCap³, a secure, HIPAA-compliant web-based application designed for data collection, that covered the following topics:

- How often certain factors influenced treatment decisions, including other substance use disorders or physical and mental health conditions, socioeconomic factors, patient willingness for treatment, and patient age.
- How often clinicians prescribed/saw patients who were taking the above medications for treating alcohol withdrawal for patients with moderate to severe AUD.
- How often clinicians prescribed or saw patients who were taking the abovementioned medications to treat ongoing AUD symptoms for patients with moderate to severe AUD.
- Whether clinicians recommended certain types of behavioral health treatment and whether those treatment types varied by the patients' AUD severity.
- How clinicians document behavioral health treatment if they do not use Current Procedural Terminology (CPT) or Healthcare Common Procedure Coding System (HCPS) codes.
- How often clinicians referred patients with AUD to a specified list of internal or external treatment/recovery supports and whether referral decisions are influenced by the patients' AUD severity.
- Which modalities clinicians use to refer patients to treatment (e.g., EHR-based referral tools, email, phone calls) and how clinicians refer patients if they do not have dedicated staff to provide AUD interventions and services.
- An opportunity for respondents to provide additional information on each of the topic areas listed above.

Deployment

Survey development began in the spring of 2023. We engaged nine clinical and administrative subject matter experts (SMEs) to participate in survey content development and design. Clinical SMEs made sure we were comprehensively capturing medications for AUD withdrawal and ongoing AUD management as well as all types of behavioral health treatments (including those with and without procedure codes). SMEs helped develop survey questions and flow to make sure questions were appropriate for many service areas and types of clinicians.

When we launched the survey in June of 2023, we asked our group of CAM Champions and SMEs to disseminate the survey to their respective service areas and groups. We engaged champions in behavioral health, jail services, inpatient, emergency, and primary care settings, and at Denver Community Addiction Rehabilitation and Evaluation Services (CARES). Dissemination included a link to the survey in the system-wide weekly Denver Health internal communications email, and multiple email reminders from the organization's leaders to relevant clinicians over the course of three weeks. We offered small incentives to a randomly selected group of 10 respondents to encourage participation.

³ Funding for the Denver Health instance of REDCap is supported in part by NIH/NCRR Colorado CTSI Grant Number UL1 RR025780. Contents are the authors' sole responsibility and do not necessarily represent official NIH views.

Results

The survey was open from June 22nd until July 14th, 2023. After approximately three weeks, 173 clinicians had responded. Respondents represented 22 service areas. Figure 1 shows the service areas represented, with some service areas rolled into aggregated categories (e.g., OBHS). More than half of respondents were from three service areas: primary care (25%), OBHS (20%), and emergency service areas (16%). Our goal was to get feedback from clinicians across the system, including small service areas. We achieved this goal by receiving responses from school-based clinics (n=5), public health clinics (n=3), jail services (n=24), and other outpatient services (n=2).

Figure 2 shows the distribution of types of clinicians that responded to the survey. Approximately one third of respondents (31%) were physicians. The remaining two thirds were fairly evenly comprised of six other types of clinicians: nurses, nurse practitioners/physician assistants, addiction counselors/supervisors, psychologists/therapists, case managers/care coordinators, and other clinicians. The variation in clinician types is helpful for understanding whether different types of clinicians have distinct treatment practices. It is difficult to estimate whether the distribution of service areas and clinician types are proportional to all clinicians and service areas delivering AUD treatment services across the system because there is no census of how many clinicians should be providing these services.

AUD is treated in many different service areas at Denver Health. The types and severity of AUD vary, with groups like CARES (withdrawal management/transitional residential treatment TRT) and the emergency service areas primarily treating patients with AUD for withdrawal, severe intoxication, and acute health conditions related or unrelated to AUD. Other service areas, like OBHS (specialty outpatient treatment), primary care, and jail services more often provide ongoing AUD management.

The type of treatment for AUD also depends on the service area and clinician. Almost all clinicians indicated that they either directly provided treatment or observed patients taking medications for withdrawal management and ongoing AUD management, as well as providing behavioral health interventions.

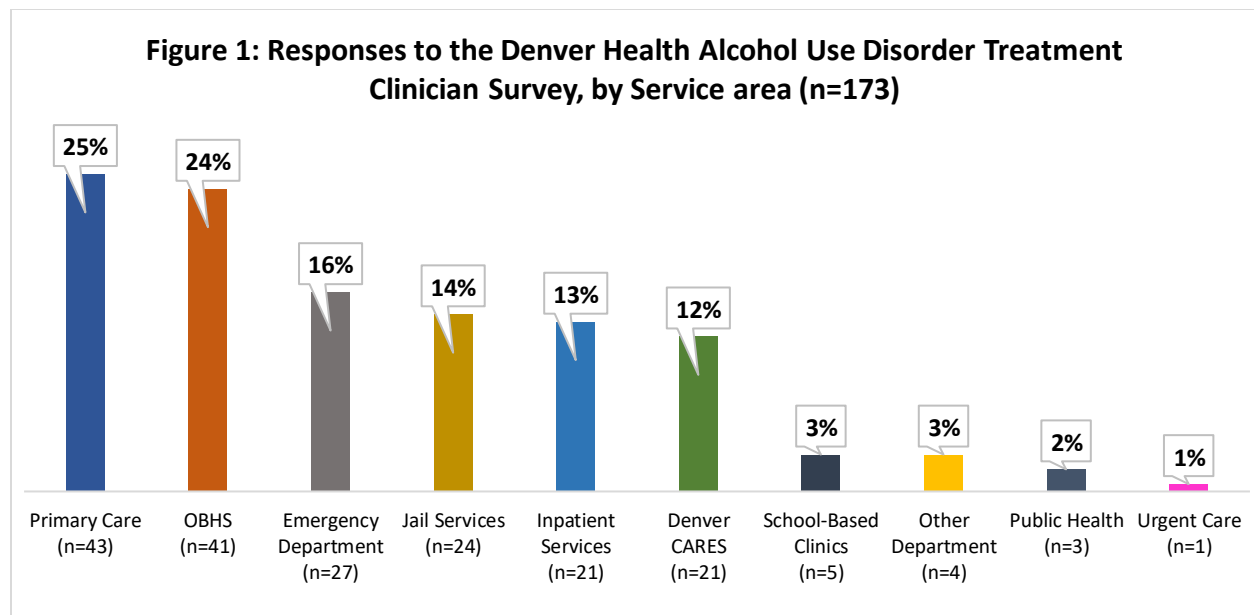
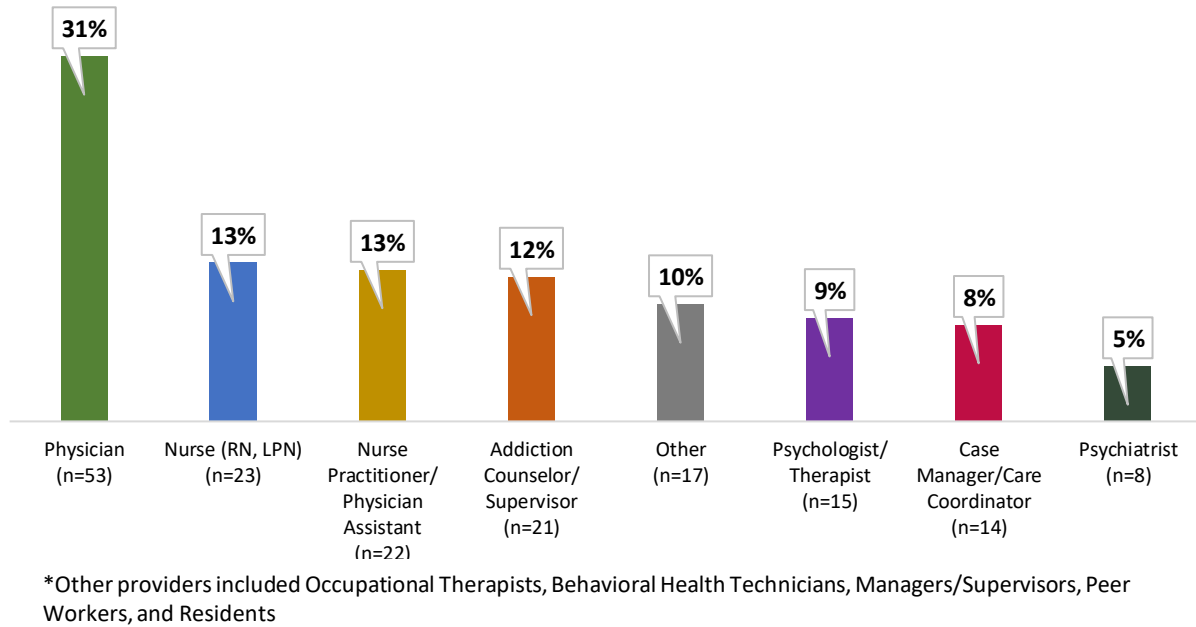


Figure 2. Responses to the Denver Health Alcohol Use Disorder Treatment Provider Survey, by Provider Type (n=173)



Pharmaceutical treatment for AUD withdrawal

Figure 3 shows the frequency with which clinicians prescribed or observed patients taking the most common medications for AUD withdrawal. Data are grouped into medications being prescribed or observed often/always or rarely/sometimes (never is not shown). benzodiazepines were the most common medication reported as always or often being prescribed or observed (44%), followed by gabapentin (34%). About 15% of clinicians mentioned additional medications used for AUD withdrawal, which included pregabalin, Ativan, Antabuse, baclofen, clonidine, Librium, naltrexone, hydroxyzine, acamprostate, propofol, Risperdal, suboxone, and valproic acid. The most common medications prescribed or observed for AUD withdrawal varied by service area. Figure 4 shows the top six service areas with the most respondents and the pharmaceutical treatments prescribed or observed for alcohol withdrawal. Reported benzodiazepine use ranged from 71-100% depending on the service area, with lowest rates in OBHS (71%) and the emergency service areas (81%) and the highest rates in Jail (92%) and Inpatient services (100%). There were a wide range of prescription practices for other medications as well. Notably, prescriptions for “other” medications ranged between 0% in the emergency service areas and 38% in Denver CARES. Other medications included antiemetics, clonidine, propofol, baclofen, valproic acid, suboxone, and medications typically used to treat ongoing AUD such as naltrexone and Antabuse. This highlights an opportunity for collaboration and future education if there are other options and practices for additional medications used for alcohol withdrawal it could be beneficial to share these across service areas.

The most common medications prescribed or observed for AUD withdrawal also varied by clinician type. Figure 5 shows the eight categories of clinicians who prescribe medications or observe patients with AUD withdrawal. Reported benzodiazepine use ranged from 60-96%, with lowest rates among

psychologists/therapists (60%) and nurse practitioners/physician assistants (73%), and the highest rates among nurses (96%) and physicians (91%). Some clinicians were just as likely to report prescribing or observing benzodiazepines and gabapentin, whereas nurses were much more likely to observe benzodiazepines compared to gabapentin (96% and 48% respectively) and psychologists/therapists were more likely to observe gabapentin compared to benzodiazepines (73% and 60%, respectively).

Figure 3. How Many Providers Always/Often or Sometimes/Rarely Prescribe or See Patients Taking Alcohol Withdrawal Treatment Medications?

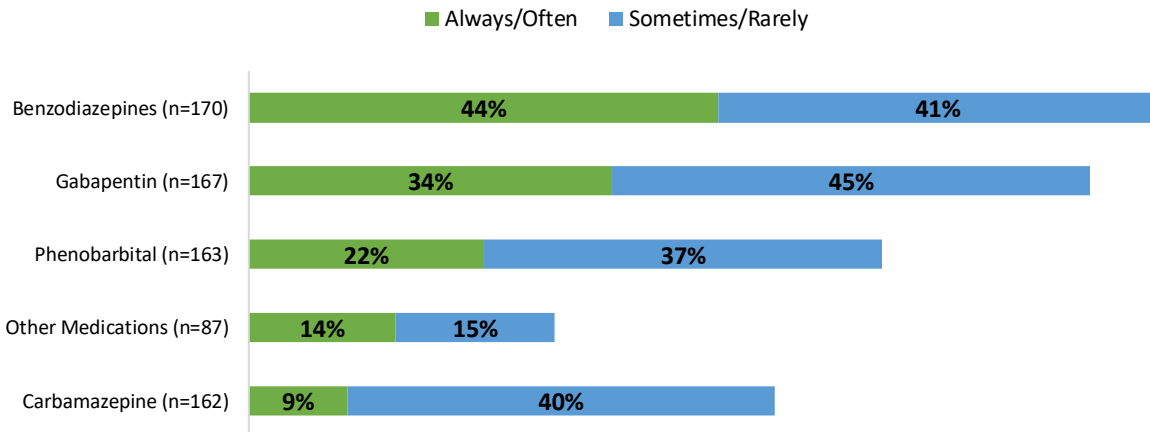


Figure 4: Percentage of Clinicians who Prescribe or Observe Patients Taking Specific Medications for Alcohol Withdrawal, by Service area

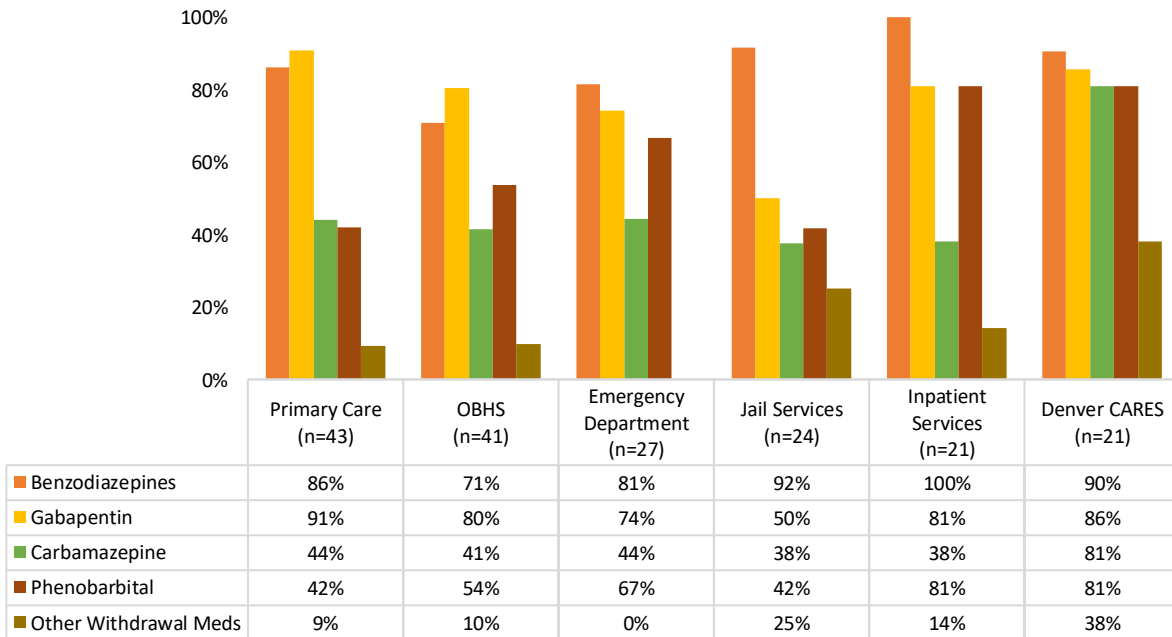
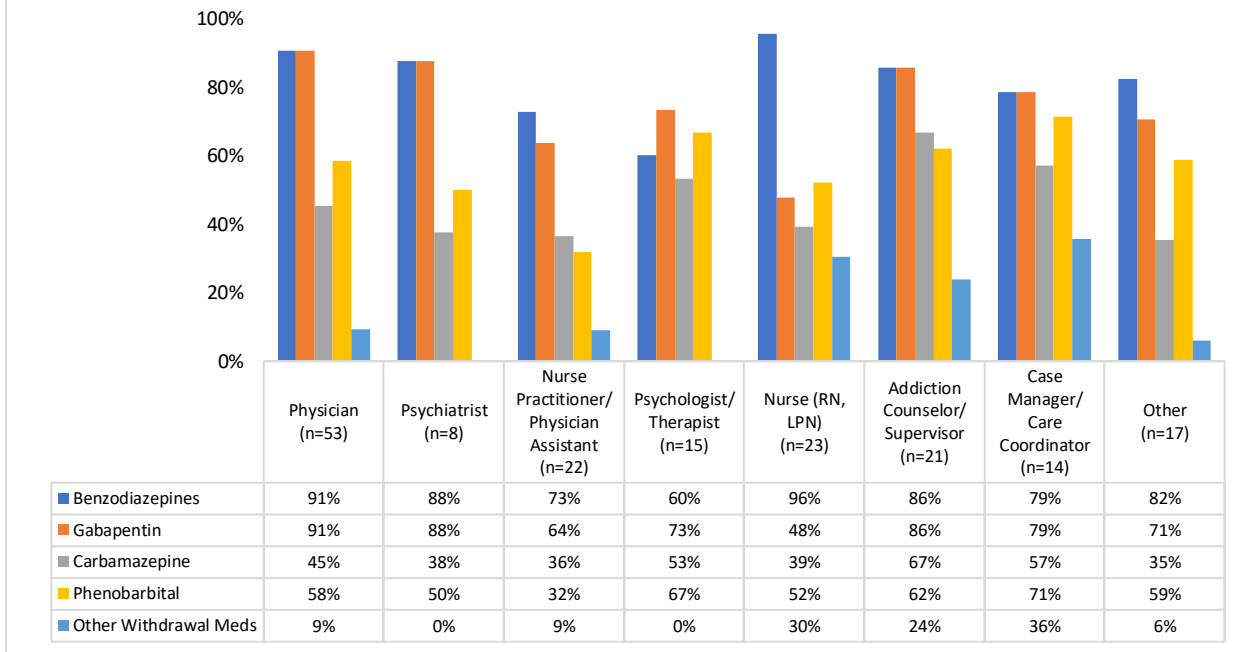


Figure 5. Percentage of Clinicians who Prescribe or Observe Patients Taking Specific Medications for Alcohol Withdrawal, by Clinician Type



Pharmaceutical treatment for ongoing AUD management

Figure 6 shows the frequency with which clinicians prescribed or observed patients taking the most common medications for ongoing AUD management. Data are grouped into medications being prescribed or observed often/always or rarely/sometimes (never is not shown). Half of clinicians said they often/always prescribed or observed naltrexone for ongoing AUD management, which was the most common medication by far. Although only 26% of prescribers often/always prescribed gabapentin, 52% said they sometimes or rarely prescribed it. That made gabapentin the second most common medication for ongoing AUD management overall. Relatively few clinicians responded that they prescribed or observed acamprosate, disulfiram, or topiramate often or always. About 20% of clinicians mentioned additional medications used for ongoing AUD management, but only three clinicians elaborated on which specific medications they prescribed, writing in selective serotonin reuptake inhibitors (SSRI's), Tranxene, and baclofen.

The most common medications prescribed or observed for ongoing AUD management varied by service area. Figure 7 shows the service areas with the most respondents providing ongoing AUD management services. Overall, Inpatient Services, Primary Care, and OBHS reported the highest frequency of prescribed or observed medications overall, with the emergency service areas reporting the lowest frequency. Naltrexone was the most common medication in all service areas except Inpatient Services, where it was equally as common as disulfiram and acamprosate. There was an immense amount of variation in clinicians prescribing or observing patients using disulfiram (33-95%) and acamprosate (41-95%).

The most common medications prescribed or observed for ongoing AUD management varied by clinician type, shown in Figure 8. All types of clinicians were most likely to prescribe or observe naltrexone for

ongoing AUD management except for psychiatrists, who were most likely to prescribe or observe gabapentin. The percent of clinicians who prescribed or observed patients taking naltrexone for ongoing AUD management ranged from 43% among addiction counselors/supervisors to 92% among physicians. Following naltrexone, most clinicians prescribed or observed patients taking gabapentin more often than the other medications, ranging from 43% among addiction counselors/supervisors to 88% among psychiatrists.

Results for medications prescribed or observed for AUD withdrawal and ongoing management suggest that medications may be highly tailored to individual patients and circumstances. This is indicated by the high percentage of respondents who said that they sometimes or rarely prescribed a medication. For example, for many of the medications used for ongoing AUD management (gabapentin, acamprostate, disulfiram, and topiramate), more than half the time clinicians indicated that they only sometimes or rarely prescribed or observed patients taking these medications.

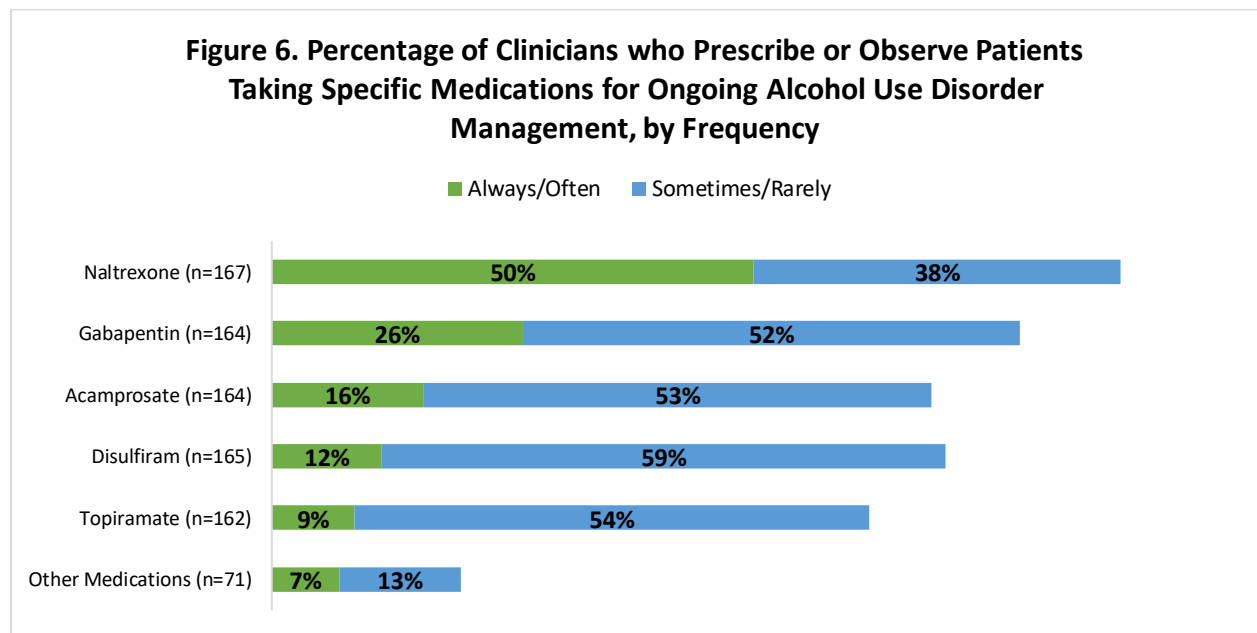


Figure 7. Percentage of Clinicians who Prescribe or Observe Patients Taking Specific Medications for Ongoing Alcohol Use Disorder Management, by Service area

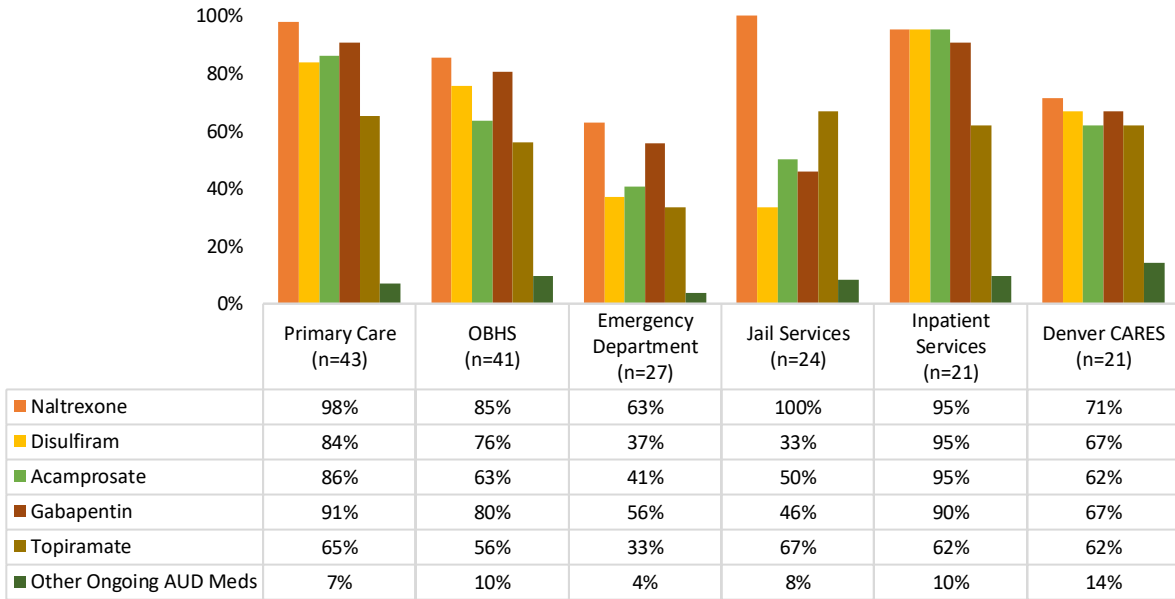
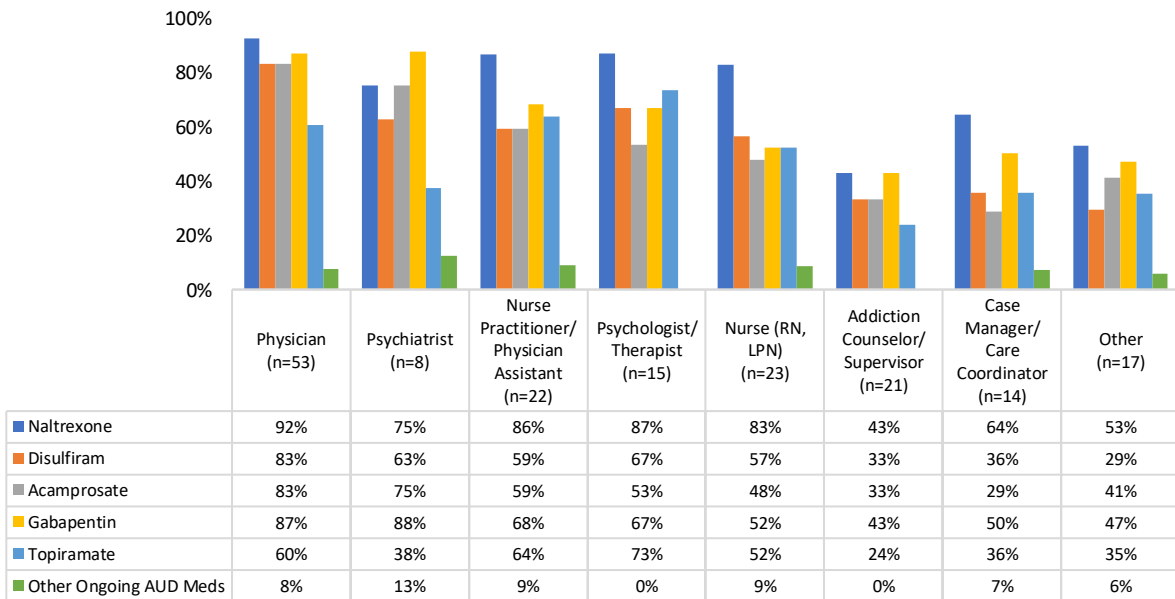


Figure 8. Percentage of Clinicians who Prescribe or Observe Patients Taking Specific Medications for Ongoing Alcohol Use Disorder Treatment, by Clinician Type



Behavioral health treatment

Behavioral health treatments are defined in the survey as a range of clinical services and assessments to help patients with AUD. Denver Health primarily offers behavioral health services at OBHS and at the primary care clinics. Some of the survey respondents were clinicians who primarily referred patients to behavioral health services, while others were the primary clinicians of these services. Survey respondents were first asked whether they consider AUD severity in recommending or providing behavioral health treatments. For respondents that did consider AUD severity, they proceeded to answer questions about behavioral health treatments separately for mild, moderate, and severe AUD. For those that didn't consider severity, they answered questions about behavioral health treatment once for all patients with AUD. Figure 9 shows the breakdown of whether or not AUD severity is considered, by service area.

Overall, clinicians in School-Based clinics were the most likely to consider AUD severity (80%) when referring or providing behavioral health treatment. Clinicians in the emergency service areas were the least likely to consider AUD severity (48%) when referring or providing behavioral health treatment.

There was an immense amount of variation in whether AUD severity was considered for behavioral health treatment among different types of clinicians, shown in Figure 10. Eighty eight percent of Psychiatrists and 78% of addiction counselors/therapists considered AUD severity. However, only 32% of nurses reported considering AUD severity for behavioral health treatments.

Behavioral health treatments were broken into three categories as specified on Page 3: behavioral health treatments without a specific billing code; assessments and evaluations; and billable therapy and case management. Behavioral health treatments without a specific billing code consist of a warm handoff, introduction to behavioral health, motivational interviewing, and other behavioral health treatments.

Figure 11 shows responses by AUD severity for clinicians who consider severity for behavioral health treatment as well as results for those clinicians who do not consider severity. In general, clinicians who consider severity are much more likely to provide or recommend all types of behavioral health treatments without a specific billing code compared to those who do not consider severity. Clinicians were more likely to provide or recommend behavioral health treatments without a specific billing code for patients with moderate AUD compared to patients with mild *or* severe AUD. The most common type of behavioral health treatments without a specific billing code was motivational interviewing, followed by a warm hand off. Types of "Other Behavioral Health Treatment" in Figure 11 include family therapy, contingency management, and services such as transportation assistance, legal assistance, and medication refills.

In general, fewer providers reported providing or recommending substance use assessments and evaluations compared to both non-billable behavioral health treatments and billable therapy/case management. Figure 12 shows that in most cases fewer than half of providers recommended or provided substance use assessments/screenings, regardless of AUD severity. Similar to non-billable behavioral health treatments, providers were more likely to provide or recommend assessments for patients with moderate AUD compared to mild *or* severe AUD.

Clinicians who considered AUD severity for behavioral health treatments were much more likely to consider billable therapy and case management treatments compared to clinicians who did not consider AUD severity. Figure 13 shows results for billable therapy and case management, and they follow a similar pattern as other behavioral health treatments regarding recommendations based on AUD severity.

Overall, clinicians were most likely to recommend or provide behavioral health treatments without a specific billing code, such as motivational interviewing, an introduction to behavioral health, or a warm hand off. Screenings and evaluations were the least common, particularly among clinicians who did not consider AUD severity. Among billable therapy and case management visits, therapy interventions were the most common. Patients with moderate AUD were the most likely to be treated or referred for all types of behavioral health treatment.

Some clinicians provided additional information and feedback on behavioral health treatments for AUD. Multiple clinicians mentioned barriers to accessing behavioral health treatment, including limited availability at OBHS. Multiple clinicians mentioned that many patients with an AUD also had a co-occurring mental health condition, including psychosis. Clinicians also mentioned the importance of trusted resources, connection, and communication with patients as a key to successfully engaging them in treatment. Finally, multiple clinicians mentioned that they would benefit from having additional resources to provide to patients, such as bus tickets to get to appointments or having clinicians at Denver CARES who could provide basic medical services so patients would not have to travel to other clinics for these services. One primary care provider mentioned that primary care settings may have the ability to care for more patients with AUD and OUD and patients could be referred back to primary care from OBHS.

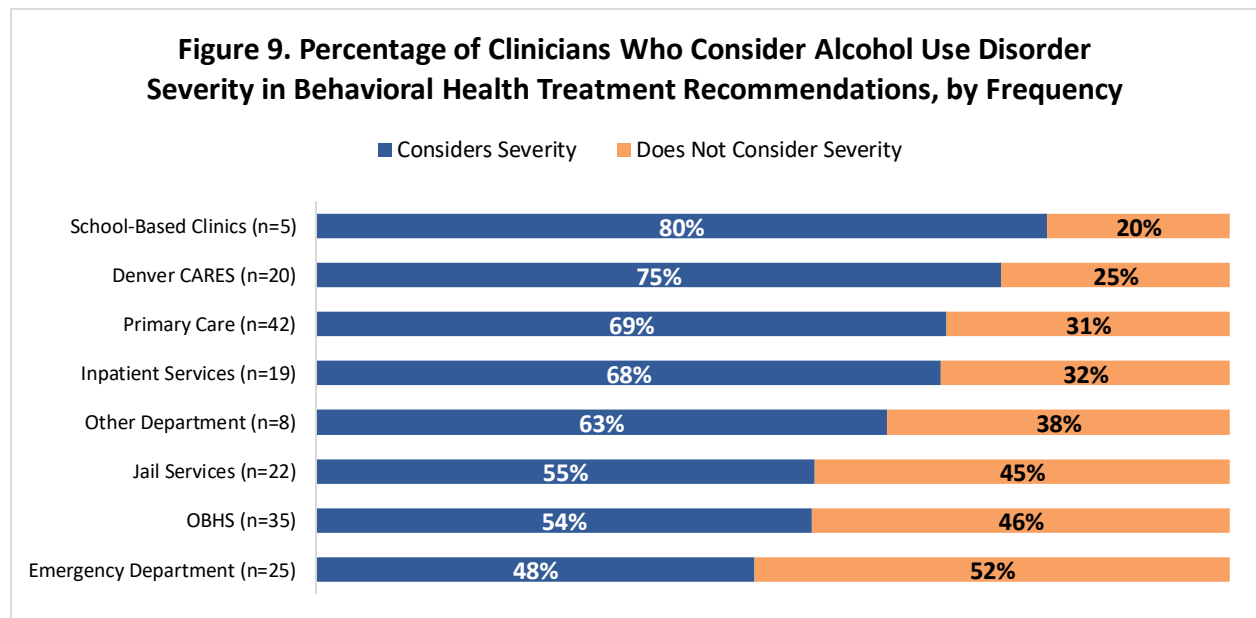


Figure 10. Percentage of Clinicians Who Consider Alcohol Use Disorder Severity in Behavioral Health Treatment Recommendations, by Clinician Type

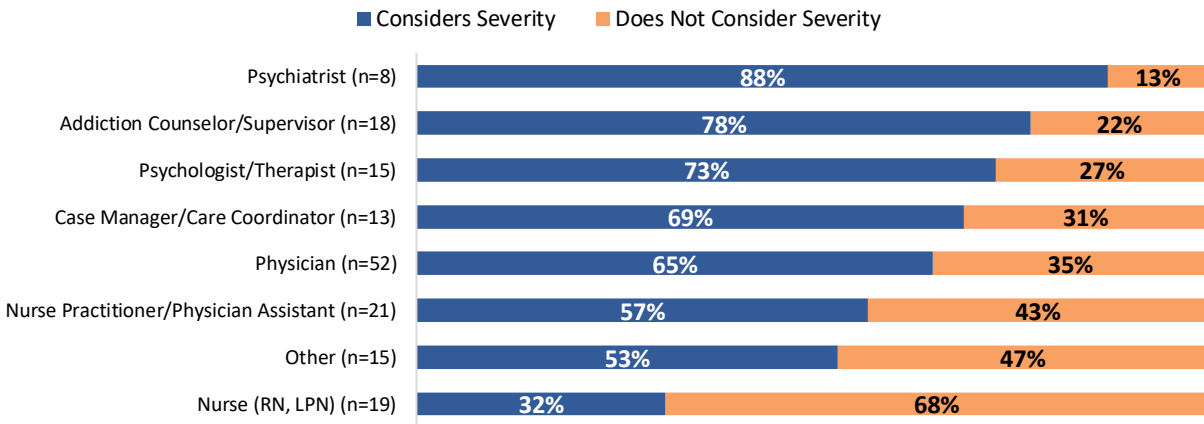


Figure 11. Percentage of Clinicians Who Recommend Behavioral Health Treatments without a Specific Billing Code, by Alcohol Use Disorder Severity

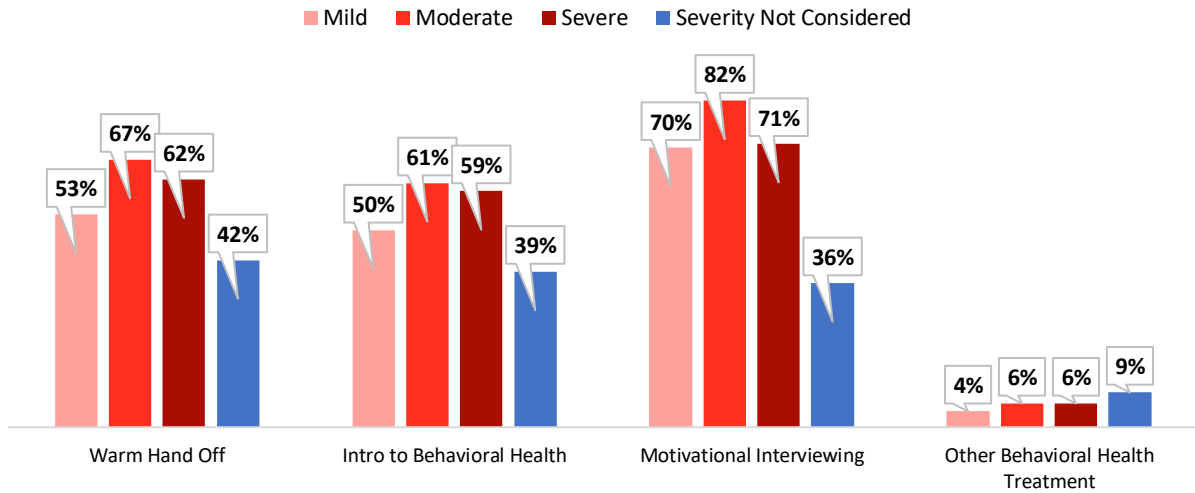


Figure 12. Percentage of Clinicians Who Recommend Substance Use Assessments or Evaluations, by Alcohol Use Disorder Severity

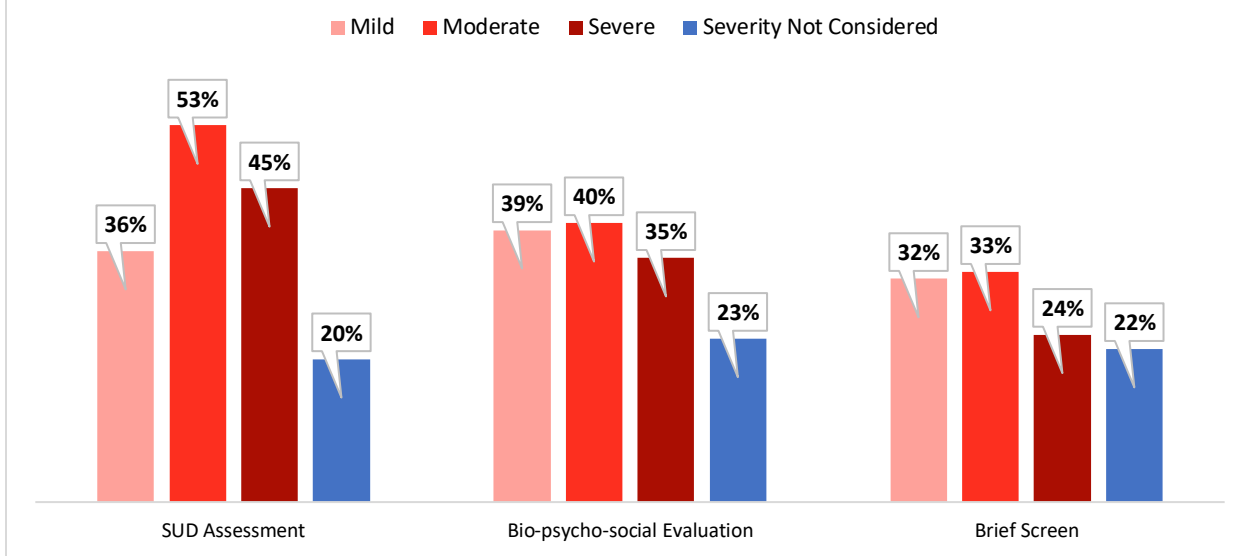
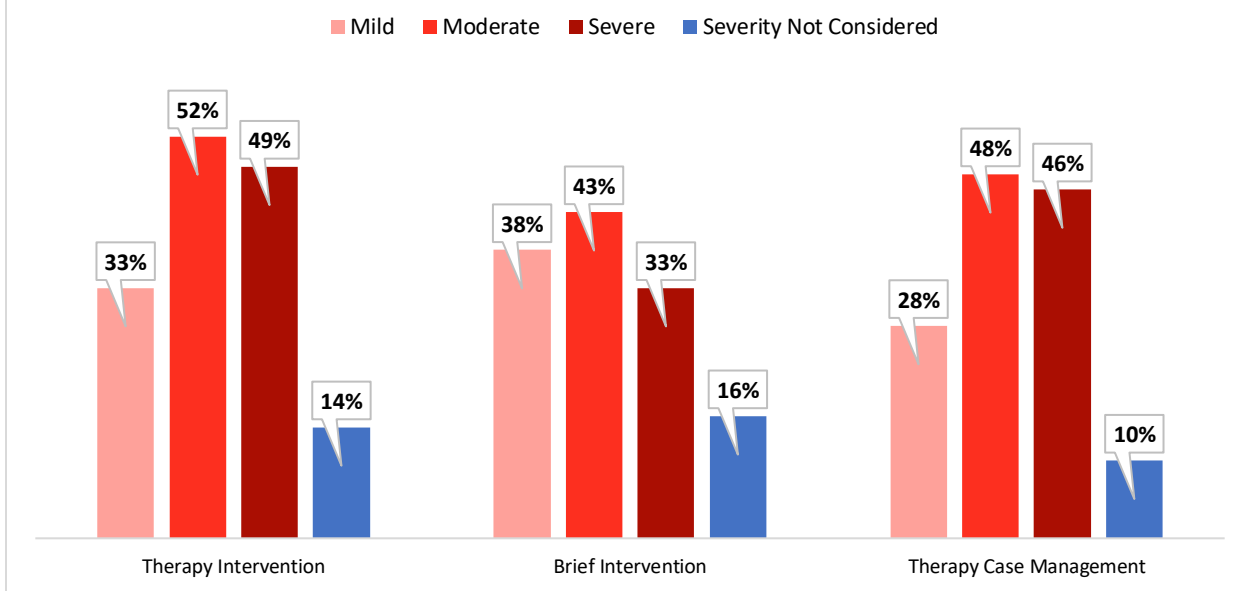


Figure 13. Percentage of Clinicians Who Recommend Billable Therapy or Case Management, by Alcohol Use Disorder Severity



Referrals

Many clinicians at Denver Health do not provide direct treatment services for patients with AUD. Instead, they refer to other service areas internally or to a wide range of external organizations. In the survey, we included referrals for treatment internally at Denver Health and externally to organizations that offer community treatment and recovery supports (broadly defined) and residential treatment, among others. Similar to the questions about behavioral health treatments, survey respondents were first asked whether

they consider AUD severity when making referral decisions. For respondents who did consider AUD severity, they proceeded to answer questions about referrals separately for mild, moderate, and severe AUD. For those who did not consider severity, they answered questions about referrals once for all patients with AUD.

Figure 14 shows whether clinicians considered AUD severity when making referrals to treatment, broken down by service area. A large majority of clinicians at CARES, Inpatient Services, Primary Care, OBHS, and School-Based Clinics considered severity of AUD when referring patients to treatment. However, fewer than half of respondents in Jail Services, Emergency Department, and Other Service areas (which includes Public Health and Urgent Care, among others) considered AUD severity when referring patients to treatment.

Figure 15 shows that 85% of addiction counselors/supervisors and 69-71% of psychiatrists, psychologist/therapists, case managers/care coordinators, considered AUD severity when referring for treatment. However, fewer than half of nurses, nurse practitioners/physician assistants and other types of clinicians considered AUD severity when referring for treatment.

Referrals were broken into two main groups: internal referrals to DH and external referrals. Figure 16 shows the distribution of internal DH referrals for five referral locations broken down by AUD severity. Providers were the most likely to refer to OBHS, followed by CARES withdrawal management and TRT. Providers were also most likely to refer to OBHS and CARES for patients with severe AUD and to CHS for patients with mild or moderate AUD.

Figure 17 shows referral patterns for external treatment. Clinicians were most likely to refer to community recovery supports, followed by residential treatment and a sober living facility. More clinicians said that they referred to external treatment for patients with severe AUD, although more than half of clinicians still said they referred patients with mild AUD to treatment. Among clinicians that did not consider AUD severity for referrals, less than half said they referred to external treatment.

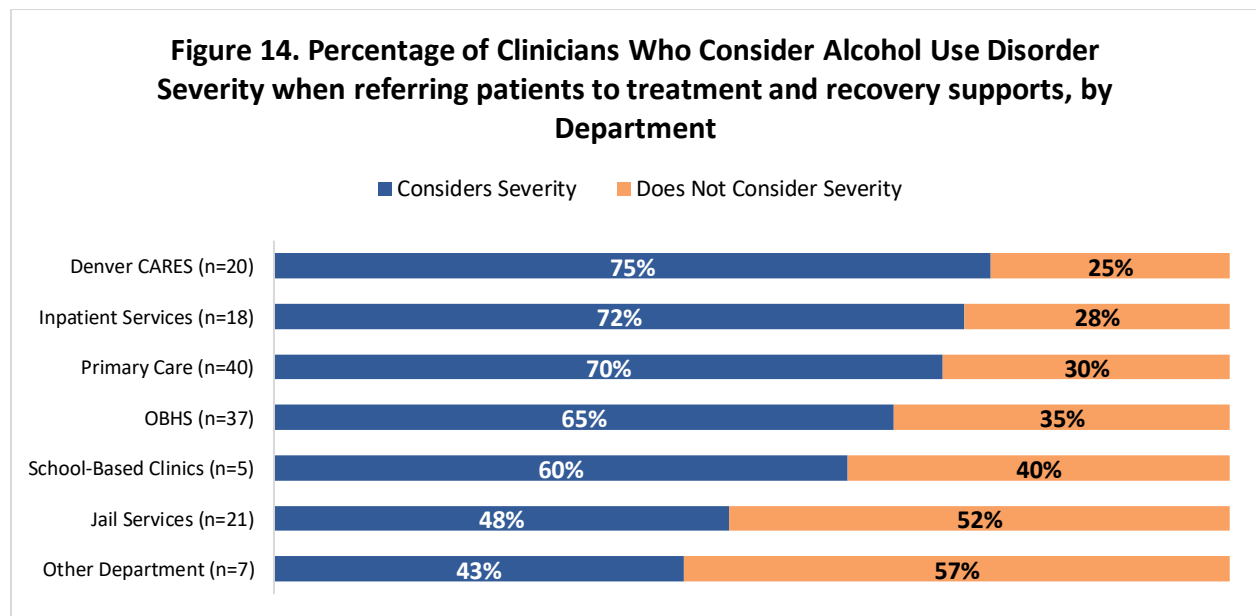


Figure 15. Percentage of Clinicians Who Consider Alcohol Use Disorder Severity when referring patients to treatment and recovery supports, by Clinician Type

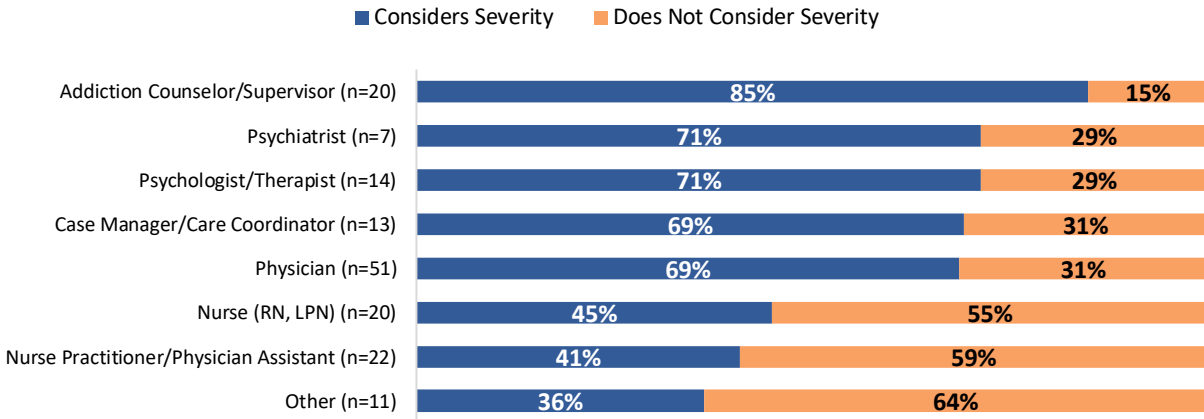


Figure 16. Percentage of Clinicians Who Refer to Specific Denver Health Treatment Locations by Patient Alcohol Use Disorder Severity

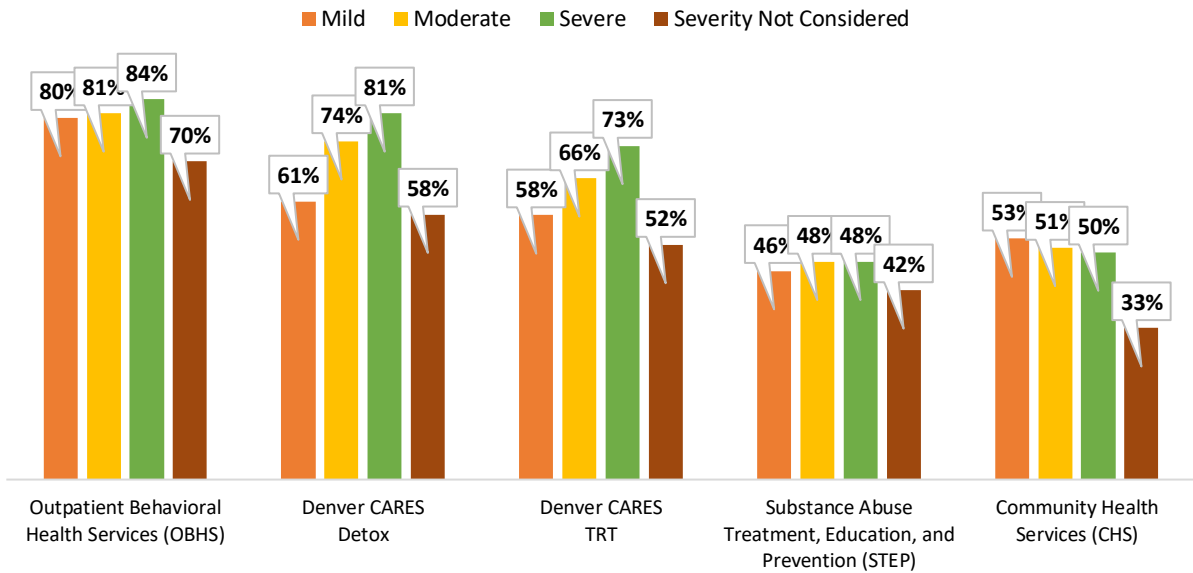
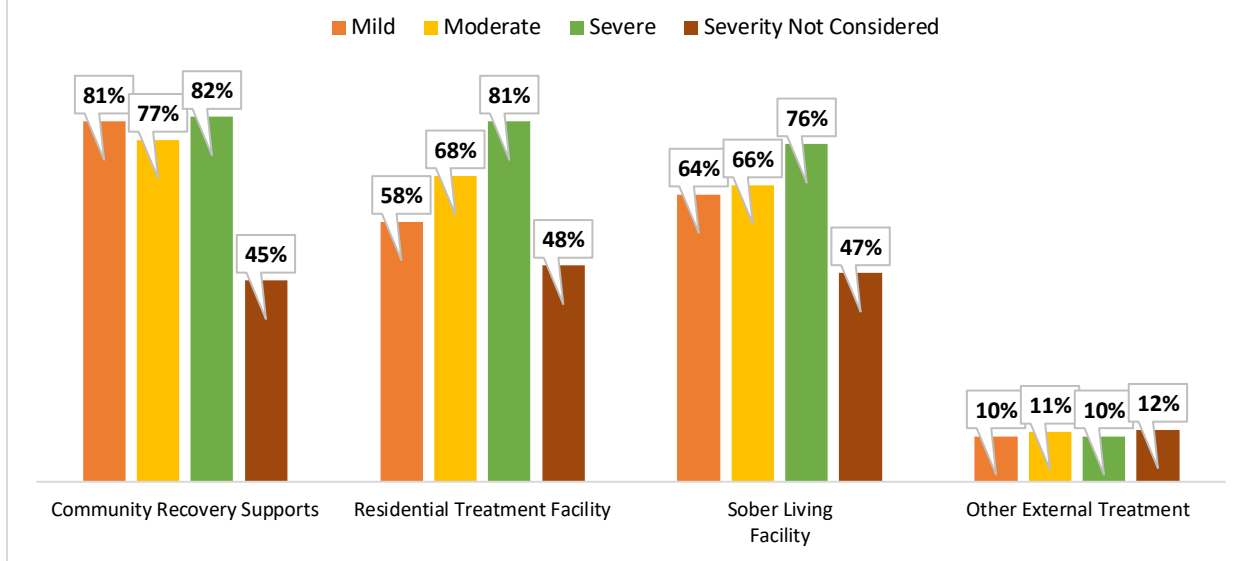


Figure 17. Percentage of Providers Who Refer to External Treatment While Considering Alcohol Use Disorder Severity

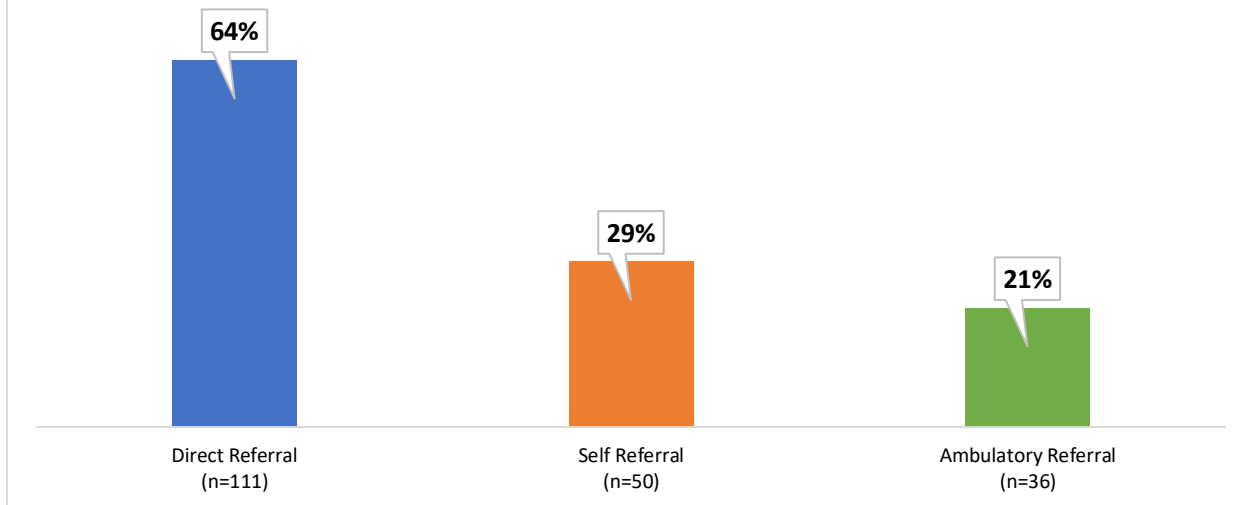


Referral Modalities

Providers were asked to select from a list of referral modalities that they currently use to refer patients to treatment and recovery supports. We divided referral modalities into three different types: 1) direct referrals, including Epic Inbasket and chat messages, emails, and phone calls; 2) self-referrals, including providing treatment resources on the after visit summary, using the Ask CAM Trail, or OwnPath; and 3) ambulatory referrals, which includes the Substance Use Disorder Treatment (SUDT) Referral. Figure 18 shows the percentage of providers who report using each type of referral modality. The majority of providers (64%) reported using direct referrals such as email, phone, or messages through Epic. In addition to the preset list of referral modalities, multiple clinicians reported having their own resource lists or doing warm handoffs to counselors who had additional resources. Some providers also listed additional modalities to refer patients to treatment and recovery supports. Within the jails, providers and patients sometimes use a Kite System to request referrals. Other providers noted having their own resource lists outside of the after-visit summary or using warm handoffs and verbal conversations to relay additional resources.

Some providers did not have dedicated staff on site in their clinics or service areas to assist with AUD interventions and services. If this was the case, we asked providers how they referred patients with AUD to treatment recovery and support. Some providers give patients handouts with resources, others refer patients to other Denver Health clinics or service areas such as CARES, and multiple providers also mentioned that they didn't know what to do and would appreciate more education on how to refer patients for AUD treatment and recovery supports.

Figure 18. Percentage of Providers who Refer Patients with Alcohol Use Disorder by Type of Referral Modality (n=173)



Factors Influencing AUD Treatment

Clinicians were asked how often they considered a variety of individual-level and social factors when determining treatment for patients with AUD. Figure 19 shows how often clinicians considered individual-level factors always/often or sometimes/rarely. Almost all clinicians (82%) said they always or often considered patients' willingness to engage in treatment. A majority also said they always/often consider severity of the AUD, other behavioral health conditions, presence of other SUDs, and other medical conditions. Only 20% of clinicians said they always or often considered a patient's age when determining treatment for AUD (these included clinicians primarily from primary care, OBHS, and jail services).

Although clinicians most often considered individual-level factors when determining AUD treatment, many clinicians also considered social factors at least occasionally. Figure 20 shows the frequency with which clinicians considered specific social factors to determine AUD treatment. The most common social factors considered include housing stability, insurance/cost of care, family or community support, and access to care/transportation. Overall, clinicians were more likely to only consider social factors rarely or sometimes rather than often or always. However, most clinicians considered social factors at least rarely (e.g., 89% considered housing stability at least rarely, if not more often). Other social factors in Figure 20 include language and cultural considerations, cognitive ability, education level/socioeconomic status, and justice involvement/legal status.

Figure 19. Percentage of Clinicians Who Always/Often or Sometimes/Rarely Consider Individual-Level Factors in Alcohol Use Disorder Treatment

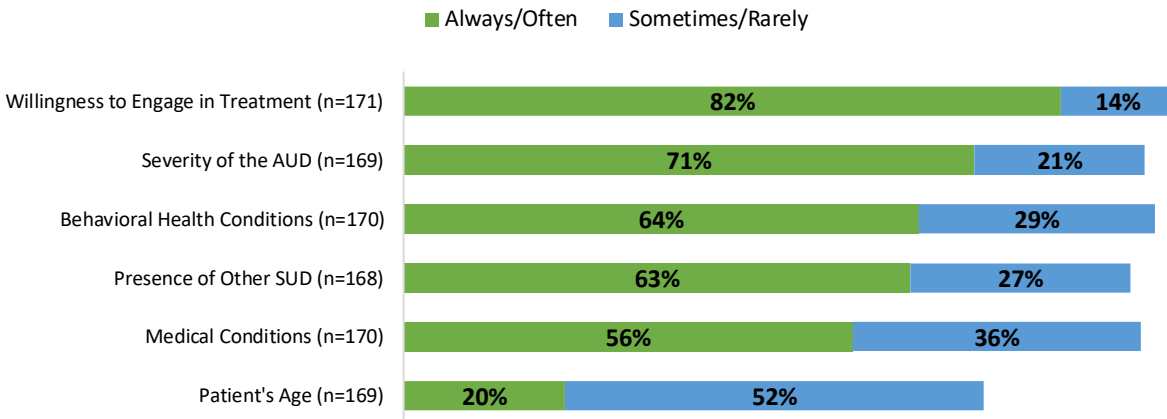
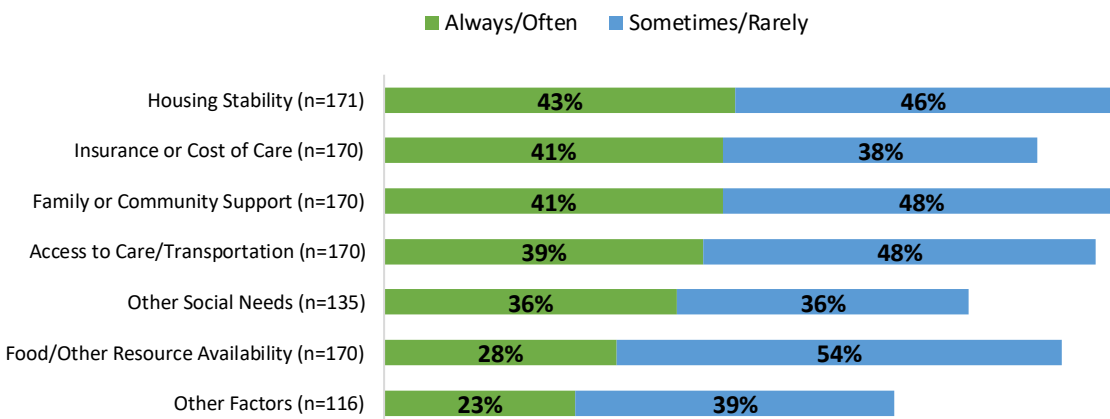


Figure 20. Percentage of Clinicians Who Always/Often or Sometimes/Rarely Consider Social and Other Factors in Alcohol Use Disorder Treatment



Conclusion

Results from the 2023 survey of AUD treatment practices at Denver Health suggest that the treatment landscape is diverse. Clinicians are employing a wide variety of pharmaceutical, behavioral health, and treatment referral practices for patients with an AUD. Additionally, clinicians are considering many patient-level and socioeconomic factors when determining the best treatment options for patients. Some of the pharmaceutical and behavioral health treatment practices reported in the survey are difficult to track systematically through data extraction from the EHR. For example, gabapentin is used for both alcohol withdrawal and ongoing AUD management, but it is challenging to decipher when it is being applied for each treatment state. Similarly, many clinicians reported employing behavioral health

treatments or support services such as warm handoffs and motivational interviewing. These evidence-based practices do not have specific billing codes, and thus are difficult to systematically quantify. A challenge moving forward in the development of a comprehensive AUD continuum of care evaluation model will be to develop methods to estimate these treatment types that are not systematically documented in the EHR but are happening on a large scale throughout the organization.

Treatment practices varied widely by service area and clinician type. This was true for pharmaceutical and behavioral health treatments. Much of this variation was likely due to service area context and clinical roles. Service areas that are primarily treating acute health conditions, such as the emergency department, do not deliver or observe the same types of treatments as were documented in primary care settings. Clinicians who prescribe medications have different practices than clinicians who support patients with AUD through ongoing therapy or other services. Although some of this variation is to be expected, it also highlights an opportunity to reflect on best practices. There may be cases when service areas or specific groups of clinicians would benefit from additional training around effective pharmaceutical and behavioral health treatments for AUD. This is especially true in a quickly evolving environment with new medications and treatment techniques being tested each year. Additional collaboration may be particularly important for Jail Services, where the prescribing practices were the most different from other service areas, perhaps due to diversion or differences in formularies. Multiple survey respondents requested more training on best practices and referral opportunities in the open-ended portions of the survey.

The survey also showed that clinicians who evaluated patients' AUD severity made different treatment and referral decisions compared to clinicians who did not consider AUD severity. The Diagnostic and Statistical Manual 5 (DSM-5) provides an 11-item checklist for assessing AUD severity. However, Denver Health does not currently have a standard screening process for identifying AUD or its severity. In a previous analysis of screening assessments used in 2021, we identified 11 different tools that were being used to screen patients for alcohol use. To our knowledge, only the inpatient addiction consult liaison team was using the full DSM-5 checklist to identify AUD severity for their patients. Standardized screening based on established tools and criteria would provide a more uniform approach to identifying and treating patients with AUD. Beyond the challenges of formal assessment, the social norms around drinking and the contexts in which clinicians identify alcohol use as a health problem also make it difficult to establish AUD severity in a standardized way. Some clinicians have reported that AUD severity is more nuanced and subjective than a standardized assessment can capture and always requires understanding patient history and context. Additional collaboration and discussion around capturing patients' AUD severity would be valuable.

Clinicians reported considering many patient-level and socioeconomic factors when determining the most appropriate treatment for AUD. To this end, it is important to continue enhancing systems that make this information readily available. Epic's social determinants of health (SDOH) wheel is one visual data tool available to many clinicians that allows them to quickly see if patients have unmet social and economic needs. However, it is important to continue to evaluate the consistency, availability, and timeliness of these data tools to make sure they can be used effectively in clinical practice. Beyond data availability, it is important to consider who is responsible for responding to social needs.

Next Steps

Findings from the survey highlight the need for training and collaboration to support clinicians as they navigate the AUD treatment landscape for their setting and patient population. These trainings could be supported by the CAM Academy.

In addition to more training and collaboration, there is a need to enhance efforts to document AUD treatment and advocate for making more types of AUD treatment billable. Coders and clinicians can also be trained to document existing billing codes related to AUD severity and treatment more consistently across the health system.

Results from this survey provide unique insight into AUD treatment practices. To our knowledge, there is no established evidence of system-wide assessments of AUD treatment in other health systems. Sharing results with a broader audience outside of Denver Health could inform how other health systems design their AUD treatment protocols, encourage them to survey their own clinicians, and offer valuable comparison points for how AUD treatment may vary across health systems and not just within them.

While this report contains many of the results of the 2023 survey of AUD treatment practices at Denver Health, it is not fully comprehensive of all the data collected and the many ways results can be analyzed, including by subgroups. If you are interested in seeing additional information or results from this survey, please reach out to the CAM Knowledge Management team: CAMKnowledgeManagement@dhha.org.

Appendix A: Alcohol Use Disorder Treatment Survey Instrument

Treatment for Patients with Alcohol Use Disorder at Denver Health Please complete the survey below. Your responses will help us understand treatment and referral practices for patients at Denver Health with alcohol use disorder (AUD). The survey should take an average of 10 minutes to complete.

Thank you for your time!

Name (optional): _____

Email address (optional): _____

Role: _____

- Please select your department/s or clinical setting/s:
- Emergency Department
 - Inpatient ACL (Addiction Consult Liaison)
 - OMAT (Methadone Program, Pavilion K)
 - DHARC (Suboxone Program, Pavilion K)
 - STEP (Substance Abuse Treatment, Education, and Prevention)
 - Primary Care
 - Denver CARES
 - School-Based Clinics
 - Jail Services
 - WFS (Women and Family Services, Pavilion K)
 - Other (please describe below)

List other department/s or clinical setting/s: _____

Social Determinants of Health

How often do the following factors influence your treatment recommendations or referrals for patients with AUD?

	Never	Rarely	Sometimes	Often	Always
Patient's willingness to engage in treatment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patient's age	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Severity of the AUD	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presence of other substance use (e.g., OUD)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Medical conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Behavioral health conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family or community support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Housing stability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Food and other resource availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insurance or cost of care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Access to care/transportation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other social needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In the previous question, you indicated that an "Other" factor or social need influences your treatment recommendations or referrals for AUD. Please list the name/s in the text box.

DSM-V Alcohol Use Disorder Criteria In the questions below, we categorize alcohol use disorder (AUD) by its DSM-V definitions, including MILD AUD, MODERATE AUD, and SEVERE AUD.

- Show
 Hide

Please select "Show" to display the DSM-V definitions and criteria for the different AUD severities, as needed. You can select "Hide" to minimize the text.

DSM-V criteria are as follows:

A maladaptive pattern of substance use leading to clinically significant impairments or distress, as manifested by 2 or more of the following, occurring at any time in the same 12-month period:

Alcohol is often taken in larger amounts or over a longer period than was intended. There is a persistent desire or unsuccessful efforts to cut down or control alcohol use. A great deal of time is spent in activities necessary to obtain alcohol, use alcohol, or recover from its effects. Craving, or a strong desire or urge to use alcohol. Recurrent alcohol use resulting in a failure to fulfill major role obligations at work, school, or home. Continued alcohol use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of alcohol. Important social, occupational, or recreational activities are given up or reduced because of alcohol use. Recurrent alcohol use in situations in which it is physically hazardous. Alcohol use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by alcohol. Tolerance, as defined by either of the following: A need for markedly increased amounts of alcohol to achieve intoxication or desired effect. A markedly diminished effect with continued use of the same amount of alcohol. Withdrawal, as manifested by either of the following: The characteristic withdrawal syndrome for alcohol. Alcohol (or a closely related substance, such as a benzodiazepine) is taken to relieve or avoid withdrawal symptoms. Alcohol Use Disorder is specified as:

Mild - presence of 2-3 symptoms Moderate - presence of 4-5 symptoms Severe - presence of 6+ symptoms

Medications for Treating Alcohol Withdrawal

How often do you prescribe or see patients who are taking the following medications for treating ALCOHOL WITHDRAWAL for patients with MODERATE to SEVERE AUD? NEVER indicates that you would never prescribe or see patients taking this medication, and ALWAYS indicates that you would always prescribe or see patients taking this medication.

	Never	Rarely	Sometimes	Often	Always
Benzodiazepines (e.g., Clorazepate or Tranxene, Chlordiazepoxide, Diazepam)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gabapentin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carbamazepine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Phenobarbital	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other

In the previous question, you indicated that you prescribe an "Other" medication for alcohol withdrawal treatment. Please list the name/s in the text box.

Medications for Treating Ongoing AUD

How often do you prescribe or see patients who are taking the following medications for treating ONGOING ALCOHOL USE DISORDER for patients with MODERATE to SEVERE AUD? NEVER indicates that you would never prescribe or see patients taking this medication, and ALWAYS indicates that you would always prescribe or see patients taking this medication.

	Never	Rarely	Sometimes	Often	Always
Naltrexone (e.g., Vivitrol, Revia)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disulfiram (e.g., Antabuse)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acamprosate (e.g., Campral)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gabapentin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Topiramate (e.g., Topamax)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In the previous question, you indicated that you prescribe an "Other" medication for ongoing AUD treatment. Please list the name/s in the text box.

Medications for Treating Ongoing AUD

How often do you refer patients out for the following medications?

	Never	Rarely	Sometimes	Often	Always
Benzodiazepines (e.g., Clorazepate or Tranxene, Chlordiazepoxide, Diazepam)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gabapentin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carbamazepine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Phenobarbital	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Naltrexone (e.g., Vivitrol, Revia)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disulfiram (e.g., Antabuse)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acamprosate (e.g., Campral)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Topiramate (e.g., Topamax)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In the previous question, you indicated that you refer patients out for an "Other" medication for ongoing AUD treatment. Please list the name/s in the text box.

Please provide any additional information you think would be useful regarding medications for alcohol use disorder.

Behavioral Health Treatments for AUD

Does AUD severity influence the types of behavioral health treatments you recommend to patients? Yes No

If a patient indicates they are interested in treatment, what types of behavioral health treatments do you most often recommend for patients with different AUD severities? Please check all that apply. CPT codes and estimated time have been provided where applicable.

	Mild AUD	Moderate AUD	Severe AUD
Warm Hand Off	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Introduction to Behavioral Health (est. time 5-15 minutes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Motivational Interviewing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Brief Bio-Psycho-Social Assessment (CPT code H0010)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Brief Screen (CPT code H0002)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SUD Assessment (CPT code H0001)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Brief Intervention (CPT code H0025; est. time 8-15 minutes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Therapy Intervention/Follow Up (CPT codes 90832-90834, 90837; est. time 16+ minutes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Targeted Case Management (CPT code H0006; est. time 8-15 minutes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In the previous question, you indicated that you refer or recommend an "Other" type of behavioral health treatment for patients with AUD. Please list the type/s of treatment in the text box

If a patient indicates they are interested in treatment for alcohol use disorder, which of the following do you do? Please check all that apply.

- Warm Hand Off
- Introduction to Behavioral Health (est. time 5-15 minutes)
- Motivational Interviewing
- Brief Bio-Psycho-Social Assessment (CPT code H0010)
- Targeted Case Management (CPT code H0006; est. time 8-15 minutes)
- Brief Screen (CPT code H0002)
- Brief Intervention (CPT code H0025; est. time 8-15 minutes)
- Therapy Intervention/Follow Up (CPT codes 90832-90834, 90837; est. time 16+ minutes)
- SUD Assessment (CPT code H0001)
- Other

In the previous question, you indicated that you refer recommend an "Other" behavioral health treatment for patients with AUD. Please list the name/s in the text box.

When you recommend or initiate a behavioral health treatment that does not have a CPT code for a patient who has AUD, how do you record that treatment? _____

Please provide any additional information you think would be useful regarding behavioral health treatment for AUD: _____

Referrals for AUD

Does AUD severity influence where you refer patients for internal or external recovery supports? Yes No

How often do you refer patients with AUD to the following internal or external treatment/recovery supports?

	Never	Rarely	Sometimes	Often	Always
OBHS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CHS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
STEP (age-appropriate patients only)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Denver CARES Detox	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Denver CARES TRT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Residential Treatment Facility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sober Living Facility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community Recovery Supports (e.g., AA, SMART Recovery, LifeRing, Recovery Dharma, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other External Treatment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In the previous question, you indicated that you refer patients to "Other" external treatment for AUD. Please list the name/s in the text box. _____

How often do you refer your patients with MILD AUD to the following internal or external treatment/recovery supports?

	Never	Rarely	Sometimes	Often	Always
OBHS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CHS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
STEP (age-appropriate patients only)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Denver CARES Detox	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Denver CARES TRT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Residential Treatment Facility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sober Living Facility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Community Recovery Supports (e.g., AA, SMART Recovery, LifeRing, Recovery Dharma, etc.)

Other External Treatment

In the previous question, you indicated that you refer patients to "Other" external treatment for MILD AUD. Please list the name/s in the text box.

How often do you refer patients with MODERATE AUD to the following internal or external treatment/recovery supports?

	Never	Rarely	Sometimes	Often	Always
OBHS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CHS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
STEP (age-appropriate patients only)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Denver CARES Detox	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Denver CARES TRT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Residential Treatment Facility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sober Living Facility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community Recovery Supports (e.g., AA, SMART Recovery, LifeRing, Recovery Dharma, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other External Treatment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In the previous question, you indicated that you refer patients to "Other" external treatment for MODERATE AUD. Please list the name/s in the text box.

How often do you refer patients with SEVERE AUD to the following internal or external treatment/recovery supports?

	Never	Rarely	Sometimes	Often	Always
OBHS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CHS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
STEP (age-appropriate patients only)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Denver CARES Detox	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Denver CARES TRT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Residential Treatment Facility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sober Living Facility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community Recovery Supports (e.g., AA, SMART Recovery, LifeRing, Recovery Dharma, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other External Treatment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In the previous question, you indicated that you refer patients to "Other" external treatment for SEVERE AUD. Please list the name/s in the text box.

What modalities do you use to refer patients to treatment? Please check all that apply

- Epic SUDT Referral
- Epic InBasket Message
- Epic Chat Message
- CAM Trail Database
- Ownpath
- Treatment resources placed on AVS
- Outlook emails
- Phone calls
- Other

In the previous question, you indicated that you use an "Other" modality to refer patients to treatment. Please list the name/s in the text box.

If you don't have someone on site or dedicated to providing AUD interventions/services, how do you refer patients to care internally or externally?

Is there anything else you would like us to know about AUD treatment?
