Proposed Changes to Existing Measure for HEDIS®[1] MY 2022:
Identification of Alcohol and Other Drug Services (IAD)
Mental Health Utilization (MPT)

NCQA seeks comments on proposed revisions to the HEDIS measures *Identification of Alcohol and Other Drug Services* and *Mental Health Utilization*.

These utilization measures are similar in structure and intent. The IAD measure describes the number and percentage of members who receive a chemical dependency service with a substance use diagnosis during the year; the MPT measure describes the number and percentage of members who receive a mental health service with a mental health diagnosis during the year.

NCQA proposes revisions to clarify the measures' intent: The revised IAD measure captures the percentage of members with diagnosis of a substance-related disorder during the year; the revised MPT measure captures the percentage of members with a diagnosis of a mental health disorder during the year. NCQA also recommends streamlining reporting elements, as described in the table below, to improve interpretability and utility of performance scores.

Measure	Proposed Revisions
Both Measures	• Change measure structure from "utilization" to "diagnosed-prevalence" of substance-related and mental health disorders: – **Denominator:** Change measure calculation method from using member-years to members with one-year continuous enrollment in the denominator – **Numerator:** Remove procedure code requirements and service setting stratifications from the numerator***** • Maintain measures in the "Utilization" domain, but modify reporting guidelines to follow the Guidelines for Effectiveness of Care Measures
IAD Only	• Revise measure name to "Diagnosed Substance-Related Disorders" • Revise the age groups for reporting: – Remove 0-12 years – Collapse stratifications to 13-17, 18-64 and 65+*****
MPT Only	• Revise measure name to "Diagnosed Mental Health Disorders" • Change mental health diagnosis requirement from the "principal" position to "any" position • Remove mental health practitioner requirements from the numerator***** • Revise the age groups for reporting: – Remove 0-5 years – Collapse the child and adolescent stratifications to 6-17*****

***** Proposed revisions marked with an asterisk were not tested, but recommended during reevaluation to streamline reporting requirements and align with the measures' clarified intent.

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NCQA conducted testing in the Medicare and commercial populations to confirm feasibility.

[Both Measures] Testing Results: **Denominator Revision.** NCQA believes that changing the denominator from member years to members is important to improve the validity and interpretability of performance scores. *(**Note:** The performance metric is percentage.)* In testing, NCQA found this revision decreased average denominator size for both measures. In IAD, average denominator size decreased by about 16% for Medicare (from 58,871 member years to 49,518 members) and 38% for commercial plans (from 260,097 member years to 160,834 members). In MPT, average denominator size decreased by about 8% for Medicare (from 69,140 member years to 63,507 members) and 25% for commercial plans (from 452,257 member years to 338,856 members). Despite the reduction, plans still had large average denominator sizes.

With the revised denominator, average performance scores in the IAD measure decreased for both product lines. Depending on drug diagnosis cohort, performance for Medicare plans decreased between 38% and 53% (from 2.6% to 1.6% for Alcohol; from 7.1% to 3.4% for Opioid; from 2.8% to 1.3% for Other Drug) and performance for commercial plans decreased between 13% and 21% (from 1.2% to 1.1% for Alcohol; from 0.7% to 0.6% for Opioid; from 0.8% to 0.7% for Other Drug).

In the MPT measure, the change in denominator also impacted performance scores. Average performance in Medicare plans increased by 25% (from 17.1% to 21.3%) and performance was relatively maintained among commercial plans (around 18%).

[MPT Only] Testing Results: **Numerator Revision.** For the MPT measure, NCQA recommends changing criteria for a mental health diagnosis to be present in “any” claims position, to both align with the IAD measure and more accurately capture the population diagnosed with a mental health disorder. When tested using the original measure calculation of member years in the denominator, results indicated that average performance nearly doubled, from about 7.6% to 17.1% of members diagnosed with a mental health disorder.

NCQA received support from expert panels on the proposed specification changes. NCQA seeks feedback on the proposed changes and on the following questions:

1. Testing results of the IAD measure indicated that substance use disorders are underdiagnosed when compared to prevalence reported by survey-based epidemiological data. Should the measure be maintained for HEDIS reporting?
2. Testing results of the MPT measure did not indicate underdiagnosis of mental health disorders. Should the measure be maintained for HEDIS reporting?

Supporting documents include current measure specification, proposed measure specification and evidence workups.

NCQA acknowledges the contributions of the Geriatric, Behavioral Health and Technical Measurement Advisory Panels.

[Current] Identification of Alcohol and Other Drug Services (IAD)

SUMMARY OF CHANGES TO HEDIS MY 2020 & MY 2021

- Added value sets to identify outpatient or medication treatment.

Description

This measure summarizes the number and percentage of members with an alcohol and other drug (AOD) claim who received the following chemical dependency services during the measurement year:

- Inpatient.
- Intensive outpatient or partial hospitalization.
- Outpatient or medication treatment.
- Emergency department (ED).
- Telehealth.
- Any service.

Calculations

Note: *Members in hospice are excluded from this measure. Refer to General Guideline 17: Members in Hospice.*

Product lines

Report the following tables for each applicable product line:

- Table IAD-1a Total Medicaid.
- Table IAD-1b Medicaid/Medicare Dual-Eligibles.
- Table IAD-1c Medicaid—Disabled.
- Table IAD-1d Medicaid—Other Low Income.
- Table IAD-2 Commercial.
- Table IAD-3 Medicare.

Benefit

Chemical dependency and pharmacy.

Member months

For each product line, report all member months during the measurement year for members with the benefits. Report member months only when the member had both a chemical dependency (any) and a pharmacy benefit.

Categorizing chemical dependency services

Use the instructions below to identify members who had any of the following services during the measurement year:

- Inpatient.
- Intensive outpatient or partial hospitalization.
- Outpatient or medication treatment.
- ED.
- Telehealth.

Count services provided by physician and nonphysician practitioners. Report services by diagnosis category:

- Alcohol disorder (Alcohol Disorders Value Set).
- Opioid disorder (Opioid Disorders Value Set).
- Other or unspecified drug disorders (Other Drug Disorders Value Set).

For members who had more than one service on different dates of service in different service categories (Inpatient, Intensive Outpatient or Partial Hospitalization, Outpatient or Medication Treatment, ED, Telehealth), count only the first encounter in each service category and report the member in the respective age and diagnosis category as of the date of service or discharge. For example, if a member had an outpatient visit and an ED visit on January 5 and a telehealth service on March 5, report the member in the Outpatient, ED and Telehealth service categories.

For members who had more than one diagnosis category for their first encounter in a service category, report the member in all applicable diagnosis categories. For example, if the first visit in the service category includes an alcohol diagnosis code and an opioid diagnosis code, report the member in both the Alcohol and Opioid diagnosis categories.

The Total diagnosis category in the reporting table is not a sum of all diagnoses. Report members with multiple diagnoses only once in the Total diagnosis section of the reporting table.

Any Services. The Any Services category is not a sum of the Inpatient, Intensive Outpatient or Partial Hospitalization, Outpatient/MAT, ED and Telehealth categories. Report members who had an encounter in any listed setting during the measurement year only once per diagnosis in the Any Services category. For example, if a member had an ED visit and a medication treatment dispensing event on the same date of service (for the same diagnosis), report the member only once in the Any Services category.

Report members with more than one diagnosis category on the first date of service in all applicable diagnosis categories in the Any Services category. For example, if a member's earliest encounter had an alcohol diagnosis and an opioid diagnosis code, report the member in both the Alcohol and Opioid diagnoses.

Categorize members in the Any Services category based on their age as of the first eligible encounter in any service category.

When excluding observation and ED visits that result in an inpatient stay, the intent is to not double count events when the diagnosis category is the same for both events. For example, an ED visit for alcohol disorder that resulted in an inpatient stay for alcohol disorder is reported only once in the Inpatient Stay category. However, an ED visit for alcohol disorder that resulted in an inpatient stay for opioid disorder is reported in both the ED category (Alcohol diagnosis category) and the Inpatient Stay category (Opioid diagnosis category). An ED visit for alcohol disorder that resulted in an inpatient stay for something other than an alcohol, opioid or other or unspecified drug disorder (e.g., heart attack) is reported only once in the ED category.

Inpatient

Report acute and nonacute inpatient discharges, including inpatient detoxification, from either a hospital or a treatment facility. To identify acute and nonacute inpatient discharges:

1. Identify all acute and nonacute inpatient stays (Inpatient Stay Value Set).
2. Identify the discharge date for the stay.

Report in the appropriate diagnosis categories based on the diagnosis codes on the discharge claim (do not report discharges that do not include one of these diagnosis codes):

- Alcohol disorder (Alcohol Disorders Value Set).
- Opioid disorder (Opioid Disorders Value Set).
- Other or unspecified drug disorders (Other Drug Disorders Value Set).

Intensive out-patient and partial hospitalization

Report intensive outpatient and partial hospitalization claims/encounters. Any of the following meet criteria:

- IAD Stand Alone IOP/PH Value Set.
- Visit Setting Unspecified Value Set ***with*** Partial Hospitalization POS Value Set.
- Visit Setting Unspecified Value Set ***with*** Community Mental Health Center POS Value Set, where the organization can confirm that the visit was in an intensive outpatient or partial hospitalization setting (this POS code can be used in settings other than intensive outpatient and partial hospitalization).

Report in the appropriate diagnosis categories based on the diagnosis codes for the service (do not report services that do not include one of these diagnosis codes):

- Alcohol disorder (Alcohol Disorders Value Set).
- Opioid disorder (Opioid Disorders Value Set).
- Other or unspecified drug disorders (Other Drug Disorders Value Set).

Note: *Report only in-person services in the Intensive outpatient and partial hospitalization category. Exclude all services billed with a telehealth modifier (Telehealth Modifier Value Set) or billed with a telehealth POS code (Telehealth POS Value Set) from the Intensive Outpatient and Partial Hospitalization category.*

Outpatient or medication treatment

Report outpatient or medication treatment. Any of the following meet criteria:

- IAD Stand Alone Outpatient Value Set.
- Observation Value Set.
- Visit Setting Unspecified Value Set ***with*** Outpatient POS Value Set.
- Visit Setting Unspecified Value Set ***with*** Non-residential Substance Abuse Treatment Facility POS Value Set.
- Visit Setting Unspecified Value Set ***with*** Community Mental Health Center POS Value Set, where the organization can confirm that the visit was in an outpatient setting (this POS code can be used in settings other than outpatient).
- OUD Weekly Non Drug Service Value Set.
- OUD Monthly Office Based Treatment Value Set.

- OUD Weekly Drug Treatment Service Value Set.
- Medication treatment (AOD Medication Treatment Value Set).
- An ambulatory medication treatment dispensing event (Alcohol Use Disorder Treatment Medications List; Opioid Use Disorder Treatment Medications List).

Report in the appropriate diagnosis categories based on the diagnosis codes for the service (do not report services that do not include one of these diagnosis codes). For ambulatory medication treatment dispensing events, report in the diagnosis category identified by the medication list name.

- Alcohol disorder (Alcohol Disorders Value Set).
- Opioid disorder (Opioid Disorders Value Set).
- Other or unspecified drug disorders (Other Drug Disorders Value Set).

Do not include observation visits that result in an inpatient stay (Inpatient Stay Value Set).

Note: *Report only in-person services in the Outpatient category. Exclude all services billed with a telehealth modifier (Telehealth Modifier Value Set) or billed with a telehealth POS code (Telehealth POS Value Set) from the Outpatient category.*

Alcohol Use Disorder Treatment Medications

Description	Prescription
Aldehyde dehydrogenase inhibitor	• Disulfiram (oral)
Antagonist	• Naltrexone (oral and injectable)
Other	• Acamprosate (oral; delayed-release tablet)

Opioid Use Disorder Treatment Medications

Description	Prescription
Antagonist	• Naltrexone (oral and injectable)
Partial agonist	• Buprenorphine (sublingual tablet, injection and implant) • Buprenorphine/naloxone (sublingual tablet, buccal film, sublingual film)

ED

Report ED. Any of the following meets criteria:

- ED Value Set.
- Visit Setting Unspecified Value Set ***with*** ED POS Value Set.
- Visit Setting Unspecified Value Set ***with*** Community Mental Health Center POS Value Set, where the organization can confirm that the visit was in an ED setting (this POS code can be used in settings other than the ED).

Report in the appropriate diagnosis categories based on the diagnosis codes or the service claim (do not report services that do not include one of these diagnosis codes):

- Alcohol disorder (Alcohol Disorders Value Set).
- Opioid disorder (Opioid Disorders Value Set).
- Other or unspecified drug disorders (Other Drug Disorders Value Set).

Do not include ED visits that result in an inpatient stay (Inpatient Stay Value Set).

Note: *Report only in-person services in the ED category. Exclude all services billed with a telehealth modifier (Telehealth Modifier Value Set) or billed with a telehealth POS code (Telehealth POS Value Set) from the ED category.*

Telehealth

Report telehealth. Any of the following meet criteria:

- Telephone Visits Value Set.
- Online Assessments Value Set.
- IAD Stand Alone Outpatient Value Set ***with*** (Telehealth Modifier Value Set; Telehealth POS Value Set).
- Visit Setting Unspecified Value Set ***with*** (Telehealth Modifier Value Set; Telehealth POS Value Set).

Report in the appropriate diagnosis categories based on the diagnosis codes for the service (do not report services that do not include one of these diagnosis codes):

- Alcohol disorder (Alcohol Disorders Value Set).
- Opioid disorder (Opioid Disorders Value Set).
- Other or unspecified drug disorders (Other Drug Disorders Value Set).

Note

- *Supplemental data may not be used for this measure.*

Table IAD-1/2/3: Identification of Alcohol and Other Drug Services

Member Months			
Age	**Male**	**Female**	**Total**
0-12			
13-17			
18-24			
25-34			
35-64			
65+			
Unknown			
Total			

			Any Service		Inpatient		Intensive Outpatient/Partial Hospitalization		Outpatient/ Medication Treatment		ED		Telehealth	
Diagnosis	**Age**	**Sex**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Alcohol	0-12	Male												
		Female												
		Total												
	13-17	Male												
		Female												
		Total												
	18-24	Male												
		Female												
		Total												
	25-34	Male												
		Female												
		Total												

Diagnosis	Age	Sex	Any Service		Inpatient		Intensive Outpatient/Partial Hospitalization		Outpatient/ Medication Treatment		ED		Telehealth	
			Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
	35-64	Male												
		Female												
		Total												
	65+	Male												
		Female												
		Total												
	Un-known	Male												
		Female												
		Total												
	Total	Male												
		Female												
		Total												
Opioid	0-12	Male												
		Female												
		Total												
	13-17	Male												
		Female												
		Total												
	18-24	Male												
		Female												
		Total												
	25-34	Male												
		Female												
		Total												

Diagnosis	Age	Sex	Any Service		Inpatient		Intensive Outpatient/Partial Hospitalization		Outpatient/ Medication Treatment		ED		Telehealth	
			Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
	35-64	Male												
		Female												
		Total												
	65+	Male												
		Female												
		Total												
	Un-known	Male												
		Female												
		Total												
	Total	Male												
		Female												
		Total												
Other	0-12	Male												
		Female												
		Total												
	13-17	Male												
		Female												
		Total												
	18-24	Male												
		Female												
		Total												
	25-34	Male												
		Female												
		Total												

Diagnosis	Age	Sex	Any Service		Inpatient		Intensive Outpatient/Partial Hospitalization		Outpatient/ Medication Treatment		ED		Telehealth	
			Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
	35-64	Male												
		Female												
		Total												
	65+	Male												
		Female												
		Total												
	Un-known	Male												
		Female												
		Total												
	Total	Male												
		Female												
		Total												
Total	0-12	Male												
		Female												
		Total												
	13-17	Male												
		Female												
		Total												
	18-24	Male												
		Female												
		Total												
	25-34	Male												
		Female												
		Total												

Diagnosis	Age	Sex	Any Service		Inpatient		Intensive Outpatient/Partial Hospitalization		Outpatient/ Medication Treatment		ED		Telehealth	
			Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
	35-64	Male												
		Female												
		Total												
	65+	Male												
		Female												
		Total												
	Un-known	Male												
		Female												
		Total												
	Total	Male												
		Female												
		Total												

[Proposed] Diagnosed Substance Use-Related Disorders (IAD)

SUMMARY OF CHANGES TO HEDIS MY 2022

- Revised measure's name from *Identification of Alcohol and Other Drug Use Services* to *Diagnosed Substance Use-Related Disorders*
- Revised the measure's structure from Utilization to Diagnosed Prevalence.
- Revised measure guidance to follow guidelines for Effectiveness of Care measures
- Updated the calculation method of the percentage rate (using member-months) to a member-based calculation.
- Removed procedure codes from the numerator criteria.
- Removed the service setting stratifications.
- Collapsed age stratifications to report three age groups and a total group: "13-17", "18-64", "65 and older", and "Total".
- Revised the *Rules for Allowable Adjustments* section.

Description

The percentage of members 13 years of age and older who were diagnosed with a substance use disorder during the measurement year. Four rates are reported:

1. The percentage of members diagnosed with an alcohol disorder
2. The percentage of members diagnosed with an opioid disorder
3. The percentage of members diagnosed with a disorder for other or unspecified drugs
4. The percentage of members diagnosed with any substance use disorder

Eligible Population

Product lines	Commercial, Medicaid, Medicare (report each product line separately).
Age	13 and older as of December 31 of the measurement year. Report three age stratifications and a total rate. The total is the sum of the age stratifications. • 13-17 • 18–64 years. • 65 years and older. • Total. The total is the sum of the age stratifications.
Continuous enrollment	The measurement year.

Allowable gap	Members who have had no more than one gap in enrollment of up to 45 days during the measurement year. To determine continuous enrollment for a Medicaid member for whom enrollment is verified monthly, the member may not have more than a 1-month gap in coverage (i.e., a member whose coverage lapses for 2 months [60 days] is not considered continuously enrolled).
Anchor date	None.
Benefit	Chemical dependency and pharmacy.
Event/diagnosis	None.

Administrative Specification

Denominator	The eligible population.
Numerator	
Categorizing diagnoses	For members who had more than one claim on different dates of service with different diagnosis categories (alcohol, opioid, other drug), count only the first encounter in each diagnosis category and report the member in the respective age and diagnosis category as of the date of service or discharge. For example, if a member had a visit with an alcohol use disorder on January 5 and a visit with an opioid use disorder on March 5, report the member in the alcohol and opioid use disorder indicators. For members who had more than one diagnosis category for their first encounter in the year, report the member in all applicable diagnosis categories. For example, if the first visit in the year includes an alcohol and an opioid use disorder, report the member in both the Alcohol and Opioid diagnosis indicators. For members who had more than one substance use disorder claim in the same diagnosis category during the measurement year, count only the first claim in each indicator. The "Any Substance Use Disorder" indicator is not a sum of all diagnoses. Report members with multiple diagnoses only once in the Any diagnosis indicator.
Alcohol Use Disorder	Members who had an alcohol disorder diagnosis (Alcohol Disorders Value Set) ***or*** were dispensed medication for an alcohol disorder (Alcohol Use Disorder Treatment Medications List) during the measurement year.
Opioid Use Disorder	Members who had an opioid disorder diagnosis (Opioid Disorders Value Set) ***or*** were dispensed medication for an opioid disorder (Opioid Use Disorder Treatment Medications List) during the measurement year.
Other Drug Use Disorder	Members who had a diagnosis for other or unspecified drug use disorder during the measurement year (Other Drug Disorders Value Set).
Any Substance Use Disorder	Members who had any substance use disorder diagnosis or who were dispensed a medication for substance use disorder during the measure year. Any of the following meet criteria: • Alcohol Disorders Value Set. • Alcohol Use Disorder Treatment Medications List.

- Opioid Disorders Value Set.
- Opioid Use Disorder Treatment Medications List.
- Other Drug Disorders Value Set.

This indicator is not a sum of the alcohol, opioid, and other drug use disorder. Count a member with multiple substance use disorders only once in the "Any Substance Use Disorder" indicator.

Alcohol Use Disorder Treatment Medications

Description	Prescription
Aldehyde dehydrogenase inhibitor	• Disulfiram (oral)
Antagonist	• Naltrexone (oral and injectable)
Other	• Acamprosate (oral; delayed-release tablet)

Opioid Use Disorder Treatment Medications

Description	Prescription
Antagonist	• Naltrexone (oral and injectable)
Partial agonist	• Buprenorphine (sublingual tablet, injection and implant) • Buprenorphine/naloxone (sublingual tablet, buccal film, sublingual film)

Note

- *For members in the "Other Drug Use Disorder" indicator, medication treatment does not meet numerator criteria.*
- *Methadone is not included in the medication lists for this measure. Methadone for opioid use disorder is only administered or dispensed by federally certified opioid treatment programs and does not show up in pharmacy claims data. A pharmacy claim for methadone would be more indicative of treatment for pain than treatment for an opioid use disorder; therefore they are not included in the medication lists.*

Data Elements for Reporting

Organizations that submit HEDIS data to NCQA must provide the following data elements.

Table IAD-1/2/3: Data Elements for Identification of Alcohol and Other Drug Services

	Administrative
Measurement year	✓
Eligible population	*For each age stratification and total*
Numerator events by administrative data	*Each of the four rates for each age stratification and total*
Reported rate	*Each of the four rates for each age stratification and total*

Identification of Alcohol and Other Drug Services (IAD) and *Initiation and Engagement of Alcohol and Other Drug Abuse or Dependence Treatment (IET)*

Measure Workup

Topic Overview

The HEDIS measure *Identification of Alcohol and Other Drug Services (IAD)* describes the percentage of members diagnosed with an alcohol, opioid or other drug disorder in the year. The measure provides information on the diagnosed prevalence of substance use disorders (SUD) in a health plan's population—adding insight into the potential underdiagnosis of SUD and the approximate population size assessed by SUD quality measures.

Initiation and Engagement of Alcohol and Other Drug Abuse or Dependence Treatment (IET) assesses the degree to which members with an SUD initiate and engage in treatment. The measure provides health plan-level data related to access of SUD treatment, both at an aggregate level and across different SUD diagnoses (opioid use disorder [OUD], alcohol use disorder [AUD], other drug use disorders). Plans may use this data to target education and outreach efforts and strengthen patient access to care.

Prevalence and Importance

Prevalence

In 2018, 20.3 million individuals in the U.S. 12 years of age or older (approximately 7.4% of the population) were classified as having an SUD within the past year (SAMHSA, 2019). SUD is characterized as impairment caused by recurrent use of alcohol or other drugs (or both), which may include health problems, disability and failure to meet major responsibilities (e.g., at work, school or home) (SAMHSA, 2019). Commonly misused substances include alcohol, illicit drugs, marijuana, prescription pain relievers, cocaine, methamphetamine, heroin and stimulants (SAMHSA, 2019). SUDs can be mild, moderate or severe, according to the *Diagnostic and Statistical Manual of Mental Disorders,* Fifth Edition (DSM-5) (SAMHSA, 2015).

The number of Americans classified with an SUD remained relatively steady from 2015–2018 (22.7 million-20.3 million) (SAMHSA 2016; SAMHSA 2019).

According to the National Survey on Drug Use and Health (NSDUH), in 2018, 14.8 million individuals over 12 years of age were classified with AOD (SAMHSA, 2019). One in 10 deaths among working adults in the U.S. is due to alcohol misuse (HHS, 2016).

In 2018, 2.0 million people were classified as having an OUD, which includes two categories of drugs: heroin and prescription pain relievers (SAMHSA, 2019). In 2017, drug overdose accounted for more than 70,200 deaths in the U.S. 67.8% were related to opioid use (NIDA, 2018b).

Other drug use disorders include marijuana, tranquilizer, stimulant, cocaine and methamphetamine use disorders. In 2018, 8.1 million individuals over 12 years were classified with an illicit drug use disorder (SAMHSA, 2019). Of the 20.3 million individuals with an SUD in the U.S., marijuana represents the most common illicit drug use disorder (4.4 million individuals) (SAMHSA, 2019).

An estimated 2.7 million people had both an AUD and an illicit drug use disorder in the past year, representing about 1 out of 8 persons who had an SUD in the past year (SAMHSA, 2018a).

Of the 20.3 million people 12 years and older with an SUD in 2018, 3.7 million received any substance use treatment in the past year; 2.4 million of these received treatment in a specialty SUD program (SAMHSA, 2019). 5.5% of adults who felt they needed SUD treatment did not receive it (SAMHSA, 2018a). The most common reasons for not receiving SUD treatment among those who identified a need for treatment were related to being unready to discontinue drug use and lacking health care coverage to afford SUD treatment (SAMHSA, 2018a).

Severity and comorbidities

With the release of the DSM-5, the American Psychiatric Association collapsed the abuse and dependence designations into a single SUD severity index (mild, moderate, severe) (Kopak, 2014). Mild SUDs often respond to brief motivational interventions and supportive monitoring (SAMHSA & Office of the Surgeon General, 2016). In contrast, severe, complex and chronic SUDs often require specialty treatment and continued post-treatment support to achieve full remission and recovery (SAMHSA & Office of the Surgeon General, 2016).

SUD severity is further complicated by comorbidity with other conditions. Comorbidity with mental health conditions is common in the SUD population and the presence of co-occurring conditions increases severity and complicates recovery (Quello, 2005; Kelly, 2013; Lai, 2015). Findings from NSDUH indicate that in 2018, about 47.7% of adults (9.2 million) with an SUD had a co-occurring mental illness (any mental illness or serious mental illness) (SAMHSA, 2019). Although there are fewer studies among adolescents, past research suggests that over 60% of adolescents in community-based SUD treatment programs meet diagnostic criteria for another mental illness (Hser et al., 2001). Narrowing mental illness to major depressive episode (MDE) alone, data from the 2018 NSDUH report indicates that about 44% of adolescents 12–17 with an SUD have a co-occurring MDE (1.5% of the adolescent population) (SAMHSA, 2019).

Research continues to highlight the need for targeted treatment for individuals with polysubstance use disorder (poly SUD). Individuals with poly SUD are more likely to exhibit health complications and utilize high-intensity services such as psychiatric inpatient care and residential and rehabilitative treatment (Jeffirs, 2019; Bhalla, 2017). In a recent study analyzing veterans living with SUDs, about 2.7% of veterans lived with 4 or more SUDs and approximately 24% lived with 2–3 SUDs (Bhalla, 2017). Studies find that multiple SUDS are more prevalent among males, African Americans, Native Americans, Whites and younger adults (McCabe, 2017).

The National Epidemiologic Survey on Alcohol and Related Conditions found that the majority of past-year non-alcohol SUDs were accompanied by at least one co-occurring SUD, ranging from about 56.8% for prescription OUD to 97.5% for hallucinogen use disorder (Hasin, 2016; McCAbe, 2017). One study indicated that approximately 12% of study participants had a high-moderate prevalence of SUDs for tobacco, alcohol and cannabis, while 4.3% of members had a high prevalence of SUDs for tobacco, opioids and cocaine (John, 2018).

It is estimated that roughly 64% of cocaine users also engage in illicit cannabis use, while concurrent alcohol use among cocaine users is 77% (Liu, 2018).

Health importance

Individuals with SUD are at increased risk of overdose, injury, soft tissue infections and mortality (Bahorik, 2017). Treatment of medical problems caused by SUD and mental health comorbidities places a significant burden on the health care system, but interventions may help diminish the social and economic impact (SAMHSA, 2013; HHS, 2016).

Guidelines recommend that individuals with SUD receive patient-centered and timely follow-up care to reduce negative health outcomes, such as disengagement from the health care system and substance use relapse (Appendix). Many traditional forms of SUD treatment (e.g., methadone maintenance, therapeutic communities, outpatient drug-free treatment) have been shown to be effective. Benefits typically extend beyond reduction of substance misuse to reduced crime, reduced risk of infectious diseases and improved patient function (Pew, 2016).

The primary goals of SUD treatment are abstinence, relapse prevention, rehabilitation and recovery (NIDA, 2018a). Individuals who receive timely follow-up care may be more likely to complete treatment or receive more days of treatment than those who leave care prematurely (Proctor & Herschman, 2014).

Evidence Related to Outcomes

Evidence supporting engagement of treatment

Engaging in treatment is an intermediate step between initially accessing care and completing a full course of treatment. Several studies have explored the association between key outcomes (e.g., mortality, criminal justice involvement, addiction severity) and initiation, engagement and continuation of SUD treatment. In a study of VA beneficiaries with SUD, both initiation and engagement in treatment were associated with decreased odds of both 12- and 24-month mortality (Paddock, et al., 2017). In another study of VA beneficiaries, individuals with both SUD and co-occurring mental health conditions who engaged in treatment (defined as the *Initiation and Engagement* “engagement” numerator) and in ongoing continuity of care (defined as at least one visit per quarter over the measurement year) had lower odds of mortality at both 12 and 24 months (Watkins, et al., 2016).

Decreased odds of mortality at both 12 and 24 months were also observed in another study of VA beneficiaries with SUD who engaged in ongoing continuity of care (quarterly visits over a year) (Watkins, et al., 2017). A cohort study among VA SUD program patients found that the engagement indicator of the *Initiation and Engagement* measure was modestly associated with improvement in patient scores on the Addiction Severity Index (Harris, et al., 2010). In a study of adult clients treated in publicly funded state SUD outpatient programs, engagement in SUD treatment (defined as the *Initiation and Engagement* “engagement” numerator) was associated with lower risk of criminal justice involvement (subsequent arrest and incarceration) (Garnick, et al., 2007),

Research shows that treatment reduces drug use, improves health outcomes, improves job performance, reduces involvement with the criminal justice system, reduces family dysfunction and mortality and improves quality of life (Frederic, 2010; SAMHSA, 2006; Garnick et al., 2007, Watkins et al., 2017).

For individuals with co-occurring SUD and mental illness, evidence is lacking on an ideal approach to treatment (Antai-Ontong et al., 2016; Hunt et al., 2014). Literature suggests that although no single intervention has been shown to be consistently superior over another, individuals with co-occurring SMI require additional attention and consideration. Effective treatment includes a combination of medication and addiction-based psychosocial interventions, with an emphasis on patient retention and ongoing monitoring (Cockford and Addington, 2017).

Treatment options

Psychosocial care is regarded as standard treatment for SUD: addiction-focused counseling, comprehensive treatment programs that include counseling, cognitive behavioral therapy, other psychosocial therapies, social supports and mutual help groups (Appendix).

Medication-assisted treatment (MAT) is defined as the use of medications to treat SUDs in conjunction with psychosocial interventions (e.g., behavioral therapy) (SAMHSA, 2016). The majority of guidelines recommend FDA-approved medications for AUD and OUD (Appendix*)*. Table 1 includes a complete list of medications used for pharmacotherapy, stratified by substance dependency.

According to a systematic review, MAT is typically categorized by intended use for AUD or OUD and specified by treatment stage (assessment, management, detoxification, maintenance) (Pietras et al., 2015).

Pharmacotherapy for AUD can be prescribed by any treatment provider. Pharmacotherapy for OUD is more regulated (specifically, methadone and buprenorphine). Methadone is only dispensed in federally approved Opioid Treatment Programs (OTP) that provide comprehensive treatment services, including psychotherapy, for individuals with SUD (ASAM, 2014). Buprenorphine can be administered and prescribed in OTPs, as well as by any licensed physician in an office setting who has a waiver from the Substance Abuse and Mental Health Services Administration (SAMHSA) (Alderks, 2017; ASAM, 2014; SAMHSA, 2016).

Some guidelines still recommend the use of pharmacotherapy in conjunction with psychosocial care. Newer guidelines, such as the 2020 American Society for Addiction Medicine OUD guideline *Focused Update* (Kampman & Freedman, 2020), as well as a growing body of evidence, recommend pharmacotherapy as an effective sole treatment modality for individuals with AUD and OUD (Mattick, 2009; Carroll, 2016; Dugosh, 2016).

The majority of the clinical practice guideline recommendations are consensus-based.

Table 1: Guideline-Recommended and FDA-Approved Pharmacotherapy for Use in Treatment of Alcohol and Opioid Use Disorders

Alcohol Use Disorder Treatment Medications

Description	Prescription
Aldehyde dehydrogenase inhibitor	• Disulfiram (oral)
Antagonist	• Naltrexone (oral and injectable)
Other	• Acamprosate (oral; delayed-release tablet)

Opioid Use Disorder Treatment Medications

Description	Prescription
Antagonist	• Naltrexone (oral and injectable)
Partial agonist	• Buprenorphine (sublingual tablet, injection, implant) • Buprenorphine/naloxone (sublingual tablet, buccal film, sublingual film)

Gap in Quality of Care and Disparities

Health care disparities

Illicit drug use in 2017 varied by educational status. While the rate of illicit drug use in the past year among adults 18 or older saw little variation by educational status, adults who graduated from college were more likely to have tried illicit drugs in their lifetime, compared with adults who had not completed high school (53.7% vs. 39.0%) (SAMHSA, 2018b). However, the rate of illicit drug use "in the past year" among adults who had not completed high school increased from 16.1% in 2016 to 17% in 2017 (SAMSHA, 2018b).

In 2017, the rate of illicit drug use among persons 12 years of age or older differed by race and ethnicity. Non-Hispanic or Latino persons had higher rates of illicit drug use than Hispanic or Latino persons (19.3% compared to 17.5%) (SAMHSA, 2018b). Among non-Hispanic or Latino persons, American Indian/Alaskan Natives had the highest rate of illicit drug use (29.3%) compared to Blacks (20.5%), Whites (19.7%), Native Hawaiian/Other Pacific Islanders (12.7%) and Asians (9.5%) in the past year (SAMSHA, 2018b).

The Centers for Medicare & Medicaid Services Office of Minority Health, in collaboration with the RAND Corporation, releases the *Racial and Ethnic Disparities in Health Care in Medicare Advantage* report each year to highlight disparities in national health care quality (CMS, 2018). The report includes data on Medicare beneficiaries collected through clinical care measures and patient experience measures, including IET. Clinical care data is reported for Medicare Advantage beneficiaries via medical records and insurance claims for hospitalizations, medical office visits and procedures. In 2016, IET results indicated that Asians or Pacific Islanders and Hispanics initiated treatment within 14 days of a new episode and diagnosis of SUD less frequently than Whites (CMS, 2018). Overall, 19.2% of Asians or Pacific Islanders, 18.2% of Hispanics and 29.5% of Whites initiated appropriate treatment (CMS, 2018).

In 2014, Asian or Pacific Islander patients and Hispanic patients with a new episode of SUD and who initiated treatment were less likely than White patients to have had two or more additional services within 30 days of the initiation visit. Overall, 1.6% of Asian and Pacific Islanders,1.9% of Hispanic and 2.2% of Whites had two or more additional services for their new diagnosis of SUD after initiation of treatment (CMS, 2018). Conversely, Blacks (27.0%) were more likely than Whites (26.1%) to initiate treatment within 14 days of an SUD diagnosis (CMS, 2018). However, Blacks (1.9%) were less likely than Whites (2.2%) to engage in treatment (i.e., two or more additional services with a diagnosis of SUD within 30 days of the initiation of treatment), according to 2014 findings (CMS, 2018).

Currently, SUD is underreported in administrative data (Fairman, 2017; Thomas, 2018). One study found that 1% of emergency department (ED) patients received a diagnosis of SUD recorded in administrative ED records, while 27% of ED patients needed treatment based on a separate assessment of substance use and toxicology (Rockett, 2003). Underreporting can occur due to stigma, reimbursement policies and confidentiality concerns (Fairman, 2017).

Gaps in care

Data from the most recent NSDUH highlights common reasons why individuals with an SUD do not access treatment: 40% said that they were not ready to stop using and 30% indicated that they did not have health care coverage or could not incur the expense of treatment (SAMHSA, 2018). Other frequently cited reasons for not receiving treatment included fear that SUD treatment could have a negative effect on their employment (20%), fear of stigma (17%), the feeling that they could self-treat their diagnosis (13%) and not knowing where to go for treatment (11%) (SAMHSA, 2018).

Because individuals who use substances are more likely to seek ED care than nonusers, the ED presents an opportunity for initiation and engagement in treatment (Blow, 2010). One study found that with ED-initiated buprenorphine and a brief negotiation interview (BNI), almost 80% of patients accessed OUD treatment within 30 days, compared to 37% with referral only or 45% with a BNI and facilitated referral (D'Onofrio, 2015). Despite the promising results, literature suggests that even referrals from the ED to SUD treatment programs are uncommon (Samuels, 2016).

Although evidence-based and guideline-supported, pharmacotherapy for AUD and OUD is an underutilized treatment option. Studies estimate that fewer than 14% of individuals with AUD receive pharmacotherapy (Williams, 2019). Identified barriers to the use of AUD pharmacotherapy include lack of provider education on prescribing and stigma and bias against pharmacotherapy as a treatment modality (Williams, 2018). Literature suggests that fewer than 40% of U.S. residents over 12 years of age with an OUD diagnosis receive pharmacotherapy (Volkow, 2014). Identified impediments to the use of OUD pharmacotherapy include gaps between treatment need and provider capacity, insurance coverage and reimbursement, stigma and bias against pharmacotherapy use and access to providers and treatment facilities (Jones, 2015; ASAM, 2016).

While evidence underscores the benefits of integrated mental health and SUD treatment for those living with co-occurring SUD and mental health conditions, gaps in care persist. National surveys indicate that in 2018, 9.2 million adults lived with both a mental illness and an SUD diagnosis, yet more than 90% of these individuals did not receive services for both conditions (SAMHSA, 2019a). Literature shows that although dual-diagnosis treatments are effective in improving care outcomes, basic interventions such as training staff in dual-diagnosis care and developing a phased approach to treatment are rarely integrated into mental health programs (SAMHSA, 2009). The 2018 National Mental Health Services Survey found that only 46% of mental health service facilities provided treatment for individuals with co-occurring conditions, despite the fact that the proportion of individuals with co-occurring conditions had increased in recent years (SAMHSA, 2019b).

Financial Impact

Total overall costs of substance misuse and SUDs in the U.S., including loss of work productivity, direct health care expenditures and crime-related costs, exceeds $400 billion annually (NIDA, 2017). Conservative estimates suggest that for every dollar invested in addiction treatment programs, between $4 and $7 are directly returned in decreased drug-related crime, criminal justice costs and theft (NIDA, 2018c).

Using NSDUH data from 2009–2013, annual hospitalization costs were estimated to be $1,122 per person among those with an AUD (17.6 million people) and $2,783 per person among those with an SUD involving another illicit drug (3.5 million people) (Gryczynski et al., 2016). In 2011, Medicaid readmissions for alcohol-related disorders and substance-related disorders cost $141 million and $103 million, respectively (Hines, et al., 2014).

References

Alderks, C.E. August 22, 2017. "Trends in the Use of Methadone, Buprenorphine, and Extended-release Naltrexone at Substance Abuse Treatment Facilities: 2003–2015 (Update)." *The CBHSQ Report.* Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Rockville, MD.

American Society of Addiction Medicine. 2016. *Access to Medications Talking Points*. https://www.asam.org/docs/default-source/advocacy/mat-talking-points-final.pdf?sfvrsn=0

Antai-Otong, D., K. Theis, & D.D. Patrick. 2016. "Dual Diagnosis: Coexisting Substance Use Disorders and Psychiatric Disorders." *The Nursing Clinics of North America*, 51(2), 237–47.

ASAM. 2014. *Public Policy Statement on Office-Based Opioid Agonist Treatment (OBOT).* https://www.asam.org/docs/default-source/public-policy-statements/1obot-treatment-7-04.pdf?sfvrsn=0

Bahorik, A.L., D.D. Satre, A.H. Kline-Simon, C.M. Weisner, C.L. Campbell. 2017. "Alcohol, Cannabis, and Opioid Use Disorders, and Disease Burden in an Integrated Health Care System." *J Addiction Medicine* 11(1),3–9.

Bhalla, I.P., E.A. Stefanovics, & R.A. Rosenheck, R. A. 2017. "Clinical Epidemiology of Single Versus Multiple Substance Use Disorders: Polysubstance Use Disorder." *Medical Care* 55, S24–32.

Blow, F.C., M.A. Walton, R. Murray, R.M. Cunningham, S.T. Chermack, K.L. Barry, ... & B.A.M. Booth. 2010. "Intervention Attendance Among Emergency Department Patients with Alcohol-and Drug-Use Disorders." *Journal of Studies on Alcohol and Drugs* 71(5), 713–19.

Carroll, K.M., & R.D. Weiss. 2016. "The Role of Behavioral Interventions in Buprenorphine Maintenance Treatment: A Review." *American Journal of Psychiatry* 174(8), 738–47.

Centers for Medicare & Medicaid Services Office of Minority Health. 2018. *Racial, Ethnic, and Gender Disparities in Health Care and Medicare Advantage*. Baltimore, MD.

Crockford, D., & D. Addington. 2017. "Canadian Schizophrenia Guidelines: Schizophrenia and Other Psychotic Disorders with Coexisting Substance Use Disorders." *Canadian Journal of Psychiatry* 62(9),624–34.

D'Onofrio, G., P.G. O'Connor, M.V. Pantalon, M.C. Chawarski, S.H. Busch, P.H. Owens, ... & D.A. Fiellin. 2015. "Emergency Department–Initiated Buprenorphine/Naloxone Treatment for Opioid Dependence: A Randomized Clinical Trial." *JAMA* 313(16), 1636–44.

Dugosh, K., A. Abraham, B. Seymour, K. McLoyd, M. Chalk, & D. Festinger. 2016. "A Systematic Review on the Use of Psychosocial Interventions in Conjunction with Medications for the Treatment of Opioid Addiction." *Journal of Addiction Medicine* 10(2), 91.

Fairman, B.J., S. Hwang, P.K. Alexandre, J.J. Gallo, & W.W. Eaton. 2017. "Costs of Substance Use Disorders from Claims Data for Medicare Recipients from a Population-Based Sample." *Journal of Substance Abuse Treatment* 77, 174–7.

Frederic, C.B., S.J. Bartels, L.M. Brockmann, A.D. Van Citters. 2010. *Evidence-Based Practices for Preventing Substance Abuse and Mental Health Problems in Older Adults*. Excerpt: "Prevention of Substance Misuse Problems: Alcohol Misuse." www.public-health.uiowa.edu/icmha/.../Evidence-basedCareForAlcohol.DOC (June 10, 2011)

Garnick, D.W., C.M. Horgan, M.T. Lee, L. Panas, G.A. Ritter, S. Davis, T. Leeper, R. Moore, M. Reynolds. 2007. "Are Washington Circle Performance Measures Associated with Decreased Criminal Activity Following Treatment?" *J Subst Abuse Treat* Dec,33(4),341–52.

Gryczynski, J., R.P. Schwartz, K.E. O'Grady, L. Restivo, S.G. Mitchell, J.H. Jaffe. 2016. "Understanding Patterns Of High-Cost Health Care Use Across Different Substance User Groups." *Health Aff (Millwood)*,35(1), 12–19.

Harris, A.H.S., K. Humphreys, T. Bowe, Q. Tiet, J.W. Finney. 2010. "Does Meeting the HEDIS Substance Abuse Treatment Engagement Criterion Predict Patient Outcomes?" *Journal of Behavioral Health Services and Research.*

Hasin, D.S., B.T. Kerridge, T.D. Saha, B. Huang, R. Pickering, S.M. Smith, J. Jung, H. Zhang, & B.F. Grant. 2016. "Prevalence and Correlates of DSM-5 Cannabis Use Disorder, 2012-2013: Findings from the National Epidemiologic Survey on Alcohol and Related Conditions–III." *American Journal of Psychiatry* 173(6), 588–99.

Hines, A., M. Barrett, H. Joanna Jiang, C. Steiner. 2014. "Conditions With the Largest Number of Adult Hospital Readmissions by Payer, 2011." *Agency for Healthcare Research and Quality. Healthcare Cost and Utilization Project (HCUP).* https://www.hcup-us.ahrq.gov/reports/statbriefs/sb172-Conditions-Readmissions-Payer.jsp

Hser, Y.I., C.E. Grella, R.L. Hubbard, S.C. Hsieh, B.W. Fletcher, B.S. Brown, M.D. Anglin. 2001. "An Evaluation of Drug Treatments for Adolescents in 4 US Cities." *Arch Gen Psychiatry* 58(7),689–95.

Hunt, G.E., N. Siegfried, K. Morley, T. Sitharthan, M. Cleary. 2013. “Psychosocial Interventions for People with Both Severe Mental Illness and Substance Misuse.” *The Cochrane Database of Systematic Reviews* (10):CD001088.

Institute of Medicine (IOM). 1990. *Broadening the Base of Treatment for Alcohol Problems.* Washington, DC: National Academy Press.

Jeffirs, S.M., A.M. Jarnecke, J.C. Flanagan, T.K. Killeen, T.F. Laffey, & S.E. Back. 2019. “Veterans with PTSD and Comorbid Substance Use Disorders: Does Single Versus Poly-Substance Use Disorder Affect Treatment Outcomes?” *Drug and Alcohol Dependence* 199, 70–5.

John, W.S., H. Zhu, P. Mannelli, R.P. Schwartz, G.A. Subramaniam, & L.-T. Wu. 2018. “Prevalence, Patterns, and Correlates of Multiple Substance Use Disorders Among Adult Primary Care Patients.” *Drug and Alcohol Dependence* 187, 79–87.

Jones, C.M., M. Campopiano, G. Baldwin, & E. McCance-Katz. 2015. “National and State Treatment Need and Capacity for Opioid Agonist Medication-Assisted Treatment.” *American Journal of Public Health* 105(8), e55–e63. https://doi.org/10.2105/AJPH.2015.302664

Kampman, K., K. Freedman. 2020. “American Society of Addiction Medicine (ASAM) National Practice Guideline for the Treatment of Opioid Use Disorder: 2020 Focused Update." *Journal of Addiction Medicine* 14, no. 2S: 1–91. https://doi.org/10.1097/ADM.0000000000000633

Kelly, T.M., & D.C. Daley. 2013. “Integrated Treatment of Substance Use and Psychiatric Disorders.” *Social Work in Public Health* 28(3-4), 388–406.

Kopak, A.M., S.L. Proctor, & N.G. Hoffmann. 2014. “The Elimination of Abuse and Dependence in DSM-5 Substance Use Disorders: What Does This Mean for Treatment?” *Current Addiction Reports* 1(3), 166–71.

Lai, H.M.X., M. Cleary, T. Sitharthan, & G.E. Hunt. 2015. “Prevalence of Comorbid Substance Use, Anxiety and Mood Disorders in Epidemiological Surveys, 1990–2014: A Systematic Review and Meta-Analysis.” *Drug and Alcohol Dependence* 154, 1–13.

Lee, M.T., C.M. Horgan, D.W. Garnick, A. Acevedo, L. Panas, G.A. Ritter, . . . M. Reynolds. 2014. *A Performance Measure for Continuity of Care After Detoxification: Relationship With Outcomes.* 47(2), 130–9. doi: 10.1016/j.jsat.2014.04.002.

Liu, Y., V. Williamson, B. Setlow, L.B. Cottler, & L.A. Knackstedt. 2018. “The Importance of Considering Polysubstance Use: Lessons from Cocaine Research.” *Drug and Alcohol Dependence* 192, 16–28.

Mattick, R.P., C. Breen, J. Kimber, & M. Davoli. 2009. “Methadone Maintenance Therapy versus No Opioid Replacement Therapy for Opioid Dependence.” *Cochrane Database of Systematic Reviews* (3).

Mattson, M.E., & S. Lynch,. 2015. “The CBHSQ Report: Medication Prescribing and Behavioral Treatment for Substance Use Disorders in Physician Office Settings.” *Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality*. Rockville, MD.

McCabe, S.E., B.T. West, E.M. Jutkiewicz, & C.J. Boyd. 2017. “Multiple DSM-5 Substance Use Disorders: A National Study of US Adults.” *Human Psychopharmacology: Clinical and Experimental* 32(5), e2625.

National Institute on Drug Abuse (NIDA). 2018a. *Drugs, Brains, and Behavior: The Science of Addiction.* https://www.drugabuse.gov/publications/drugs-brains-behavior-science-addiction/treatment-recovery

NIDA. 2018b. *Overdose Death Rates.* https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates

NIDA. 2018c. *Principles of Drug Addiction Treatment: A Research-Based Guide* (Third Edition). https://www.drugabuse.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition

NIDA. 2017. *Trends & Statistics.* National Institute on Drug Abuse. https://www.drugabuse.gov/related-topics/trends-statistics#supplemental-references-for-economic-costs

Paddock, S.M., K.A. Hepner, T. Hudson, et al. 2017. “Association Between Process-Based Quality Indicators and Mortality for Patients with Substance Use Disorders.” *J Stud Alcohol Drugs* 78:588–96.

Pew. 2016. *Medication-Assisted Treatment Improves Outcomes for Patient with Opioid Use Disorder*. https://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2016/11/medication-assisted-treatment-improves-outcomes-for-patients-with-opioid-use-disorder#1-background

Pietras, S., M. Azur, J. Brown. 2015. *Review of Medication-Assisted Treatment Guidelines and Measures for Opioid and Alcohol Use.* ASPE. Report prepared by Mathematica Policy Research for the U.S. Department of Health and Human Services, Assistant Secretary for Planning and Evaluation, Office of Disability, Aging and Long-Term Care Policy. https://aspe.hhs.gov/sites/default/files/pdf/205171/MATguidelines.pdf (November 16, 2016)

Quello, S.B., K.T. Brady, & S.C. Sonne. 2005. “Mood Disorders and Substance Use Disorder: A Complex Comorbidity.” *Science & Practice Perspectives* 3(1), 13.

Reif, S., A. Acevedo, D. Garnick, C. Fullerton. 2017. “Reducing Behavioral Health Inpatient Readmissions for People With Substance Use Disorders: Do Follow-Up Services Matter?” *Psychiatric Services* (68)8, 810–18.

Rockett, I.R., S.L. Putnam, H. Jia, & G.S. Smith. 2003. “Assessing Substance Abuse Treatment Need: A Statewide Hospital Emergency Department Study.” *Annals of Emergency Medicine* 41(6), 802–13.

Samuels, E. A., Dwyer, K., Mello, M. J., Baird, J., Kellogg, A. R., & Bernstein, E. 2016. Emergency department-based opioid harm reduction: moving physicians from willing to doing. *Academic Emergency Medicine*, 23(4), 455-465.

Schneider Institute for Health Policy, Brandeis University. (2001). *Substance Abuse: The Nation’s Number One Health Problem,* for The Robert Wood Johnson Foundation. Princeton, New Jersey.

Substance Abuse and Mental Health Services Administration (SAMHSA). 2019. *Key Substance Use and Mental Health Indicators in the United States: Results from the 2018 National Survey on Drug Use and Health.* Retrieved from: https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHNationalFindingsReport2018/NSDUHNationalFindingsReport2018.htm#mhisud

SAMHSA. 2019a. *Key Substance Use and Mental Health Indicators in the United States: Results from the 2018 National Survey on Drug Use and Health*. https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHNationalFindingsReport2018/NSDUHNationalFindingsReport2018.pdf

SAMHSA. 2019b. *National Mental Health Services Survey (N-MHSS): 2018 Data on Mental Health Treatment Facilities*. https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NMHSS-2018.pdf

SAMHSA. 2018a. *Key Substance Use and Mental Health Indicators in the United States: Results from the 2017 National Survey on Drug Use and Health.* https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHFFR2017/NSDUHFFR2017.htm#sud11

SAMHSA. 2018b. *Results from the 2017 National Survey on Drug Use and Health: Detailed Tables.* https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHDetailedTabs2017/NSDUHDetailedTabs2017.pdf

SAMHSA. 2017. *Receipt of Services for Substance Use and Mental Health Issues among Adults: Results from the 2016 National Survey on Drug Use and Health*. https://www.samhsa.gov/data/sites/default/files/NSDUH-DR-FFR2-2016/NSDUH-DR-FFR2-2016.pdf

SAMHSA. 2016. *Buprenorphine.* https://www.samhsa.gov/medication-assisted-treatment/treatment/buprenorphine

SAMHSA. 2015. *Substance Use Disorders.* http://www.samhsa.gov/disorders/substance-use .

SAMHSA. 2014. *Substance Use and Mental Health Estimates from the 2013 National Survey on Drug Use and Health: Overview of Findings*. https://www.samhsa.gov/data/sites/default/files/NSDUH-SR200-RecoveryMonth-2014/NSDUH-SR200-RecoveryMonth-2014.htm

SAMHSA. 2013. *Substance Abuse Treatment for Persons with Co-Occurring Disorders*. https://store.samhsa.gov/system/files/sma13-3992.pdf

SAMHSA. 2009. *Integrated Treatment for Co-Occurring Disorders: The Evidence*. https://store.samhsa.gov/sites/default/files/d7/priv/ebp-kit-the-evidence-10242019.pdf

SAMHSA. 2006. Report to Congress: *Addictions Treatment Workforce Development*. http://www.pfr.samhsa.gov/docs/Report_to_Congress.pdf

SAMHSA; Office of the Surgeon General (US). *Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health*. Washington (DC): US Department of Health and Human Services; 2016. Chapter 4, “Early Intervention, Treatment, and Management of Substance Use Disorders.” https://www.ncbi.nlm.nih.gov/books/NBK424859/

Thomas, C.P., G.A. Ritter, A.H. Harris, D.W. Garnick, K.I. Freedman, & B. Herbert. 2018. “Applying American Society Of Addiction Medicine Performance Measures in Commercial Health Insurance and Services Data.” *Journal of Addiction Medicine* 12(4), 287–94.

Volkow, N.D., T.R. Frieden, P.S. Hyde, & S.S. Cha. 2014. “Medication-Assisted Therapies—Tackling the Opioid-Overdose Epidemic.” *New England Journal of Medicine* 370(22), 2063–6.

Watkins, K.E., S.M. Paddock, T.J. Hudson, et al. 2016. “Association Between Quality Measures and Mortality in individuals with Co-Occurring Mental Health and Substance Use Disorders.” *J Subst Abuse Treat* 69:1–8

Watkins, K., S. Paddock, T. Hudson, et al. 2017. “Association Between Process Measures and Mortality in Individuals with Opioid Use Disorders.” *Drug Alcohol Depend* 177:307–14.

Williams, E.C., T.E. Matson, & A.H. Harris. 2019. “Strategies to Increase Implementation of Pharmacotherapy for Alcohol Use Disorders: A Structured Review of Care Delivery and Implementation Interventions.” *Addiction Science & Clinical Practice* 14(1), 6.

Williams, E.C., C.E. Achtmeyer, J.P. Young, D. Berger, G. Curran, K.A. Bradley, ... & M. Forehand. 2018. “Barriers to and Facilitators of Alcohol Use Disorder Pharmacotherapy in Primary Care: A Qualitative Study in Five VA Clinics.” *Journal of General Internal Medicine* 33(3), 258–67.

Appendix A: Specific Guideline Recommendations

Organization & Year	Guideline Summary	Guideline Citation	Guideline Rating
APA 2006	• Patients require long-term treatment [I] • Treatment should be intensified during periods when patients are at a high risk of relapsing [I] • Outpatient treatment is appropriate when patients do not require a more intensive level of care [I]. A comprehensive approach is optimal (i.e., psychotherapeutic and pharmacological interventions in conjunction with behavioral monitoring) [I] • ***Naltrexone, injectable naltrexone, acamprosate, a γ-aminobutyric acid (GABA) are recommended for patients with alcohol dependence [I]. Disulfiram is also recommended for patients with alcohol dependence [II].*** • ***Methadone and buprenorphine are recommended for patients with opioid dependence [I]. Naltrexone is an alternative strategy [I].***	Kleber HD, et al. (2018). Treatment of patients with **substance use disorders**, second edition. *American Journal of Psychiatry,* 164(4),1–276.	**[I]** Recommended with substantial clinical confidence. **[II]** Recommended with moderate clinical confidence.
APA 2018	• Patients with alcohol use disorder should have a documented comprehensive and person-centered treatment plan that includes evidence-based nonpharmacological and pharmacological treatments. [1C] • ***Naltrexone or acamprosate be offered to patients*** with ***moderate to severe alcohol use disorder who have a goal of reducing alcohol consumption or achieving abstinence, prefer pharmacotherapy or have not responded to nonpharmacological treatments alone, and have no contraindications to the use of these medications***. [1B] • Disulfiram should be offered to patients with moderate to severe alcohol use disorder who have a goal of achieving abstinence, prefer disulfiram or are intolerant to or have not responded to naltrexone and acamprosate, are capable of understanding the risks of alcohol consumption while taking disulfiram, and have no contraindications to the use of this medication. [2C]	Reus, V. et al. (2018). Practice Guideline for the Pharmacological Treatment of Patients with **Alcohol Use Disorder**. *American Journal of Psychiatry*, 175(1), 86-90. doi:10.1176/appi.ajp.2017.1750101	**[1]** Recommend with confidence that the benefits of the intervention clearly outweigh harms. **[2]** Suggests the that although the benefits of the statement are still viewed as outweighing the harms, the balance of benefits and harms is more difficult to judge, or either the benefits or the harms may be less clear. With a suggestion, patient values and preferences may be more variable, and this can influence the clinical decision that is ultimately made. **[A]** High confidence that the evidence reflects the true effect. Further research is very unlikely to change our confidence in the estimate of effect.

	• "Topiramate or gabapentin be offered to patients with moderate to severe alcohol use disorder who have a goal of reducing alcohol consumption or achieving abstinence, prefer topiramate or gabapentin or are intolerant to or have not responded to naltrexone and acamprosate, and have no contraindications to the use of these medications. [2C]		**[B]** Moderate confidence that the evidence reflects the true effect. Further research may change our confidence in the estimate of effect and may change the estimate. **[C]** Low confidence that the evidence reflects the true effect. Further research is likely to change our confidence in the estimate of effect and is likely to change the estimate.
ASAM 2020	• All FDA approved medications for the treatment of opioid use disorder should be available to all patients. Clinicians should consider the patient's preferences, past treatment history, current state of illness, and treatment setting when deciding between the use of methadone, buprenorphine, and naltrexone. • There is no recommended time limit for pharmacological treatment • Patients' psychosocial needs should be assessed, and patients should be offered or referred to psychosocial treatment based on their individual needs. However, a patient's decision to decline psychosocial treatment or the absence of available psychosocial treatment should not preclude or delay pharmacotherapy, with appropriate medication management. Motivational interviewing or enhancement can be used to encourage patients to engage in psychosocial treatment services appropriate for addressing individual needs.	Kampman, K., Freedman, K. (2020). American Society of Addiction Medicine (ASAM) National Practice Guideline for the Treatment of Opioid Use Disorder: 2020 Focused Update. *Journal of Addiction Medicine;* 14, no. 2S: 1–91, https://doi.org/10.1097/ADM.0000000000000633.	The methods used to search the literature and subsequently develop guideline statements were consistent with the RAM methodology employed for the 2015 publication. Criteria for inclusion in the focused update included new evidence and guidelines that were considered a) clinically meaningful and applicable to a broad range of clinicians treating addiction involving opioid use, and b) urgently needed to ensure the guideline reflects the current state of the science for the existing recommendations, aligns with other relevant practice guidelines, and reflects newly approved medications and formulations. Relevant evidence and current practices not meeting these criteria will be reviewed and incorporated into the full update as appropriate.
ASAM 2015	• Methadone and buprenorphine are recommended for opioid use disorder treatment and withdrawal management. • Naltrexone (oral; extended-release injectable) is recommended for relapse prevention.	Kampman, K., Jarvis, M. (2015). American Society of Addiction Medicine (ASAM) National Practice Guideline for the Use of Medications in the Treatment of Addiction Involving Opioid Use. *Journal of Addiction Medicine; 9(5): 358–367*. DOI: 10.1097/ADM.0000000000000166.	All statements required to meet criteria for both appropriateness and necessity as defined by expert group. Appropriateness was defined as "a statement, procedure or treatment is considered to be appropriate if the expected health benefit) e.g. increased life expectancy, relief of pain, reduction in anxiety, improved functional capacity) exceeds the expected negative consequences (e.g. mortality, morbidity, anxiety, pain) by a sufficiently wide margin that the procedure is worth doing, exclusive of cost."

			A statement was considered necessary when all the following criteria were met: 1. It would be considered improper care not to provide this service 2. Reasonable chance exists that this procedure and/or service will benefit the patient 3. The benefit to the patient is of significance and certainty
Michigan Quality Improvement Consortium 2015	• Patient education and brief intervention should be conducted by the Primary Care Physician (PCP) or trained staff (e.g., RN, MSW) [A] • Refer patients with high risk behavior or symptoms to substance abuse health specialist, an addiction physician specialist, or a physician experienced in pharmacologic management of addiction. Also consider referral to community-based services or an Employee Assistance Program [D] • **Initiate treatment within 14 days of substance use disorder diagnosis** • **Frequent follow-up, i.e. 2 visits within 30 days supports behavior change.**	Michigan Quality Improvement Consortium. Screening, diagnosis and referral for **substance use disorders**. Southfield (MI): Michigan Quality Improvement Consortium; 2015 Aug. 1 p.	**[A]** Randomized controlled trials **[D]** Opinion of expert panel
VA/DoD 2015	• Offer referral to specialty SUD care for addiction treatment if based on willingness to engage. [B] • For patients with moderate-severe alcohol use disorder, we recommend: ***Acamprosate, Disulfiram, Naltrexone- oral or extended release, or Topiramate.*** [A] • **Medications should be offered in combined with addiction-focused counseling.** offering one or more of the following interventions considering patient preference and provider training/competence: Behavioral Couples Therapy for alcohol use disorder, Cognitive Behavioral Therapy for substance use disorders, Community Reinforcement Approach, Motivational Enhancement Therapy, 12-Step Facilitation. [A]	Department of Veteran Affairs, Department of Defense. (2015). VA/DoD Clinical Practice Guideline for the Management of **Substance Use Disorders**. Washington DC: Department of Veterans Affairs, Department of Defense.	**[A] "Strong For,"** A strong recommendation that the clinicians provide the intervention to eligible patients. **[B] "Weak For,"** Recommend offering this option to eligible patients. *Good evidence was found that the intervention improves important health outcomes and concludes that benefits substantially outweigh harm.*

	• For patients with opioid use disorder we recommend ***buprenorphine/naloxone or methadone in an Opioid Treatment Program. For patients for whom agonist treatment is contraindicated, unacceptable, unavailable, or discontinued, we recommend extended-release injectable naltrexone.*** [A] • For patients initiated in an intensive phase of outpatient or residential treatment, recommend ongoing systematic relapse prevention efforts or recovery support, individualized on the basis of treatment response. [A]		
USPSTF 2013	• Clinicians should screen adults aged 18 years or older for **alcohol** misuse and provide brief behavioral counseling interventions to patients engaged in risky or hazardous drinking.	*Final Recommendation Statement:* ***Alcohol Misuse****: Screening and Behavioral Counseling Interventions in Primary Care*. U.S. Preventive Services Task Force. May 2013. https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/alcohol-misuse-screening-and-behavioral-counseling-interventions-in-primary-care	**[B]** The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.