Behavioral Health Approaches to Preventing and Treating Substance Use Disorders

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Introduction

Worldwide, the harmful use of alcohol results in 3.3 million deaths each year, and 31 million persons have drug use disorders (World Health Organization (WHO), 2014). Substance use disorders (SUDs) are common, have harmful effects on health and safety, and are a significant drain on our nation's economy. Annually, excessive drinking costs the United States $249 billion (Centers for Disease Control and Prevention, 2018), and illicit drug use $193 billion (National Drug Intelligence Center, 2011), in lost productivity, healthcare expenses, and law enforcement and criminal costs. Preventing SUDs is critical, and early intervention and treatment are essential to avoid their devastating impact and reduce their high costs to society.

In this chapter, we review the literature on behavioral approaches to preventing and treating SUDs. We focus mainly on alcohol and illicit drugs, rather than on addictions to nicotine and prescription drugs, or on solutions to the current opioid crisis (Meldrum, 2016). In addition, we focus on behavioral therapies rather than pharmacological interventions. We include a discussion of behavioral treatments for

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B. L. Levin, A. Hanson (eds.), *Foundations of Behavioral Health*,
https://doi.org/10.1007/978-3-030-18435-3_3

individuals who have co-occurring substance use and other mental disorders. After reviewing the literature, we present critical issues related to behavioral strategies for SUD prevention and treatment, such as the need for better coordination of care within healthcare systems. We also discuss behavioral treatments for SUDs in the context of financing services delivery, by considering personalized care that begins with low-intensity options and can be intensified if indicated. Throughout this chapter, we point out gaps in knowledge for which more research is needed.

Review of the Literature

The risky use of substances covers a spectrum of behaviors (Office of the Surgeon General, 2016). Regarding alcohol use, for example, hazardous drinkers consume alcohol above recommended limits set by the National Institute on Alcohol Abuse and Alcoholism (NIAAA). Hazardous drinkers experience physical, social, or psychological harm associated with their alcohol use but do not necessarily meet criteria for an alcohol use disorder. SUDs are associated with repeated and negative physical, psychological, and social effects from alcohol and other drugs (Office of the Surgeon General, 2016). In the DSM-5, a diagnosis of an alcohol use disorder requires meeting 2 or more criteria, out of 11 (e.g., neglect major roles to drink or use, increased tolerance), within a 12-month period; a criteria count is an overall severity indicator. Furthermore, an alcohol use disorder diagnosis in DSM-5 requires specifying severity, with 2–3 symptoms indicating a mild, 4–5 symptoms a moderate, and 6 or more a severe disorder.

One approach to addressing the needs of people with the full spectrum of substance use-related behaviors is the Screening, Brief Intervention, and Referral to Treatment (SBIRT) model. SBIRT is a comprehensive, integrated, public health approach to the delivery of early intervention and referral to more intensive treatment services for people with a range of unhealthy substance use. Screening identifies people with unhealthy use and, when followed by the assessment of the severity of substance use, can identify potential treatment goals, such as reducing episodes of heavy consumption or abstinence.

Designed for individuals at risk of developing SUDs and those who have already developed them, SBIRT can be applied in many clinical care settings. Indeed, SBIRT has been adapted for use in emergency departments, primary care clinics, office- and clinic-based practices, and other community settings (e.g., employee assistance programs), thereby providing opportunities for early intervention with at-risk individuals using substances before more severe substance use develops and/or consequences occur. As discussed below, SBIRT interventions can include the provision of brief treatment for those with less severe substance use and referral to specialized SUD treatment for those with a SUD (Agerwala & McCance-Katz, 2012). A large body of research on SBIRT for alcohol, illicit drugs, tobacco, and prescription drugs demonstrates that it yields improvements in health (Babor, Del Boca, & Bray, 2017; Babor et al., 2007).

Screening and Assessment

SBIRT begins with the introduction of systematic screening into routine care at medical facilities and other community settings where people with SUDs are seen. Screening is a preliminary procedure to evaluate the likelihood that an individual has a SUD or is at risk of negative consequences from the use of alcohol or other drugs. Although screening tests were initially developed to identify active cases of alcohol and drug dependence, the aim of screening has been expanded to cover the full spectrum ranging from risky substance use to dependence.

Because primary care is the point of access to SUD treatment for many people, universal screening for unhealthy alcohol use in primary care is recommended (USPSTF, 2014). The ten-item Alcohol Use Disorders Identification Test (AUDIT) is the most studied screening tool for detecting the severity of alcohol use in primary care settings (USPSTF, 2014). The AUDIT performs adequately to identify hazardous and problem drinking but may be too long to be integrated easily into many primary care settings. Accordingly, the first three questions of the AUDIT, which ask about alcohol consumption and are called the AUDIT-C, were demonstrated to be an effective screening test for past-year hazardous drinking and for active alcohol use disorders (Bradley et al., 2007). AUDIT-C cutoff scores for unhealthy alcohol use are 4 for men and 3 for women (Bradley et al., 2007) and for alcohol use disorders are 5 or 6 for men and 4 for women (Dawson, Grant, Stinson, & Zhou, 2005).

Until recently, there has been a lack of brief and valid screening instruments for substances other than alcohol or tobacco. The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) is used increasingly to assess substance use and related problems, although it may be too lengthy to be feasible in busy primary care settings (McNeely et al., 2014). Shorter assessments for assessing drug use include the Drug Abuse Screening Test-10 (DAST-10) which is used to assess past-year drug consequences and problem severity and has demonstrated sound psychometric properties (Yudko, Lozhkina, & Fouts, 2007). Scores range from 0 to 10; a score of ≥ 3 suggests drug use risk (French, Roebuck, McGeary, Chitwood, & McCoy, 2001; Voluse et al., 2012). There is also a single screening question to identify drug use accurately in primary care patients: "How many times in the past year have you used an illegal drug or used a prescription medication for nonmedical reasons?"(Smith, Schmidt, Allensworth-Davies, & Saitz, 2009). A response of >1 time is considered positive for drug use risk.

Brief Interventions

The assessment of substance use may lead to either of two different primary care strategies, based on whether patients have at-risk substance use or a SUD. Patients with at-risk substance use often receive brief interventions. Brief interventions refer to any time-limited effort to provide information or advice, increase motivation to

avoid substance use, or teach behavior change skills that will reduce substance use as well as the chances of negative consequences (Babor et al., 2007). Brief interventions vary in length and content but typically involve 1–2 counseling sessions of up to 30 min each and may consist of personalized feedback on age- and gender-matched normative comparisons of substance use, self-reported consequences of use, and motivation to change substance use (Cucciare, Simpson, Hoggatt, Gifford, & Timko, 2013).

Research shows that among the most cost-effective and time-efficient interventions are brief motivational conversations between a healthcare professional and a patient using substances (Babor et al., 2017; Babor et al., 2007). Indeed, protocol-driven brief interventions have been shown to be effective for reducing alcohol intake, associated injury recidivism, driving under the influence, and other adverse consequences of alcohol and drug use (Babor et al., 2017; Madras et al., 2009; Wamsley, Satterfield, Curtis, Lundgren, & Satre, 2018). However, the literature documenting the effectiveness of brief interventions for illicit drug use is weaker than that for alcohol (Kim et al., 2017; Saitz et al., 2014). For patients identified through screening and assessment as having SUDs rather than risky use, brief interventions may be inadequate, and so referrals to specialized treatments should be provided (Kim et al., 2017).

Specialty Treatment

Patients with SUDs often need more intensive treatment in specialty settings than can be offered in primary care. Therefore, SBIRT incorporates referral to treatment as a critical feature. This may include referral to brief treatment, which involves the delivery of time-limited, structured therapy for a SUD by a trained clinician, and is typically delivered to those at higher risk or in the early stages of substance dependence. It generally involves two to six sessions of behavioral therapies, which are described below. However, although not discussed in this chapter, brief treatment may also include the ongoing management of SUDs in primary care settings with the use of pharmacotherapy (Fiellin et al., 2013). Here, we describe behavioral therapies that are considered evidence-based practices in SUD treatment programs. SUD specialty care is delivered in a continuum of program types, including standard outpatient, intensive outpatient, and residential care, which is often followed by outpatient aftercare. Within these programs, care is provided individually and in groups.

Motivational interviewing (MI), an extremely well-known approach, is a client-centered, semi-directive therapeutic style to enhance intrinsic readiness for change by helping individuals explore and resolve ambivalence toward making a life change. An evolution of Rogers' person-centered counseling approach, MI and related motivational enhancement therapies (METs) elicit the person's own motivations for making a change (Miller & Rollnick, 2002).

A meta-analysis of 32 clinical trials that focused on treating alcohol use disorder found that the average effect size (for effect sizes, 0.2–0.3 is small, 0.5 is medium, and 0.8 and higher is large) of MI was 0.41 posttreatment and 0.26 across all follow-up points (Hettema, Steele, & Miller, 2005). An additional 13 trials tested the effect of MI in addressing illicit drug use, with average effect sizes of 0.51 for early follow-ups and 0.29 for later follow-ups (Hettema et al., 2005). A subsequent meta-analysis confirmed that MI promotes durable reductions in use of a range of substances (Sayegh, Huey, Zara, & Jhaveri, 2017). However, the variable effectiveness of MI found in these meta-analyses across providers, populations, target problems, and settings suggests a need for additional research to understand and specify how MI exerts its effects.

Cognitive behavioral therapy (CBT), pioneered by Aaron Beck and by Albert Ellis, is a class of interventions sharing the premise that mental disorders and psychological distress are maintained by cognitive factors. To achieve the goal of symptom reduction, improvement in functioning, and remission of the disorder, the patient becomes an active participant in collaborative problem-solving to test and challenge the validity of maladaptive cognitions and modify maladaptive behavioral patterns. Similar to findings for MI, a review of meta-analyses of CBT for SUDs found that effect sizes of CBT ranged from small to medium. Specifically, CBT was highly effective for treating cannabis and nicotine dependence but less effective for treating opioid and alcohol dependence (Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012).

Contingency management (CM) is based on the principles of operant conditioning. It provides reinforcing or punitive consequences to achieve therapeutic goals, such as abstinence from substance use or increasing treatment attendance (Petry, Alessi, Olmstead, Rash, & Zajac, 2017; Rash, Stitzer, & Weinstock, 2017). For example, abstinence is often reinforced with escalating vouchers (e.g., $2.50 for an initial negative urinalysis, adding $1.50 for each consecutive one), with possible added bonuses, that can be exchanged for goods or services. If a urinalysis is positive, no voucher is given, and the value for the next negative urinalysis is reset to the initial level. Besides vouchers, other reinforcers are clinical privileges, cash, or employment.

Meta-analyses report medium effect sizes for CM in treating SUDs (Lussier, Heil, Mongeon, Badger, & Higgins, 2006; Prendergast, Podus, Finney, Greenwell, & Roll, 2006). In addition, a systematic evaluation found that CM combined with standard psychological interventions to treat cocaine dependence in particular increases abstinence and improves treatment retention and is also of benefit in pharmacotherapy trials (Schierenberg, van Amsterdam, van den Brink, & Goudriaan, 2012). Another review (Farronato, Dursteler-Macfarland, Wiesbeck, & Petitjean, 2013) concurred that positive, rapid, and enduring effects on cocaine use are reliably seen with CM interventions. However, the reviews also noted that it is unclear who should cover the extra expense of CM. In addition, the more recent meta-analyses (Sayegh et al., 2017) suggested that because CM is extrinsically focused, it may produce follow-up effects of reducing substance use mainly in the short term.

Twelve-Step Facilitation has grown because 12-step groups such as Alcoholics Anonymous represent a readily available and no-cost resource in SUD recovery. Individuals can become involved with 12-step programs before, during, or after SUD treatment and in the absence of any treatment. A considerable body of evidence in the behavioral health field indicates that earlier engagement in 12-step groups, more frequent meeting attendance, more involvement in 12-step practices (e.g., obtaining a sponsor, performing service at meetings), and a longer duration of participation are associated with better SUD outcomes (Kaskutas, Bond, & Avalos, 2009; Moos & Moos, 2006; Wendt, Hallgren, Daley, & Donovan, 2017). This kind of evidence prompted behavioral health researchers to implement active methods to encourage 12-step group participation during and after treatment.

Interventions to increase 12-step group participation are effective in doing so and thus contribute to positive SUD outcomes through their impact on increasing 12-step group attendance and involvement. These interventions include Twelve-Step Facilitation Therapy (Nowinski, Baker, Carroll, & National Institute on Alcohol Abuse and Alcoholism, 2007); Intensive Referral (Timko & DeBenedetti, 2007); STAGE-12, which stands for Stimulant (cocaine, methamphetamine) Abuser Groups to Engage in 12-Step (Donovan & Wells, 2007); Making AA Easier (MAAEZ; Kaskutas, Subbaraman, Witbrodt, & Zemore, 2009); and integrated Twelve-Step Facilitation for Adolescents (Kelly et al., 2017).

Mindfulness training also is considered a promising treatment for SUD. Mindfulness refers to maintaining awareness of thoughts, feelings, bodily sensations, and the surrounding environment and accepting thoughts and feelings without judging them. When practicing mindfulness, people focus on what they are sensing in the present moment rather than reconsidering the past or anticipating the future.

A systematic review examined methodological characteristics and findings of studies that evaluated mindfulness treatments for SUD (Li, Howard, Garland, McGovern, & Lazar, 2017). The review also included a meta-analysis of randomized controlled trials of mindfulness treatments for substance use. Results revealed significant small-to-large effects of mindfulness treatments in reducing the frequency and severity of substance use, intensity of cravings, and severity of stress. Although mindfulness treatment for substance use is a promising intervention, research is needed to examine the mechanisms by which mindfulness interventions exert their effects.

Acceptance and commitment therapy (ACT) is another form of behavioral therapy, developed in the late 1980s, that combines mindfulness strategies with the practice of acceptance. Its rationale is that by acknowledging and accepting negative thoughts and feelings, people can learn to observe them and develop new ways to relate to them. ACT helps people become more flexible psychologically, better understand their personal values, and connect more to the present moment. As applied to SUDs, patients learn more accepting and mindful ways of relating to

inner experiences, rather than engaging in substance use (e.g., in response to cravings or to escape negative affect), while moving forward in building meaningful patterns of activity that are inconsistent with substance use. In addition, because of ACT's transdiagnostic approach, it can effectively target key psychological problems commonly comorbid with substance use.

A meta-analysis (Lee, An, Levin, & Twohig, 2015) provided evidence that ACT is likely at least as efficacious as active treatment comparisons such as CBT or 12-step therapy and that substance use abstinence may be better maintained at follow-up when treated with ACT over other active conditions. Thus, the results provide promising, although preliminary, support for ACT as a treatment for SUDs. Additionally, Lee et al. noted that, while not exclusive to ACT, novel delivery methods (e.g., telehealth, computer, and phone applications) of ACT are rapidly being explored and have shown promise. As for mindfulness interventions, further study is needed that examines mechanisms of change that affect substance use among patients receiving ACT.

Research on treating SUDs in specialty care settings with regard to each of these evidence-based approaches (MI, CBT, CM, 12-step facilitation, and mindfulness) has yet to establish the extent to which one approach may be more effective than another.

So far in this chapter, we have focused on use of these approaches in treating individuals with SUDs in the absence of other mental health disorders. We turn now to assessing and treating individuals with both SUDs and other mental health problems, due to the high frequency of co-occurring diagnoses found across healthcare settings.

Clients with Co-occurring Diagnoses: Assessment and Treatment

Population-based surveys indicate that over 8.4 million adults in the United States have co-occurring substance use and mental disorders (Center for Behavioral Health Statistics and Quality, 2015). Specifically, over 30% of people with mental illness, and over 50% of people with severe mental illness, will experience a SUD in their lifetime (Center for Behavioral Health Statistics and Quality, 2015). People diagnosed with SUDs have high rates of co-occurring psychotic disorders and other serious mental illnesses, such as schizophrenia, bipolar disorder, and severe major depression and PTSD (Mueser & Gingerich, 2013). Individuals with co-occurring SUD and other mental disorders tend to have greater symptom severity and poorer functioning, and treatment engagement and outcomes, compared to those without such comorbidity (Burns, Teesson, & O'Neill, 2005; Merikangas & Kalaydjian, 2007). Thus, the assessment and treatment of SUDs in people with mental disorders is a high priority in behavioral treatment settings.

Assessing SUDs in People with Mental Disorders

Mueser and Gingerich (2013) note that it is essential that all patients with mental disorders are accurately screened and comprehensively assessed for comorbid SUDs. In particular, it is important to assess for any level of substance use among patients with psychosis because they are often more sensitive to the effects of psychoactive substances and experience relatively greater adverse effects (Lubman & Sundram, 2003). Clinicians should be aware that people with severe mental illnesses are highly sensitive to the effects of even modest amounts of alcohol or drugs, such that even lower levels of use may indicate an active SUD. Standard screening instruments such as the AUDIT have good sensitivity and specificity in detecting probable SUDs among people with mental disorders.

Treatment Approaches for Patients with Co-occurring Disorders

The same strategies we have discussed for treating SUDs are recommended for clients with co-occurring disorders: enhance motivation; use CBT to teach more effective interpersonal and coping skills; use CM to reward abstinence; and encourage participation in 12-step groups as well as practicing mindfulness (Baker, Thornton, Hiles, Hides, & Lubman, 2012; Kelly, Daley, & Douaihy, 2012; Mueser & Gingerich, 2013; Timko, Sutkowi, Cronkite, Makin-Byrd, & Moos, 2011).

In particular, MI has robust support for establishing a therapeutic alliance between patients with co-occurring disorders and their treatment providers (Kelly et al., 2012). Randomized controlled trials comparing MI to educational treatment or treatment as usual for these patients have demonstrated significant reductions in favor of MI for alcohol and illicit drug use and psychiatric symptoms (Westra, Aviram, & Doell, 2011). However, with regard to comorbid SUD, among people with schizophrenia in particular, although there is an emerging supportive literature for MI, CBT, and CM, as well as family interventions, there is a particular lack of rigorously conducted randomized controlled trials (Cather et al., 2018).

Although sequential or parallel approaches can be appropriate for patients with co-occurring disorders, there has been recognition of their limitations. Integrated approaches, in which both conditions are addressed simultaneously within the same treatment, are most effective for patients with SUD mental health comorbidities (Lubman, King, & Castle, 2010; Mueser & Gingerich, 2013). For example, in the case of approaches for treating comorbid SUDs and PTSD, trauma-focused psychotherapy delivered in the context of SUD treatment is more effective than treatment as usual or minimal intervention in reducing PTSD and SUD symptoms (Roberts, Roberts, Jones, & Bisson, 2016). However, only 18% of SUD treatment programs meet the criteria for services that are capable of addressing the needs of patients with co-occurring disorders (Ford et al., 2018).

Beyond specific behavioral therapy approaches, principles of behavioral treatment for patients with co-occurring disorders are being established. These include adopting a low-stress and harm-reduction approach, supporting functional recovery (a worthwhile and meaningful life that is not centered on using substances), and engaging the individual's social network (Haverfield, Schmidt, Ilgen, & Timko, 2018).

Other principles emphasize that because there is no one-size-fits-all treatment, a flexible approach with the ability to apply specific components of care to particular individuals is required (Lubman et al., 2010). That is, patients with co-occurring disorders require creative combinations of behavioral therapy and pharmacological interventions to provide the most effective treatment (Kelly et al., 2012).

The need for flexibility of approach is prompted in part by the many combinations of substances and mental disorders implied by the term "co-occurring disorders." For example, the combination of cognitive behavioral therapy and motivational interviewing and a longer duration of care provide additional benefits for co-occurring SUD and depression in particular (Baker et al., 2012; Riper et al., 2014). But, for all patients with co-occurring disorders, it is vital for effective treatment to instill hope and the belief that recovery is possible among patients, family members, and other treatment providers (Mueser & Gingerich, 2013).

Although this brief review of the literature on behavioral approaches to preventing and treating SUDs shows that much has been accomplished, there remain critical issues that have yet to be adequately addressed. These include the coordination of SUD services and, in particular, how to effectively transition patients with SUDs from primary care to specialty care when needed and how to ensure that patients maintain routine primary care when they have an episode of specialty care. We turn to these critical issues next.

Presentation of Critical Issues

A critical issue for preventing and treating SUDs is the coordination of services encompassed by the SBIRT model: screening; brief intervention; referral; and treatment. In many communities, screening and brief intervention services are lacking, referral is fragmented and inconsistent, and specialized treatment services operate independently of primary care and the larger healthcare system(s). A key aspect of SBIRT is the coordination of its four components into a community's system of services that links a network of early intervention and referral activities, conducted in medical and social service settings, to specialized treatment programs (Babor et al., 2017; Babor et al., 2007). We focus on two aspects of better service coordination: (1) improving SUD patients' transitions from primary to specialty care and (2) from specialty to primary care.

Transitions from Primary to Specialty Care

Unhealthy substance use is common among patients presenting to primary care settings. As many as 22–50% of patients presenting to primary care report at least one symptom of hazardous alcohol use (Hawkins, Lapham, Kivlahan, & Bradley, 2010; McQuade, Levy, Yanek, Davis, & Liepman, 2000), while 18–44% meet the criteria for a lifetime or current alcohol use disorder (McQuade et al., 2000; Smith, Schmidt, Allensworth-Davies, & Saitz, 2010). Similarly high rates are reported of past-year or current use of an illicit substance for nonmedical reasons (35%), and current (13%) and lifetime (47%) drug use disorders, among persons presenting to primary care (Smith et al., 2010).

Substance use may complicate the treatment of chronic health conditions addressed in primary care, such as diabetes and hypertension (Timko, Kong, Vittorio, & Cucciare, 2016). Therefore, it is critical that primary care providers be prepared to identify and determine appropriate treatment options for patients presenting with substance use. Being proficient in these skills is consistent with the increasing use of patient-centered models of primary care that emphasize healthy lifestyle change and management of chronic health conditions. However, providers face considerable challenges in supporting the transition of patients with more severe substance use from primary care to SUD care settings.

Although strategies for detecting and treating risky substance use are increasingly being used in primary care, information about the availability of specialty SUD care treatment options is rarely provided to patients (Williams et al., 2012). For example, the Veterans Health Administration (VHA) implemented a model of detecting and providing brief intervention for unhealthy alcohol use in primary care and showed increased documentation of screening and identification of hazardous use, as well as delivery of education about safe drinking limits and potential health effects of harmful alcohol use (Bradley et al., 2006; Lapham et al., 2012). However, rates of referral to specialty SUD care remained low (Lapham et al., 2012), with studies finding only 10–14% of patients screening positive for hazardous alcohol use receiving information about alcohol-related care (Lapham et al., 2012; Williams et al., 2012).

Factors That Impact SUD Care Transitions

Patient, provider, and healthcare system characteristics may directly influence the transition practices that impact access to and engagement in specialty SUD care. In turn, access and engagement may be associated with better health outcomes such as reduced substance use, abstinence, and better psychological functioning and quality of life (Cucciare, Coleman, & Timko, 2015). Of potential barriers to primary care physicians' specialty care referrals, patient characteristics have the largest effects (Forrest, Nutting, von Schrader, Rohde, & Starfield, 2006).

Patient Factors

Patients' clinical characteristics such as the presence of a drug rather than alcohol use disorder, negative consequences of substance use, and comorbid mental disorders are associated with a higher likelihood of receiving specialty SUD care (Forrest et al., 2006; Glass et al., 2010; Ilgen et al., 2011). A common barrier to accessing specialty SUD care is that patients' previous treatment experiences were negative (Mowbray, Perron, Bohnert, Krentzman, & Vaughn, 2010; Perron et al., 2009). Additional barriers include specialty care being inconvenient, involving a long wait until the initial appointment, long travel distances to the site, and inflexible hours of treatment provision (Beardsley, Wish, Fitzelle, O'Grady, & Arria, 2003; Coulson, Ng, Geertsema, Dodd, & Berk, 2009; Hoffman, Ford, Choi, Gustafson, & McCarty, 2008; Laudet, Stanick, & Sands, 2009; McCarty, Gustafson, Capoccia, & Cotter, 2009; Mowbray et al., 2010; Perron et al., 2009; Pulford, Adams, & Sheridan, 2006). Other common barriers are lack of knowledge about the harmful effects of continued substance use, patients' belief that they can cope with substance use on their own or the problem will improve by itself, and embarrassment (Mowbray et al., 2010; Perron et al., 2009). Stigma is a significant barrier to accessing SUD treatment services; individuals may choose to conceal their substance use to avoid it (Livingston, Milne, Fang, & Amari, 2012; Woodhead, Timko, Han, & Cucciare, 2018).

Perceived need for SUD treatment and stronger beliefs in the benefits of SUD treatment are facilitators of treatment entry (Falck et al., 2007; Kleinman, Millery, Scimeca, & Polissar, 2002; Masson et al., 2013). However, only small proportions of individuals identified as having SUDs perceive a need for treatment (3–19%) (Hedden & Gfroerer, 2011; Oleski, Mota, Cox, & Sareen, 2010). Patients may have unrealistic expectations about the content or duration of care because they are not provided opportunities to express their care preferences; therefore, these preferences are not realized, to the extent possible, in patients' care planning (Coleman et al., 2003). Possibly, offering a menu of potential treatment options that take patient choice into account may be a way to increase rates of treatment entry (Bradley & Kivlahan, 2014; McCrady, Epstein, Cook, Jensen, & Ladd, 2011; McKay, 2009).

Resources facilitating the transition from primary to specialty SUD care are the patient's self-efficacy to obtain and engage in care, motivation to change, and social support, including family involvement (Ball, Carroll, Canning-Ball, & Rounsaville, 2006; Jackson, 2006; Kleinman et al., 2002; Palmer, Murphy, Piselli, & Ball, 2009; Stevens et al., 2008; Viggiano, Pincus, & Crystal, 2012; Weisner, Mertens, Tam, & Moore, 2001).

Provider Factors

Provider factors that may influence patients' transitions to SUD specialty care include providers' cultural competence (Masson et al., 2013) and knowledge about the availability and potential efficacy of SUD treatment options both within their

care system and larger community. Referrals to SUD treatment may be infrequent because providers often view such treatment as a revolving door that does not deliver positive outcomes (Woodhead et al., 2018).

Studies confirm the stigmatizing attitudes of providers toward individuals who need SUD treatment, in that such patients are perceived as not being truly sick (due to the supposed self-inflicted nature of substance abuse and dependency), irresponsible, aggressive, untrustworthy, and difficult (Kelly & Westerhoff, 2010; Schomerus et al., 2011; Treloar & Holt, 2006). These perceptions are associated with less willingness to intervene with people in need of SUD-related care and a barrier to the provision of high-quality care (Lovi & Barr, 2009; Skinner, Roche, Freeman, & Addy, 2005). Healthcare staff's negative attitudes toward patients who would benefit from SUD treatment often translate into delays of patients seeking help (Kelly & Westerhoff, 2010).

Primary care clinicians need to be familiar with available treatment resources for their patients who have probable or diagnosed SUDs. Knowing about available treatment resources, including those tailored for special populations, such as patients with comorbid chronic health conditions, and having a clear plan to access services, will facilitate patients' access to care resources (Timko et al., 2016).

Providers also often lack training in SUD treatment generally and in transition practices more specifically (Childers & Arnold, 2012). Formal training in transitional care that includes learning to communicate with providers at specialty SUD care sites, and how to elicit and implement patient and family preferences into treatment plans, may also be critical for improving the care transition process. Training in the referral process should ensure that physicians obtain the skills necessary to expand their scope of practice when appropriate, determine when and why a patient should be referred, and identify the type of setting to which the patient should be sent (Forrest et al., 2006).

There are several strategies available that have potential for helping primary care providers facilitate the transition or linkage of patients between primary care and substance use-related help. For example, the SBIRT approach includes a referral to treatment component that is designed to help connect patients in need of more intensive substance use help to such care. This includes helping patients select an appropriate care option and navigate barriers to accessing such care. However, one recent review suggests that this component of SBIRT (as currently designed) may have limited effectiveness for achieving this goal (Glass et al., 2015), suggesting a need for research to inform how to improve this approach for the primary care setting.

More intensive approaches to linking patients engaging in unhealthy substance use to care include Strengths-Based Case Management which involves identifying patient strengths to facilitate linkage to care, encouraging collaborative care decision-making, identifying barriers to care and how to resolve them, and monitoring progress toward care linkage over time (Rapp et al., 2008; Strathdee et al., 2006). Although this approach has been shown to improve linkage of

substance-using patients to care in community settings, it has not been tested in primary care indicating a need for research on its effectiveness in this setting.

System Factors

The context in which primary care is positioned, such as part of a larger healthcare system or as a stand-alone clinic, may impact the SUD care transition process. The likelihood of specialty referral is higher when the primary care physician is located within a practice of larger size and a health plan with gatekeeping arrangements (Forrest et al., 2006). Practices in which nurses and administrative staff can make referrals (with physician input), and in which physicians can make referrals based on telephone consultations with patients, have higher rates of referral than practices without these mechanisms (Forrest et al., 2006).

Formal relationships between care settings, and the availability of information systems such as electronic medical records that facilitate the sharing of critical information (e.g., care history) between care sites, will vary according to setting location and have implications for the ability to transition patients to SUD care options. For example, the availability of comprehensive medical records that contain all care received and recommended across care sites, contact information for all providers involved in patient care, and/or co-location of SUD or mental health services will likely offer greater opportunity for clinics to improve primary care to SUD care transitions.

Together, patient, provider, and system-level factors influence whether effective referrals are made to transition patients with more severe substance use from primary care clinics to SUD specialty treatment settings. Equally critical is the referral and transition process from specialty care "back to" primary care. We turn to this topic next.

Transitions from Specialty to Primary Care

Ensuring that patients leaving SUD specialty treatment begin or continue to obtain regular primary care may be associated with many important health benefits. Patients with SUDs who regularly access primary care may experience reductions in addiction severity (Friedmann, Zhang, Hendrickson, Stein, & Gerstein, 2003), higher abstinence rates (Weisner, Mertens, Parthasarathy, Moore, & Lu, 2001), and fewer hospitalizations (Laine et al., 2001). For example, detoxification patients who had a plan to see their primary care provider had a lower rate of short-term relapse than those who did not intend to see their physician (Griswold, Greene, Smith, Behrens, & Blondell, 2007). And patients in detoxification who received primary care had lower odds of drug use and alcohol intoxication 2 years later

(Saitz, Horton, Larson, Winter, & Samet, 2005). At the post-specialty care stage, primary care physicians can provide systematic medical and recovery checkups (El-Guebaly, 2012).

Despite the documented and potential health benefits of primary care, many patients with SUDs fail to receive it (Gurewich, Prottas, & Sirkin, 2014). Of about 6000 patients entering addiction treatment, 41% did not have a primary care physician, and small proportions of patients with SUDs obtained primary care subsequent to addiction treatment. For example, 56% of detoxification patients failed to receive primary care in the following 2 years (Saitz, Larson, Horton, Winter, & Samet, 2004). These findings are alarming because patients with SUDs who lack primary care are likely to incur an increased health burden. Of SUD patients without a primary care contact in the prior 2 years, 61% had experienced medical problems in the prior 30 days, 47% had one or more chronic health conditions, and 20% had two or more chronic health conditions, with asthma and high blood pressure being the most common (De Alba, Samet, & Saitz, 2004).

The increased burden of medical illness experienced by patients with SUDs not using primary care also translates into higher use of hospital and emergency department services. Eighty percent of SUD patients without a primary care physician reported at least one prior hospitalization due to a medical condition (De Alba et al., 2004). In addition, 47% of such patients reported one or more visits to an emergency department in the prior 6 months (Larson, Saitz, Horton, Lloyd-Travaglini, & Samet, 2006).

Together, these findings suggest that SUD treatment settings should actively facilitate the continuity of, or new transition to, primary care among their patients. Although addiction treatment settings have the potential to engage patients in primary care, they are not being successfully utilized to initiate primary care linkage in this patient population. Approaches for linking patients in addiction treatment settings to primary care vary in terms of the resources needed to implement them effectively. Here, we briefly describe three evidence-based approaches to promoting the use of primary care services among patients with SUDs. We present the approaches from the most to the least resource intensive.

Co-location of Primary Care and Specialty SUD Care

One method that has been shown to improve the linkage between SUD specialty treatment and primary care is co-location of the two care services, typically also integrating primary care into the addiction treatment program (Friedmann et al., 2003; Weisner, Mertens, Parthasarathy et al., 2001). However, integration involves more than simple co-location; rather, it covers the dimensions of program structure and milieu; assessment, treatment, and continuity of care; and staffing and training (McGovern, Lambert-Harris, Gotham, Claus, & Xie, 2014). Such an integrated approach may lead to improvements in substance use outcomes (Weisner, Mertens, Parthasarathy et al., 2001) and initial and longer-term use of outpatient

medical care services in a wide variety of addiction treatment programs (Friedmann et al., 2003) and among SUD patients with chronic medical conditions (Saxon et al., 2006).

Facilitated Referral

Another method to ensure that patients begin or maintain engagement in primary care following discharge from SUD specialty treatment is facilitated referral (Saitz et al., 2005; Samet et al., 2003; Sweeney, Samet, Larson, & Saitz, 2004). This approach involves a social worker, nurse, physician, or other staff members in an addiction treatment setting serving in a case management role to help facilitate the linkage of patients to off-site primary care appointments (Samet et al., 2003; Sweeney et al., 2004). The provider first conducts a health evaluation that includes education about the importance and potential health benefits of receiving primary care. This is followed by facilitated referral to primary care including contacting the patient, and family and friends if necessary, by phone after discharge to provide reminders about upcoming primary care appointments, and to conduct appointment rescheduling if necessary (Samet et al., 2003; Sweeney et al., 2004). The initial appointment is made with special attention to the patient's preferences regarding the physician's gender, particular expertise, scheduling availability, and spoken languages. A detailed letter or email containing the patient's medical conditions is provided to the off-site primary care clinic to support the referral process.

Facilitated referral was associated with increased rates of primary care usage and reduced substance use compared to standard care among detoxification patients (Saitz et al., 2005; Samet et al., 2003). Although co-location and facilitated referral within addiction treatment settings can improve linkage to primary care and health outcomes, they are relatively resource intensive. For example, both approaches require the inclusion of dedicated staff and, in some instances, staff with specialized training in SUDs (Weisner, Mertens, Parthasarathy et al., 2001), who can provide primary care or referral services to promote the use of primary care.

Factors, such as limited addiction clinic finances, staff, staff training, and space, make the task of improving the accessibility and engagement of primary care services within addiction treatment settings an enormous challenge for providers and clinics (Saitz et al., 2005; Samet, Friedmann, & Saitz, 2001). It may be feasible for some well-resourced SUD clinics to adopt and implement a co-located primary care clinic or facilitated referral, but widespread adoption of these strategies will likely remain elusive. Rather, it may be more feasible for SUD specialty treatment settings to adopt components of these approaches. Components may include providing education to patients on the benefits of seeking primary care, available care options, and how to address insurance and coverage concerns, as well as implement follow-up procedures such as periodic reminders via telephone or other means (email, letter) to schedule or attend follow-up appointments. When addiction treatment settings do not have the resources to implement co-location or facilitated referral as packaged

in empirical studies, they may choose to implement components of these intervention approaches with the hope that some portion of effects observed in more comprehensive packages will generalize to their setting and patient population.

Brief Counseling and Referral

A third option, in addition to co-location and facilitated referral, to improve the transition from specialty SUD care to primary care consists of brief approaches to counseling and referral within the addiction treatment program. For example, Project ASSERT was developed as a brief approach to facilitate referral to primary care and other services for patients with SUDs presenting to emergency departments (Bernstein, Bernstein, & Levenson, 1997; D'Onofrio & Degutis, 2010). This approach, delivered by case managers, could be adopted in addiction treatment settings. It includes the detection of SUDs, a brief counseling session based on the principles of MI, and linkage to primary care (Bernstein et al., 1997; D'Onofrio & Degutis, 2010).

The counseling session consists of establishing rapport, providing feedback and education about the importance of receiving primary care, and assessing readiness to accept a referral using a single-item "readiness ruler" (1–10, with 10 indicating readiness). Depending on the patient's response, counseling follows to either help facilitate the referral process or address ambivalence to receiving a referral. An evaluation of this approach found that 47% of the 1096 substance-using patients enrolled in the study received a referral to primary care. Although follow-up rates were low (22%), among those who did return for 60- and 90-day follow-ups and had received a referral, alcohol and drug use severity was reduced and satisfaction with the referral process was high (Bernstein et al., 1997; D'Onofrio & Degutis, 2010).

This approach may be promising, but the existing evidence is not yet sufficient for demonstrating effectiveness. Studies are needed to determine whether this approach is an effective method for transitioning SUD patients from addiction treatment to primary care.

Significance for Services Delivery, Financing, and Research

As we have noted, despite the prevalence of substance use problems, relatively few individuals with SUDs access any form of help. In 2015, only 10.8% of the 21.7 million people who needed substance use treatment received it (Lipari, Park-Lee, & Horn, 2016). In addition, when help is sought, it often occurs 10 or more years after the onset of symptoms of disorder.

As we have also noted, there are many barriers to help seeking, including the stigma of having substance-related problems, concern that treatment is ineffective or not private, and disinterest in abstinence goals. Many people using substances at unhealthy levels believe that their problems are not serious and will improve without help or prefer to handle problems on their own. Further, factors such as family and work responsibilities, the need for childcare and transportation, and the long distance to and costs of treatment discourage help seeking.

In this context of acknowledged barriers to SUD treatment, a variety of low-intensity interventions have been developed and implemented to effectively engage individuals and reduce substance use. These include telephone and internet-based interventions, which attract individuals who otherwise would not seek help. These strategies offer easier access and flexibility to individuals who use substances and circumvent some of the barriers to entry into traditional treatment. They also offer the potential for greater privacy, although strong encryption and other safeguards are needed to ensure that individuals' data remain private and confidential for technology-based interventions. Low-intensity interventions have been shown in research to benefit those who use alcohol harmfully as well as those with more severe alcohol use disorders. For example, a computer-delivered CBT for SUD is an effective adjunct to standard outpatient treatment and thus provides an important means of making CBT more broadly available (Carroll et al., 2009).

Low-intensity interventions can lead to subsequent help seeking and be a starting point for personalized SUD interventions. Innovative behavioral health approaches to SUDs use patient progress while in treatment to personalize interventions. SUD treatments can also incorporate tailoring based on patient characteristics and preferences assessed at intake to personalize care further.

In an effort to examine care that explicitly considered patient preferences, primary care patients who reported heavy drinking were randomly assigned to 12 months of personalized alcohol care management or usual care (Bradley et al., 2018). In the personalized intervention, nurse care managers offered outreach and engagement, repeated brief counseling using MI, and shared decision-making about treatment options and alcohol medications if desired, supported by an interdisciplinary team. The 12-month follow-up showed that a greater proportion of patients in the intervention group than in the usual care group received alcohol-related care. However, no significant differences in substance use outcomes were observed. In explaining these results, the authors noted that as part of the intervention, the trial allowed patients to select their own drinking goals (e.g., abstinence, drinking reduction). However, in light of their review of other related studies (Oslin et al., 2014; Watkins et al., 2017), the authors suggested that to be effective, alcohol interventions may need to include stronger recommendations for abstinence and the use of medications and also make evidence-based behavioral treatments available within the primary care setting.

Implications for Behavioral Health

There is potential to improve access to and coordination of SUD treatment and improved implementation of SBIRT, which we have reviewed in this chapter, as well as for more effective referrals and transitions across the spectrum of care, including primary and specialty care settings, which are critical to high-quality SUD treatment.

An important addition to the implementation of SBIRT are the set of services provided via electronic media and information technologies. Technology-based interventions (e.g., computer- and internet-based interventions, text messaging, interactive voice response, smartphone applications) are extending the reach of effective behavioral treatments for SUDs both in specialty substance use treatment and primary care settings (Tofighi, Abrantes, & Stein, 2018). Advances in technology-based interventions addressing SUDs have made possible increased abstinence with minimal disruption to healthcare staff members and clinical workflow (Tofighi et al., 2018). These interventions cover a range of services, including screening, assessment, and brief and specialized treatment.

As we have discussed, they can provide more accessible and less costly modes of treatment than traditional modalities; that is, they help people access treatment services who would not otherwise seek them because of barriers related to geography (living in remote areas, living in heavy traffic-congested areas, traveling or relocating away from home), shame and guilt, or stigma.

Technology-based help resources can be provided as a sole treatment modality or in combination with other treatment modalities (e.g., in-person MI or CBT) and be either dropped or added to if found ineffective for an individual patient. The help resources of 12-step groups (e.g., Alcoholics, Narcotics, or Cocaine Anonymous, Al-Anon Family Groups) and other mutual help group forums (SMART Recovery, Rational Recovery, Women for Sobriety) are available online.

Despite the promise of technological approaches, rigorous research should continue to establish their feasibility and effectiveness for SUD prevention and treatment. For technology-based interventions to reach their full potential to reduce the burden of SUDs, strategies are needed to facilitate their dissemination and implementation in primary and specialty care, addressing issues of provider adoption, financial reimbursement, integration, and patient engagement (Tofighi et al., 2018). By joining together, the behavioral research, clinical provider, and consumer communities have reason for great optimism in efforts to prevent and treat harms due to alcohol and drug use and addictions.

Acknowledgements Preparation of this chapter was supported by a Senior Research Career Scientist Award (RCS 00-001) to Dr. Timko by the Department of Veterans Affairs (VA) Health Services Research and Development (HSR&D) Service. Views expressed are the authors'.

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