Chapter 13
Prevention Strategies for Unhealthy Alcohol Use

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It is widely known that unhealthy alcohol use and alcohol use disorder continue to be prevalent and consequential problems for the US healthcare system. Estimates place the lifetime prevalence of Alcohol Use Disorders at 29%, although this rate can be even higher for certain at-risk groups, such as among veterans where the lifetime prevalence rate approaches 32% (Williams et al., 2018; Grant et al., 2015). The consequences of alcohol dependence and alcohol use disorders are also manifold, including increased risk for serious health problems including liver cirrhosis and cancer, fetal alcohol syndrome, and motor vehicle accidents (Friedmann, 2013; WHO, 2001). Additionally, it is estimated that around 13% of total healthcare costs in most Western countries is spent in the treatment of alcohol-related disease and injuries (Rehm et al., 2009).

However, despite the widespread nature and impact of unhealthy alcohol use, it is important to note that effective treatment for alcohol misuse or alcohol dependence is not impossible (Oryna & Karpinets, 2013). Furthermore, effective, evidence-based strategies exist not only for treating alcohol dependence but also for detection and early intervention of alcohol-related issues (Babor et al., 2017). Treatment of alcohol misuse is multifaceted, and, accordingly, there are multiple methods and approaches. These include brief single-session interventions to longer, intensive treatment modalities, such as cognitive behavioral therapies and pharmacological options (Ray et al., 2019). For the purposes of this chapter on prevention, however, we will focus on certain methods that align best within a prevention modality, concentrating mainly on early stages of misuse or even when only risk factors such as early-onset drinking (i.e., by the age of 12) or using alcohol as a coping mechanism are present.

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One model that has become more accepted in the field as a means of quickly intervening and preventing alcohol use disorders is the Screening, Brief Intervention, and Referral to Treatment (SBIRT) approach (Babor et al., 2007). A great deal of research has been devoted for more than a decade into the SBIRT model (Babor et al., 2007). This approach focuses on identifying, reducing, and preventing problematic alcohol use via the identification of individuals exhibiting risky use (i.e., use that is currently not meeting the threshold dependence) and intervening with those individuals before more specialized treatment is needed (Rahm, et al., 2015). The options for intervention that correlate with these risk assessments are brief intervention, brief treatment, and referral to more intensive treatment. Because of our focus on prevention, the brief intervention component of SBIRT fits our emphasis best. SBIRT emphasizes the importance of early detection via clinician interviews or other screening measures and the impact of brief interventions that can potentially be delivered in the primary care setting.

The SBIRT model has found acceptance as an effective model for guiding prevention and treatment efforts in the realm of alcohol use disorder and related issues (Babor et al., 2007). However, a number of factors may influence the ability to successfully implement the SBIRT model. A clinician must be aware of the risk factors such as stress levels or the use of alcohol as a coping strategy that are associated with increased alcohol use (Rahm et al., 2015; Madras et al., 2008). Additionally, a clinician should be aware of methods for assessing alcohol use such as the Alcohol Use Disorders Identification Test (AUDIT; WHO, 2001) in order to better inform treatment planning and decision-making (Johnson et al., 2013; Spear et al., 2016). Therefore, the goals of this chapter are to outline risk factors that can help alert a clinician to presentations where a patient may benefit from a brief alcohol-related intervention. Additionally, this chapter will describe methods of screening for alcohol-related issues to aid in early detection and provide more information on the SBIRT model itself to facilitate the creation of practical treatment programs that can hopefully be deployed in a preventative capacity. In integrated care settings in particular, it will be vital to incorporate the participation of behavioral health specialists in the creation of a prevention program.

13.1 Diagnostic Criteria

Accurate diagnosis is key when working with any behavioral health issue. Especially in the context of prevention, it is important to know when issues have progressed to the point where a diagnoseable disorder has developed, as this information can be key to treatment planning. The *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition* states that alcohol use disorder is defined by the following criteria (American Psychiatric Association, 2013, p. 490–497):

A. A problematic pattern of alcohol use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:

1. Alcohol is often taken in larger amounts or over a longer period than was intended.
2. There is a persistent desire or unsuccessful efforts to cut down or control alcohol use.
3. A great deal of time is spent in activities necessary to obtain alcohol, use alcohol, or recover from its effects.
4. Craving or a strong desire or urge to use alcohol.
5. Recurrent alcohol use resulting in a failure to fulfill major role obligations at work, school, or home.
6. Continued alcohol use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of alcohol.
7. Important social, occupational, or recreational activities are given up or reduced because of alcohol use.
8. Recurrent alcohol use in situations in which it is physically hazardous.
9. Alcohol use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by alcohol.
10. Tolerance, as defined by either of the following:
    (a) A need for markedly increased amounts of alcohol to achieve intoxication or desired effect.
    (b) A markedly diminished effect with continued use of the same amount of alcohol.
11. Withdrawal, as manifested by either of the following:
    (a) The characteristic withdrawal syndrome for alcohol, which can be defined as experiencing increased hand tremors, insomnia, autonomic hyperactivity, nausea or vomiting, transient hallucinations or illusions, psychomotor agitation, anxiety, and seizures, developing within several hours to a few days after the reduction or cessation of alcohol use.
    (b) Alcohol (or a closely related substance, such as a benzodiazepine) is taken to relieve or avoid withdrawal symptoms.

For additional information regarding the diagnostic criteria for alcohol use disorder, we refer readers to pages 490–503 in the *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition* (American Psychiatric Association, 2013).

13.2 Common Risk Factors

When examining alcohol use disorder (see criteria above) and the role of integrated care in possible intervention, it is crucial to understand possible risk factors that may indicate which patients are prone to alcohol misuse. In this section we will present risk factors associated with the development of alcohol misuse as an understanding of these risk factors will aid in the determination of which patients may require intervention. The following risk factors are not all encompassing, but their importance is highlighted because of their recurrence in the literature and is the most relevant for consideration by primary care physicians. These include early onset of alcohol use, stressful life events or trauma, family history, and psychological factors including impulsivity, aggression, drinking motivation, stress, depression, and bipolar disorder.

13.2.1 Early Onset of Alcohol Use

The use of alcohol at an early age, defined as starting by the age of 12, has been shown to lead to greater alcohol misuse later in life (Grant et al., 2001; Trenz et al., 2012; Parker et al., 1996). Of course, not everyone who drinks alcohol early in life will misuse alcohol in the future; however, it is significant for healthcare providers to be aware and consider that those who start drinking younger have a higher likelihood of alcohol use that turns into problematic use.

In a longitudinal study on age of alcohol use onset and its relationship to alcohol misuse, researchers analyzed data from The National Longitudinal Survey of Labor Market Experience in Youth (NLSY) and found that in 1989 and 1994, for each year that the age of alcohol use was delayed, the odds of alcohol misuse decreased by 5% and 9%, respectively (Grant et al., 2001). To further highlight the consistency of these findings, in a study focused specifically on alcohol, those who used alcohol (i.e., began using alcohol in greater quantities than just a sip or a taste) the first time before the age of 14 had a lifetime dependency rate of 47%, while those who used alcohol for the first time after the age of 21 had a lifetime dependency rate of only 9% (Hingson et al., 2006).

Since early use is associated with higher rates of problematic use, early detection of use in adolescents and younger adults is critical for preventing future misuse. Morrison and Flegel (2016) recommend that providers inquire about alcohol use and provide the following recommendations to facilitate the assessment process when working with children and adolescents who might be at risk for alcohol-related issues:

1. Delay asking about alcohol use until rapport has been established with the patient, usually partway through the interview (i.e., try not to start with asking about alcohol use).

2. When possible, ask about alcohol use when parents are not present in the exam room.
3. As much as possible, focus on obtaining frequency and amount of alcohol used, the valued effect of use (i.e., to ease social anxiety, the feeling of being intoxicated, etc.), the consequences of use, and the means of financing alcohol use.

Morrison and Flegel (2016) also recommend patience when assessing for alcohol use in children and adolescents. Young patients may be resistant to questions or refuse to answer; therefore working to build a sense of trust is paramount to facilitating the conversation. Additionally, where possible, reminding young patients that what they say can, within legal guidelines, stay confidential may also assist in facilitating the assessment of alcohol use.

Understanding a patient's past alcohol use patterns, specifically the age that the patient started drinking alcohol, will help to determine the likelihood of future misuse and will inform further steps for prevention or treatment. Finding methods to educate youth on the dangers of misuse and establishing strategies to delay age of first use of alcohol may decrease the likelihood for future misuse later in life. A number of online resources exist to help with this goal, such as the following:

1. The Science of Addiction: Genetics and the Brain (Genetic Science Learning Center, 2013)
   (a) Available at: https://learn.genetics.utah.edu/content/addiction/
2. Substance Resource Center (American Academy of Child and Adolescent Psychiatry, 2019)
   (a) Available at: https://www.aacap.org/aacap/Families_and_Youth/Resource_Centers/Substance_Use_Resource_Center/Home.aspx
3. ABCT Fact Sheet (Association for Behavioral and Cognitive Therapies, 2021)[1]
   (a) Available at: https://www.abct.org/Information/?m=mInformation&fa=fs_alcohol

Early use may be a symptom of other psychiatric disorders and may not play a direct causal role in developing alcohol misuse. However, regardless of the reason for the association between early-onset and later alcohol misuse, early onset is still an important indicator for health professionals to use to assess patients. Psychological factors and their association with alcohol misuse will be discussed later in the chapter.

[1] Note the ABCT website (www.abct.org) can also be used to locate more specialized psychotherapy providers when needed.

13.2.2 Stressful Life Events/Trauma

Several studies have demonstrated the link between stressful life events (SLE) and trauma and substance use disorders which specifically include alcohol; according to the Substance Abuse and Mental Health Services Administration (2020), the link between trauma or other negative life events and substance use disorders has become increasingly accepted by researchers (Cole et al., 2019; Enoch, 2011; Lo & Cheng, 2007). While researchers use various terms to discuss the effects of negative life events, there is considerable overlap; for the scope of this chapter, we will use SLE and trauma interchangeably to indicate broadly a significant traumatic negative event or a series of traumatic events that occurred which led to long-term negative psychological effects. Looking into pathways that SLE and trauma might influence addiction and misuse, Enoch (2011) found that early life stresses can lead to hormonal and structural changes in the brain and can also influence gene expression which can cause changes in the mesolimbic pathway which is responsible for dopamine being carried from one area of the brain to another; this reward pathway has been connected with addiction.

In addition, acute trauma and sexual abuse specifically can be a significant risk factor for alcohol misuse. Research supports that experience of specific types of trauma, such as sexual or physical abuse and subsequent post-traumatic stress disorder, is linked to greater alcohol and substance use (Blumenthal et al., 2008; Blumenthal et al., 2015; Harrison et al., 1997). Additionally, Lo and Cheng (2007) found that as the severity of physical abuse increased, the individual was more likely to misuse and become addicted to alcohol and other drugs. In this study, the increased likelihood of alcohol and drug addiction was also shown to be mediated by depression. The research above highlights the possible intricate interplay between abuse, depression, and alcohol misuse. The literature suggests a link between trauma and alcohol misuse, indicating a need for physicians and behavioral health specialists in integrated care to be vigilant when examining patients with possible post-traumatic stress symptoms and indications of prior traumatic exposure or abuse.

Studies have found a comorbidity, as high as 46.6%, between PTSD and substance use disorders which explicitly includes alcohol misuse (Lisak & Miller, 2003; Pietrzak et al., 2011). Primary care physicians who are aware of this risk factor can intervene early with referrals to behavioral health specialists (especially inside of integrated care setting) when their patients display symptoms or the potential for symptoms of PTSD such as a recent traumatic experience. Additionally, the mental health professionals can provide these patients with more healthy methods for coping and reduce the likelihood that they will turn to alcohol to manage their symptoms. As we will see later in this chapter, coping as the motivation for using alcohol seems to predict negative outcomes which further highlights the need for intervention by a mental health professional. Trauma symptoms can be assessed via screening tools such as the Post-Traumatic Stress Disorder Checklist for DSM-5 (PCL-5; Weathers et al., 2013) as well as via semi-structured interview guides, such as the *Interview Guide for Evaluating DSM-5 Psychiatric Disorders and The Mental*

Status Examination (Zimmerman, 2013). The PCL-5 in particular has the advantage of being freely available (at https://www.ptsd.va.gov/professional/assessment/adult-sr/ptsd-checklist.asp) as well as being fairly quick to administer.

13.2.3 Family History: Genetics and Environment

Another important risk factor to consider in alcohol misuse is family history. For the purpose of this section, family history will encompass both genetics and the environment the family engenders. Research has demonstrated the increased risk one has of developing psychopathologies similar to parents, including alcohol misuse (Elder Jr. et al., 1986; Grant, 1998; Wilens et al., 2014). Wilens et al. (2014) found that parental substance use disorders, which included alcohol misuse, were associated with a higher likelihood of offspring substance use disorder, drug use, and alcohol use. However, determining whether this comes more from the shared environment or shared genetics is a tricky question to answer. In attempts to disentangle these findings, researchers have investigated the genetic components of alcohol misuse. Using twin studies, researchers have found variation in the role of genes from 40% to 70% for alcohol abuse (Agrawal & Lynskey, 2008; Enoch & Goldman, 2001; Goldman et al., 2005; Heath et al., 2001; Lynskey et al., 2010).

It is likely from these findings that alcohol misuse has a significant genetic component. However, genetics can impact addiction at varying levels for each substance. There seems to be a difference in the impact of genetic influence related to various types of substance use disorders. But regardless of the variability in genetic influence, there seems to be considerable overlap in how genetics influence addiction among these different substances (Agrawal et al., 2012). Twin studies suggest that the overlap in pathways to addiction for various substances may be due to dopamine neurotransmission pathways (Kendler et al., 2000; Tsuang et al., 2001). While these possible common pathways have been identified, more drug-specific pathways have also been investigated but are beyond the scope of this chapter.

Consistent with the study mentioned above, genes that have been investigated in relation to addiction have been shown to be related to metabolism (alcohol dehydrogenase) or to neurotransmission such as dopamine or serotonin. According to Lopez-Leon et al. (2021), the following genes were associated to two or more substance use disorders: OPRM1, DRD2, DRD4, BDNF, and SLC6A4. SLC6A4 was found to be significant for general substance use disorder and the ADH1B specifically for alcohol misuse (Lopez-Leon et al., 2021). Further discussion of the mechanisms and role of each gene also is beyond the scope of this chapter.

In addition to genetics, childhood environment also influences the likelihood of substance use disorders. Horigian et al. (2015) found that children are two to nine times as likely to experience difficulties with drug and alcohol later in life when their parents use alcohol and other drugs and that maladaptive family interactions are strongly associated with adolescent substance use. Moreover, consistent with other studies, we have seen that early alcohol use is linked to higher likelihood of

alcohol misuse later in life. Additionally, Kendler et al. (2008) point out that when substance use disorder occurs early in life, it was more strongly influenced by social and family environment with genetic influence taking over more in terms of later substance use. While research is working to disentangle which influence plays a more crucial role, it is clear that both the environment and genetics are involved. Understanding that both play independent roles and work together in the development of alcohol misuse is the important factor for a clinician to recognize. A patient who has biological parents with alcohol misuse struggles may be at risk; a patient who has a caregiver who abuses alcohol may be at risk; and a patient who has a biological parent who is also their caregiver with alcohol misuse may be at the greatest risk for alcohol misuse in the future. Clinicians should assess family history in order to get a full picture of a patient's risk of future alcohol misuse.

13.2.4 Psychological Factors

The psychological makeup of the individual should also be considered when assessing the potential of future alcohol misuse. In addition to external factors such as age of onset and environment, researchers have also found that certain psychological factors have also been associated with an increased likelihood for alcohol misuse (Schuckit, 2006). Some of the psychological factors that have been shown to be associated with substance use disorder and alcohol misuse specifically as indicated by the National Research Council and Institute of Medicine (2009) are aggression, poor impulse control, depression, and bipolar disorder. Also, stress has been found to be associated with alcohol misuse (Schuckit, 2006; Segrin et al., 2018).

13.2.5 Impulsive/Aggressive Behaviors

Researchers have repeatedly found an association between substance use disorders, specifically including alcohol misuse, and impulsivity and aggressive behaviors (Brady et al., 1998). In three small sample size studies, researchers looked at impulsive violent offenders, impulsive arsonists, intermittent explosive disorder, and kleptomania. They found that among those offenders, lifetime substance use disorders, including alcohol misuse, had misuse rates that measured 100%, 20%, 57%, and 50%, respectively. These results indicate a strong link between impulsive offenses and alcohol misuse (Linnoila et al., 1983; McElroy et al., 1991; Salomon et al., 1994; Virkkunen et al., 1989).

Determining if impulsivity leads to alcohol misuse or if alcohol misuse leads towards increased impulsivity is also a compelling research topic. Research from Perry and Carroll (2008) observed that impulsivity led to drug and alcohol misuse and drug and alcohol misuse may also lead to higher frequencies of impulsive behavior. When examining impulsive behavior, the literature usually defines an

impulsive choice as the act of choosing a small immediate reinforcer instead of a larger delayed one and defines impaired inhibition as the lack of ability to stop a behavior (Perry & Carroll, 2008). When considering these definitions used by researchers, it is easy to see how there seems to be an association between impulsivity and alcohol misuse as the alcohol provides the immediate reinforcer of positive feelings or relief from negative feelings. Those deemed more impulsive are more inclined to choose immediate reinforcers over long-term and less-immediate results. Understanding that those who may be more impulsive or exhibit more impulsive and aggressive behaviors may be at greater risk for alcohol misuse can be beneficial for primary care clinicians to understand when it may be appropriate to intervene.

13.2.6 Drinking to Cope (DTC)

Additionally, drinking to cope (DTC) with negative emotions has been found to be associated with drinking-related problems (Armeli et al., 2014; Cooper et al., 1995). Research has found that the motivation for drinking is potentially more important than other factors such as amount, frequency, or context of drinking in assessing the potential for alcohol misuse. This is especially true when the motivation to drink is to cope with negative emotions (Merrill & Read, 2010). The above referenced research discovered direct links between coping motives and unique consequences associated with drinking. It also highlights the importance of considering not only how much a person drinks but also a person's motivation for drinking. Based on these findings, practitioners should be especially attentive to patients who drink to cope with negative emotions as opposed to drinking motivated by a social setting.

13.2.7 Stress

Stress has been frequently established as a risk factor for alcohol misuse (Sinha, 2001). Lazarus and Folkman (1984) defined stress as the reaction to challenging, harmful, or difficult events based on how one perceives, interprets, and reacts to the event. Because stress is experienced differently across individuals and since there are varying levels of stress, it is easy to see how varied the response to stress can be. However, based on the research by Sinha (2001), it seems clear that one of the responses to stress is using alcohol to cope which often times leads to the problematic use. Based on other risk factors discussed in this section (genetic, environment, age of onset, etc.), some people may be more predisposed than others to react to stressful events or stress in general with alcohol misuse. Despite the variability in responses to stressful events, undoubtedly stress is a risk factor for alcohol misuse and is especially so for those who use drinking to cope with stress.

If the patient shows signs of lack of coping strategies or explicitly admits the use of alcohol as a tool to cope and they have significant stress in their lives, the

combined risk factors may strongly indicate a need to intervene and provide patient assistance with using healthier ways to deal with the stress (Cooper et al., 1995; Sinha, 2001). This is a key example of how intervention prior to severe misuse may be possible when a primary care physician observes the convergence of multiple risk factors.

13.2.8 Depression/Bipolar Disorder

Schuckit (2006) illustrated the frequent use of alcohol among individuals experiencing depressive symptoms. It seems that the relationship between depressive symptoms and alcohol misuse works in two ways. Alcohol misuse sometimes exacerbates preexisting disorders, such as depression, and other times the depression, or the negative feelings that accompany depression, leads an individual to use alcohol to cope which in turn leads to abuse (Cooper et al., 1995; Hasin et al., 2002; Rabinowitz et al., 1998; Schuckit, 2006; Volkow, 2004). Additionally, Vornik and Brown (2006) found that the rate of substance use disorders, including alcohol misuse specifically, among those with bipolar disorder is significantly higher than that of the general population. These authors note that substance use disorders in general affect up to as many as 61% of people diagnosed with bipolar disorder. It can be difficult to determine which is the case in a specific patient, but for the scope of this chapter, it is just important to understand the link and to understand that decreasing the alcohol use may decrease depressive symptoms; also, decreasing depressive symptoms may also decrease the desire to use alcohol to cope. Understanding the link between depression or bipolar disorder and alcohol misuse is the critical piece. In integrated care, coordination with the behavioral health specialist will allow the patient to work out better ways to cope with depression and bipolar disorder instead of turning to alcohol.

There are significant complexities when discussing disorders that are comorbid with alcohol misuse. A specific example is post-traumatic stress disorder and depression. Since both can be risk factors for alcohol misuse, and one patient may have both diagnoses, the question of which risk factor is the true pathway for the misuse becomes unclear. Understanding this in general may be important for researchers, but for the scope of this chapter, knowing which disorders and psychological factors are associated with alcohol misuse should be sufficient for primary care physicians to determine which patients may be at greater risk.

As discussed, there are various risk factors associated with alcohol misuse that have been brought to light in relevant literature. The risk factors presented are not all encompassing, but those discussed are certainly the risk factors commonly established in relevant literature. Being aware of the risk factors for alcohol misuse can be the first step to prevention, and being able to see the signs of potential future abuse can be an important piece in stopping misuse before it even occurs. For a more in-depth understanding of how each risk factor may contribute to the development of alcohol misuse, see the cited works at the end of this chapter.

13.2.9 Ethnic and Cultural Variables

An important note about ethnic and cultural variables when discussing risk factors: the fact that an individual belongs to a certain group does not automatically mean that they require alcohol prevention services. This, of course, applies to all the factors listed here in this section, but it is of special importance to not stereotype patients being seen and evaluated. Instead, this data is presented with the intention of guiding decision-making in conjunction with the other factors here in this section. For example, this guidance is intended to help clinicians be aware that if a member of a group that is at higher risk for alcohol issues also has other risk factors described here, then that might be an opportunity to discuss the topic with the patient and explore options for the prevention of alcohol misuse before problems start, especially if alcohol use is already present.

The American Psychiatric Association (2013) illustrated significant variances of alcohol use disorder across different racial and ethnic subgroups in the US population. The 12-month prevalence rates for alcohol use among the 12–17 age range appear to be greatest among the Hispanic population (6.0%) and Native Americans and Alaskan Natives (5.7%). However, these rates shift somewhat among adults; here the 12-month prevalence rate for alcohol use disorder is highest among Native Americans and Alaskan Natives (12.1%), Whites (8.9%), Hispanics (7.9%), and African Americans (6.9%). Asian Americans and Pacific Islanders had the lowest 12-month prevalence rate at 4.5%.

Other variables such as religion can play a role in alcohol use. Ellison et al. (2008) found that religions with clear expectations regarding alcohol use, such as Protestant groups or members of the Muslim faith, bear a strong inverse relationship with alcohol use behaviors in individuals belonging to those faiths. However, the researchers also described that the individual salience of personal religious beliefs was more important in predicting alcohol use than general church teachings. This means that the personal religious commitment of an individual within a faith with regulations regarding alcohol use may serve as a buffer against other risk factors. This is due to the finding that personal commitment seems to predict which religious individuals decide to restrain or abstain from drinking (Ellison et al., 2008).

13.2.10 Anxiety

Anxiety, in particular social anxiety, has a strong association with alcohol use (Morris et al., 2005). Estimates have placed the lifetime prevalence rates of alcohol dependence among those with social anxiety disorder at 24%, meaning that nearly one in four individuals that suffer from social anxiety may also be experiencing clinically significant alcohol issues as well. However, the well-documented relationship between anxiety and alcohol use does not stop with social anxiety. In general, research has demonstrated that 50% upwards or nearly one out of every two

individuals receiving treatment for problematic drinking also met the criteria for one or more anxiety disorders (Anker & Kushner, 2019). Therefore, anxiety disorders in general should be viewed as a potential warning sign and an indicator that some form of intervention may be needed as well to prevent the development of alcohol use disorder.

There are a number of different screening tools for anxiety. The Generalized Anxiety Disorder Screener (GAD-7) stands out as being short, efficient, and freely available (Kroenke et al., 2007). The GAD-7 is a seven-item self-report measure capable of assessing the severity of anxious symptoms an individual is experiencing and has been designed to be effective for individuals of ages 12 and older (Kroenke et al., 2007). Additionally, the GAD-7 has been demonstrated to be able to screen for the presence of four different anxiety disorders: generalized anxiety disorder, post-traumatic stress disorder, social anxiety disorder, and panic disorder. While the screener cannot differentially diagnose between those disorders, it can indicate to a clinician the need to ask further questions in order to hone in a specific diagnosis, if the symptoms have progressed that far. Research so far has suggested that a cut score of 8 be used as a point of identifying when further questioning might be employed to detect the development of an anxiety disorder. However, even scores under 8 may indicate an increase in anxiety symptoms that could also be associated with an increased risk of alcohol use. Clinicians should pair the GAD-7 with interview questions to be able to differentiate the exact kind of anxiety that the patient is experiencing. For more information on the prevention and screening of anxiety disorders, please see Chap. 13 of this volume.

13.2.11 Practical Suggestions on Assessment

In terms of implications for integrated care, the preceding information on risk factors, such as stress, impulsivity, or other comorbid psychiatric disorders, suggests that screening for these risk factors during appointments may be useful to alert providers as to when intervention may be required. These questions can be integrated into existing questions regarding general health behaviors, such as asking about current stress levels or asking how individuals are utilizing alcohol (i.e., asking what purpose the alcohol serves in their life, with emphasis on whether their answers indicate that they are drinking to cope).

Additionally, the above information highlights the importance of reviewing patient records, especially in integrated care settings (Willis & O'Donohue, 2020). Record reviews can allow a primary care provider to know what other clinicians have been observing, allowing their evaluations and assessments to inform the primary care provider. Record reviews enable a provider to integrate information from multiple sources that may have had the chance to observe any of the preceding risk factors. If, for example, the behavioral health specialist has noted several risk factors for alcohol use (such as impulsivity, increased stress, or the presence of comorbid bipolar disorder), then that information can inform the primary care provider to

be on the lookout for additional warning signs or to start the conversation with their patient regarding alcohol use disorder prevention strategies. Further quantitative screening tools for alcohol-related issues are detailed below.

13.3 Screening and Measurement

The preceding section on risk factors for alcohol use is by no means exhaustive. Instead, it is intended to serve as an effective primer on factors to be aware of when working with patients in a clinical setting. The preceding information can act as a guide when interviewing patients, with each of the identified risk factors serving as a kind of "red flag," alerting the clinician to be more aware of possible alcohol-related issues so that prompt action can be taken if needed.

However, while awareness and the ability to qualitatively assess the preceding risk factors are important, being able to collect quantifiable information on a patient's problematic alcohol behaviors and risk factors is also vital to effective prevention. Measurement is crucial in the prevention process as it facilitates decisions regarding when and how to intervene in efforts to prevent unhealthy alcohol use from escalating into an actual alcohol use disorder. However, evidence has been shown that while brief interventions in primary care setting can be effective at reducing unhealthy drinking, many patients with alcohol issues are not identified and therefore do not receive such interventions (Nilsen et al., 2006; Vinson et al., 2007. Therefore, an important piece of any plan to help prevent alcohol use disorders should involve increasing the ability in primary care settings to effectively and efficiently screen for and detect warning signs of problematic alcohol use. It is important to note that not all of the previously elucidated risk factors have a direct quantitative method of assessing them, which is why a combination of clinical interviews and quantitative measurements is recommended whenever possible to ensure a complete picture of a patient's condition is formed. Here again, the advantages of an integrated care setup may come into play. When possible, the physician may use some of the following screening tools and discover that an individual is suffering from an elevation in their anxiety symptoms. Coordinating with the behavioral health specialist can ensure a correct diagnosis if needed as well as helping to connect that individual with the right level of intervention.

13.3.1 General Suggestions on Screening Tools

Before discussing specific screening instruments, it is important to note a few general principles that can make screening more effective. Spear et al. (2016) highlighted the need to remember the immense amount of social stigma that can accompany alcohol and other substance use issues. Therefore, they recommended the following points be considered when planning a screening strategy:

1. *Rapport Building*: Spear et al. (2016) noted in their study that individuals who trusted their clinician were much more likely to respond honestly to screening questions regarding alcohol use. Specifically, they highlighted the need for clinicians to establish rapport where the patient can feel safe in disclosing potentially unpleasant personal information. While personal warmth and positive regard can help in developing trust, confidentiality (which follows below) is also a vital starting point in helping patients build trust (Huibers & Cuijpers, 2014).
2. *Confidentiality*: While maintaining confidentiality is an ethical imperative (American Psychological Association, 2017), Spear et al. (2016) noted in their study of the acceptability of alcohol screens that patients may require extra assurances that their responses to substance-related questions will be kept confidential. Several participants in the study indicated that they were only willing to allow their primary care provider to see the results of any substance use screens. They specifically indicated they did not wish for any other healthcare personnel, including nurses and support staff, to have access to their completed screening measures (Spear et al., 2016). Therefore, care must be taken to assure patients that their responses will be kept between them and their provider to the amount feasible. The increasing proliferation of electronic health records system across the United States may make this goal of confidentiality somewhat simpler (Garrett, 2010). Electronic health records systems may provide methods of compartmentalizing data, ensuring that only designated users are able to see certain sections of a client's file (Titanium Software, 2019). Additionally, careful use of file names and a working knowledge of how different medical records systems store scale data collected from patients can enable administrators to conceal more sensitive scales from easy and accidental access, thereby offering another level of security and helping patients feel they can respond more openly on the measures.
3. *Methods of Administration*: Time is at a premium in primary care settings, where physicians may only have 10 minutes to attend to a patient before needing to move on to the next individual waiting in line (Wiesche et al., 2017). Therefore, any discussion on assessment and detection of the early warning signs of alcohol issues must also include how to deliver said assessments in an efficient manner. There are multiple methods of delivering assessments to patients, either via pen and paper measures that can be completed in a waiting room or via tablets and mobile computers that can administer the needed assessments electronically. While conducting a clinical interview with a patient will likely need to be done by a clinician, electronic means of administering scales show great promise as a means of screening for alcohol use issues. In fact, research has shown that patients frequently prefer self-guided assessments of more sensitive topics, such as alcohol use, to more formal clinical interviews (Spear et al., 2016). Several factors are important to consider when implementing an online assessment system, such as whether the assessments will be text only or if they will contain some sort of narrative guide. Additionally, care should be taken to ensure that whatever hardware is eventually selected to administer the measures, the devices themselves are easy to use and fairly durable to survive constant handling in the

clinic setting. Furthermore, consultation should be sought with appropriate information technology experts with training in regulations outlined under the *Health Insurance Portability and Accountability Act* (HIPAA) to ensure that the data transmissions from any mobile screening device (such as a laptop or tablet) are sent in a secure and encrypted manner back to the central medical database (Department of Health and Human Services, 2013). Electronic administration also aids in accessibility, as screens can be translated in various languages and those translations can be easily made available upon request by the user.

4. *Consider "At Home" Options*: Given the limited amount of time a patient might actually have to spend with their primary care doctor, it may be reasonable to consider methods of having the patient complete needed screens at home before even coming into the clinic. Increasingly, clinics that have access to electronic health records systems are also gaining access to patient portals where patients can log in remotely and complete intake paperwork and respond to questionnaires (Epic, 2021; Titanium Software, 2019). These systems allow patients to securely access screening tools and complete them before coming into the clinic. This, in turn, potentially provides an added layer of confidentiality, especially in circumstances when filling out a survey may require an audio component, such as for patients who may need an on-screen narrator for accessibility purposes. It is important to be aware that not all patients may have access to compatible devices to complete screening tools at home, but the at home option still may be an effective method for maximizing the amount of time a patient can spend talking with a provider. Furthermore, being able to administer assessments remotely and at home has benefits as clinics continue to adapt to the COVID-19 pandemic. The COVID-19 pandemic has caused massive shifts in how behavioral healthcare and primary healthcare in general operate (Fisk et al., 2020; Rawaf et al., 2020). The impact of the COVID-19 pandemic is still being investigated and understood, but the increasing use of online, at home assessments has been one method adopted by our university clinic and others to adapt to the decreased frequency of having a patient physically present in the clinic. At home administration can also benefit rural telehealth clinics, where having the patient come in to fill out measures is not feasible.
5. *The Need for Orientation*: Spear et al. (2016) noted that individuals usually preferred electronic assessments via tablet or mobile computer to in person interviews regarding alcohol use. This effect remained constant regardless of the user's skill with computers and electronic devices in general. However, to achieve this effect, the study conducted by Spear et al. (2016) recommended an orientation be added before the screening assessments begin. This orientation should include the preceding information regarding confidentiality, including specific information regarding who will and will not be able to see the patient's responses. This orientation should include a brief description of the use interface, contain information on how to navigate said interface, and clearly display where users can go to get additional help if needed. This information can be presented as a set of information slides at the beginning of the assessment package, or a facility staff member can present the information verbally. This

orientation has been demonstrated to aid in the acceptability of online electronic assessment, even by individuals who may be unfamiliar with the devices in use at the facility (Spear et al., 2016).

13.3.2 Selecting Screening Tools

The selection of measures for screening battery must be handled with care. Attention must be paid to how much time it may take a patient to complete the assessment packet, along with whatever additional sign in paperwork is customary for a primary care visit. The importance of this time requirement is somewhat reduced when options exist for patients completing assessments at home. However, even in the home setting, it will be important to not overburden patients via the administration of tests that are too long or too numerous. Additionally, it will be important to consider the length of time required to score and interpret the screening instruments under use. Therefore, in this section we will present several commonly used screening tools for alcohol use and alcohol use disorders as examples that might fit well in the primary care setting.

13.3.3 Alcohol Use Disorders Identification Test

A commonly accepted method for assessing alcohol use in patients is the Alcohol Use Disorders Identification Test (AUDIT), a ten-item measure that can be administered either as a self-report questionnaire or as an oral interview (WHO, 2001). The items focus on assessing the frequency and severity of alcohol use, as well as the impact of alcohol-related problems (i.e., accidents, injuries, feelings of guilt or remorse). As the AUDIT can be used either as a self-report measure or as a clinician-directed interview, it possesses significant flexibility. The test can be used as a self-report measure when time is a critical factor, such as in the primary care setting, or can be utilized as an interview to help patients with poor reading skills. The utilization of the measure as an interview also provides the opportunity for seamless feedback to the patient and the initiation of advice while on the topic of substance use (WHO, 2001). The AUDIT can be accessed for free from the World Health Organization website, which further enhances its utility as a screening measure, as there is no overhead cost associated with acquiring or using the instrument. The AUDIT scale itself has been the subject of a variety of studies and has been demonstrated to be effective at identifying patients who are in the "at risk" category of drinking, thereby making it more applicable to the realm of prevention. The original AUDIT interpretation guide suggested that a score of 8 for men and 7 for women indicated a pattern of unhealthy alcohol use (Babor et al., 2001). However, more recent research by Johnson et al. (2013) indicated that the cutoffs should potentially be lowered to a score of 5 for men and 3 for women. In particular, these lower cutoff

scores may help to identify individuals who are at risk for more serious alcohol use issues earlier, thus facilitating the use of preventative measures. The AUDIT has been shown to be effective for individuals aged 14 and older, though it is recommended that between the ages of 14 and 18 a score of 2 should be used to indicate any alcohol problem and 3 be used for alcohol misuse or dependence (National Institute on Alcohol Abuse and Alcoholism, 2017).

13.3.4 Alcohol Use Disorders Identification Test-Concise

The AUDIT scale also has a shorter variant, the Alcohol Use Disorders Identification Test-Concise (AUDIT-C), which is a three-item scale that focuses exclusively on the amount of alcohol that is typically consumed by a patient (Bush et al., 1998). Subsequent research has suggested that the cutoffs of 4 for men and 3 for women be utilized when administering the AUDIT-C (Johnson et al., 2013). The advantage of the AUDIT-C is its brevity; the screen can be administered quickly and efficiently. However, it is important to note that with the shortening of the instrument comes a loss in performance. Johnson et al. (2013) found that while the AUDIT-C is still an effective measure of unhealthy alcohol use, the full AUDIT scale seems to perform better by increasing specificity and decreasing the number of false positives. Like its larger sibling, the AUDIT-C is also freely available online. Additionally, the AUDIT-C has been shown to be effective at assessing both adults and adolescents, from the age of 12 and up (Liskola et al., 2018).

13.3.5 The Alcohol, Smoking, and Substance Involvement Screening Test

The Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) is an eight-item questionnaire also developed by the World Health Organization. It is designed to detect problematic substance use generally (Humeniuk et al., 2010) and has been validated for the adult and adolescent population, from the ages of 18 to 60. Additionally, multiple language versions of the measure exist, including Portuguese and Spanish. While not specific to alcohol use as the previous scales, the ASSIST is still effective at detecting substance use issues and has two subscales, Alcohol Involvement and All Other Substance Involvement. This scale can be useful in detecting any comorbid substance use issues that might be present in addition to risky alcohol use. Furthermore, the scale is divided into risk zones, with a score of 0–10 indicating low risk of alcohol use problems, 11–26 indicating moderate risk, and anything above 27 indicating high risk. These divisions can be useful in identifying patients who might benefit from interventions early, before they arrive at the high-risk zone. Similar to the scales mentioned above, this scale is also freely

available online, which helps to remove barriers imposed by fees for use. However, the ASSIST does differ significantly from the previous examples in that it is intended to be delivered as a clinical interview lasting between 5 and 10 minutes. However, Spear et al. (2016) demonstrated that the measure can be converted into an audio computer-assisted self-interview where the screen is read to the patient via a tablet or laptop computer and the patient responds to the questions using the device's interface.

13.4 General Principles in Prevention

Clinical interviews and the above screening tools are important in identifying who might benefit from intervention. However, once those individuals are identified, the question arises of what to do next. When creating a plan to intervene with alcohol issues, even those that are subclinical, there are a number of general factors to consider. Prevention programs tend to have three aspects incorporated into them to increase effectiveness (Larimer & Cronce, 2007):

- Knowledge
- Training skills
- Motivational/feedback

First, prevention interventions tend to provide education or awareness regarding the issue or problem. These programs often use pamphlets, posters, presentations, or classes that include risk factors or statistics to inform the public of the dangers of drinking. These are often done in schools due to them being a simple way to convey information. Their primary goal in these prevention programs is to reduce or delay the use of alcohol, and these programs are often designed to target risk factors. Meredith et al. (2020) piloted a prevention program called *Just Say Know*, an interactive intervention that focused on providing information on the brain basics and the effects of substance use. Their findings on the neuroscience-informed prevention program indicated that this type of prevention may reduce or delay the use of substances in adolescents (Meredith et al., 2020). A literature review showed that to have an effective prevention program, interventions must be theory-driven, address social norms, help students resist peer pressure, and be cultural and developmentally appropriate (Stigler et al., 2011). However, knowledge-based interventions have only a small effect in reducing or delaying alcohol use (Larimer & Cronce, 2002; Larimer & Cronce, 2007). Thus, incorporating skills training in the intervention will increase the effectiveness of the intervention. An example of an intervention program utilizing these factors is the *ready4life* mobile program, developed with the intent of helping to prevent substance use in adolescents via life skills training (Haug et al., 2017). The *ready4life* program was built using a system known as MobileCoach, which is an open-source platform and thus freely available to developers. The *ready4life* software featured automated reminder messages, monitoring questions, and other engagement activities designed to increase general life

skills such as stress management and social skills. Results on the software's use have been promising, with the proportion of adolescents with at risk alcohol use declining from 20.2% in the initial sample to 15.5% at follow-up (Haug et al., 2017).

Next are the intervention programs that teach the individual the skills needed to prevent alcohol use. These are often delivered in a medical or therapeutic setting by a professional. The multi-component skills training programs often consist of environmental prevention strategies and combine them with individual- or family-level change tactics. Several studies that have used multi-component skills training to reduce alcohol use has shown a reduction in alcohol use (Barnett et al., 2007; Borsari & Carey, 2005); however, not all interventions have been as effective in reducing alcohol use (Komro et al., 2008).

Lastly, prevention interventions should include a motivational and feedback approach when dealing with alcohol use. These types of interventions use motivational interviewing (MI) which is a "goal-oriented style of communication" to help identify the individual's stage of change (Miller & Rollnick, 2013). A literature review indicated that the use of MI is effective or as effective as other treatments (DiClemente et al., 2017). In addition to the motivational interventions, feedback is an essential component to increase the effectiveness of the intervention (McNally & Palfai, 2003). The combination of these three aspects in an early intervention might have a larger impact on reducing or delaying the use of alcohol.

13.5 Brief Prevention Strategies in Primary Care

Research has suggested that brief interventions following the Screening, Brief Intervention, and Referral to Treatment (SBIRT) approach may be especially helpful in the domain of preventing the development of more serious alcohol-related issues (Babor et al., 2007). Brief interventions in general consist of efficient efforts such as one to two conversations or meetings that will provide information or advice and will focus on motivating the patient to decrease their alcohol use (Babor et al., 2007). This brief intervention can be highly structured or less so with more of a focus on motivational interviewing. It also can focus on changing behaviors that will potentially reduce alcohol use. For more information on how to implement SBIRT, it would be extremely useful to refer to the toolkit provided in "SBIRT: A Step-By-Step Guide" by the Bureau of Substance Abuse Services. This toolkit is especially helpful for use with individuals who are low to moderate risk, highlighting how this approach fits well as a prevention strategy. Benefits of the brief intervention stage of SBIRT are the time-saving and cost-effectiveness, as well as the lack of invasive approaches that may be necessary if the alcohol use progressed to a higher risk or if the patient already had a substance use disorder.

This theme of time-saving and cost-effectiveness will be evident throughout the section as early intervention and prevention strategies are typically less invasive than approaches once true intervention as opposed to prevention is necessary. This is clear in the SBIRT approach as even just the next stage of brief treatment involves

two to six sessions of cognitive behavioral or motivational enhancement therapy. Babor et al. (2007) also found that brief intervention with problem drinkers seems to be as effective as more extensive treatments and found further evidence for its effectiveness, especially among those with less severe problems (Moyer et al., 2002; Bien et al., 1993). When this level of care is needed, it may be possible for the behavioral health professional in an integrated care clinic to deliver the brief intervention.

Additionally, Babor et al. (2007) as well as Seigers and Carey (2010) indicate that other healthcare personnel can deliver the brief intervention as well such as nurses, nurse practitioners, counseling staff, and trained research staff furthering its cost and time efficiency. Since brief intervention can be implemented in only one to two sessions and can be performed not only by the primary care physician, this brief intervention approach can be used any time risk factors may be present without a large time or financial impact and fits well into integrated care frameworks.

Other researchers recognize the benefit of intervention strategies if implemented but identify certain barriers that could limit its application. Screening rates for alcohol have been found to be as low as 2%–26%, and researchers have also discovered the difficulty in providing high-quality alcohol-related care because of stigma, lack, of training, lack of alcohol focus in the primary care setting, and not even seeing AUDs as something primary care facilities are equipped to handle. There is also the idea that alcohol treatment should be left to specific programs such as Alcoholics Anonymous (Bobb et al., 2017). In order to address these barriers, Sustained Patient-centered Alcohol-Related Care (SPARC) was designed.

Three main strategies were used in order to implement SPARC and address the barriers mentioned. The first involved enabling the primary care teams to offer high-quality care through training, implementation design strategy, addressing stigma, and focusing on shared decision-making. SPARC trained a "champion" provider from each site and trained them with a social worker, as part of the team. In the pilot study, other than the individual training, a consultant implemented the program on site focusing on workflow and program execution. In addition, every other week this champion would participate in learning sessions. To address stigma, patient-focused materials were provided in order to reshape attitudes about alcohol in a way more in line with treatment such as helping the providers see drinking as a health issue and to see unhealthy alcohol use on a spectrum. Additionally, staff learned recommended alcohol limits and evidence-based approaches to treat AUD. Finally, the program focused on shared decision-making in order to make the patient feel more responsible for their decisions and create a more cooperative relationship between the provider and client.

The second strategy is aimed to help medical providers stay on top of assessments and treatment by using an electronic health record (EHR) for support. The EHR would alert medical assistants when a patient hadn't had a behavioral health screening in the past year and would trigger a visual prompt for medical assistant to remind providers to give a handout and engage in a brief intervention depending on the previously mentioned AUDIT-C screening score. The EHR would also provide decision support based on DSM-5 AUD symptom checklist to advise further action

such as next steps to help facilitate treatment and would provide prompts to initiate treatment. Additionally, EHR would prompt the doctor for missed assessment. The third strategy involved monitoring and providing feedback for quality improvement. Strategy one focused on program implementation, while strategies two and three are designed to keep providers accountable and make sure the process to improve care was evolving and not staying stagnant.

This EHR program, like SBIRT, involves the brief intervention strategy that fits well with our prevention focus. The results of the program's pilot study that include brief intervention as well as more in-depth treatment options saw improvements in multiple domains. In the sites involved in the study, alcohol screening increased from 8.9% before implementation to 62% after implementation. There was also an increase in new AUD diagnoses and a 54% increase in treatment within 14 days of new diagnoses. Specifically, for the purpose of prevention, the percentage of positive screens for unhealthy use increased from 2.2% to 17% affording opportunities to prevent furthered disordered drinking in these patients.

The SPARC program seems to be a promising avenue for increasing the efficiency of screening for unhealthy alcohol use. In addition, it provides training that may help providers to better support their patients. Finally, the use of the electronic health record appears to be a promising tool to help busy providers stay on top of alcohol screening and direct patients to treatment.

In terms of population, college students are an extremely important population to address in terms of prevention of unhealthy alcohol use. Approximately 30% of college students meet the diagnostic criteria for alcohol misuse (Seigers & Carey, 2010). Due to this high prevalence among the college population, focusing on college students and college campuses and even high schoolers for prevention strategies is crucial. In order to get a better understanding of prevention on college campuses, Seigers and Carey (2010) reviewed 12 studies that used brief intervention in a college- or university-based student health center or university emergency department. The reviewed studies also provided pre- and post-data to evaluate change. There were four uncontrolled studies, and all four documented alcohol consumption reduction post-intervention. Out of the eight controlled studies, six found larger alcohol consumption reduction than control conditions. One that did not find a reduction focused on behaviors other than just alcohol consumption possibly diluting the alcohol focus, and the other design that didn't find a reduction didn't control only for alcohol use specifically. These findings showed a reduction in risky behavior. In terms of best practices, Seigers and Carey (2010) stressed the importance of screening and detection of alcohol-related risk factors when deciding who will receive alcohol-related interventions. Additionally, they indicated that college health centers represent a prime venue to engage with those at risk of developing alcohol problems. Of the studies that they reviewed, they found that between 63% and 80% of students who were screened for risky drinking (see the section on assessment for specific screening tools) were willing to participate in interventions to help reduce their risk of developing alcohol-related problems. Furthermore, Seigers and Carey (2010) found that brief interventions, usually no more than 75 minutes, were effective at helping to intervene with at-risk individuals and

overall utilized relatively few materials, demonstrating that brief contact can effectively reduce drinking.

The intervention strategies consisted of short single conversations or brief counseling sessions of varying length. Most studies reviewed also used motivation interviewing coupled with feedback personalized to the interview. Two studies helped bring awareness to drinking patterns by focusing on timelines and calendars, and six of the studies used Web-based components to help with screening assessment and with the intervention (Ballesteros et al., 2004; Dimeff & McNeely, 2000; Ingersoll et al., 2005; Kypri et al., 2004; Kypri et al., 2008; Kypri & McAnally, 2005; Martens et al., 2007; Werch et al., 2007). Kypri et al. (2008) also found that after a Web-based intervention with a 9.3-minute median completion time, students reported less alcohol consumption and fewer academic problems than controls, and these findings held a year after completion.

Additionally, some workplace prevention programs may offer insights on how to better prevent alcohol use disorders in primary care settings. Ames and Bennet (2011) reviewed various workplace programs and found that prevention approaches in the domains of health promotion, social health promotion, and Web-based interventions are effective for primary care prevention efforts. Ames and Bennet (2011) provide a number of suggestions when planning an alcohol prevention program. Specifically, they highlighted an approach they designated Team Awareness, which embedded alcohol-related information in the context of team building, stress management, and policy learning. While useable in the workplace, their findings nonetheless suggest that alcohol-related messages embedded within other health-related information (such as information on stress management and problem-solving skills) can be impactful in reducing the risk of developing alcohol-related issues.

A critical step recommended by Bennett et al. (2004) is the replacement of alcohol-related behaviors with behaviors that are less risky. Specifically, they recommend examining why individuals utilize alcohol. As discussed previously in this chapter, those who utilize alcohol as a means of reducing stress or coping are potentially at risk for developing unhealthy alcohol use. In the same vein, some individuals use alcohol not only for emotional regulation but also for building social support with friends or co-workers. This appears especially prevalent in individuals who have physically risky or safety-related jobs (Bennett et al., 2004). Therefore, providers should work with such patients to find alternative behaviors where they can still gain needed social support. Behavior replacement is especially important to ensure that individuals do not fall back into old, risky alcohol-related behaviors due to not having their needs sufficiently met. This behavioral replacement strategy was part of a larger intervention program dubbed Team Awareness and focuses on two 4-hour sessions spread out over 2 weeks (Bennett et al., 2004). These sessions focused on stress management skills, emotional coping skills, and psychoeducation on alcohol tolerance and other risk factors. Additionally, the sessions encouraged individuals to help and support fellow co-workers, thus working to remove the shame and stigma associated with risky alcohol use. While intended for use in an employee assistance program, the Team Awareness model nonetheless contains pieces that could be adapted to the integrated care setting, such as the focus on behavioral replacement.

Adding to this, Cook et al. (2003) found that a stress-management program/nutrition program found similar reductions in alcohol consumption compared to a program that also added substance use prevention specifically into the training. These findings show that there are substance use prevention benefits in programs that focus on healthy behavior overall regardless of inclusion of substance use discussion allowing primary care facilities to potentially accomplish multiple tasks at once, i.e., general health and substance use reduction. Therefore, prevention programs should also examine the possibility of including general health promotion (i.e., exercise, sleep hygiene, stress management, proper nutrition) to help reduce risk factors that can contribute to risky alcohol use (Ames & Bennet, 2011).

Doumas and Hannah (2008) found that those who completed a personalized feedback program on drinking reported significantly lower levels of drinking than a control group. This Web-based prevention provided feedback on drinking and also included a 15-minute motivational interviewing session. This program has been delivered in the workplace but is free to the public at www.CheckYourDrinking.net and may be a simple and easy way for primary care offices to prevent problem drinking early on with minimal time commitments on both the primary care physician and the patient.

Overall, brief intervention seems to be an efficient and well-researched form of prevention that can be easily added into an integrated care setting. Additionally, the potential for combining health promotion, social health promotion, and simple Web-based prevention adapted from the workplace prevention efforts into primary care educational prevention is promising. The results from these types of prevention strategies in the workplace appear to be effective. Combining a simple educational packet, video, or presentation that includes all of these elements that can be easily distributed to patients in the primary care setting may be simple, time-efficient, and possibly beneficial. Of course, research should be done on a specific program covering these elements adapted to the primary care setting, but the potential seems favorable.

13.6 A Guide to Implementation

Stepped care is a staged hierarchical intervention system designed to be the least restrictive possible to the patient while still making significant health gains (Bower & Gilbody, 2005). According to a stepped care guidance program from the Australian Government Department of Public Health (2019), generally, the five levels of care are as follows: self-management, low-intensity services, moderate-intensity services, high-intensity services, and acute and specialist services. For the scope of this chapter, the prevention strategies will take place in steps one and two. The third step is a referral to treatment step that, in terms of prevention, is only important to understand that it should be used when prevention has failed or treatment is needed. Steps ranging from three to five would be more applicable in a treatment as opposed to a

prevention model. What follows is an example model of how the preceding information can be adapted into the stepped care model for prevention in primary care.

13.6.1 Assessment and Screening

It is important to screen patients regularly in order to be proactive enough to stay in the prevention realm and not falling into the domain of the requirement for treatment. During an appointment (or preferably before), a patient completes screening measures such as the aforementioned AUDIT or AUDIT-C. Combining the scores on these measures along with data gathered when interviewing a patient, the clinician can then decide if further intervention is warranted. If a patient has an elevated AUDIT-C measure score or has indicated that they experience a number of the previously listed risk factors (such as increased stress at work), then the provider can discuss intervention options with the patient and collaboratively decide on a course of action.

13.6.2 Stepped Care Level 1: Self-Guided Intervention

Once the level of need has been established, then stepped care can be implemented. Step one of a stepped care model would be the lowest level of care and would include a referral from a PCP for the patient to complete a preventative course of treatment on their own, offering the Web-based interventions, as they would permit the patient to complete the program at their own pace (Kypri et al., 2008). Examples of Web-based interventions for alcohol prevention are as follows:

1. General Purpose: https://www.smartrecovery.org/ (SMART Recovery, 2021)
2. For Youth: https://y4y.ed.gov/tools/drug-and-alcohol-prevention-resources/ (Department of Education, 2021)
3. Alcohol Screening: www.CheckYourDrinking.net (Evolution Health Systems, 2021)
4. Both Youth and Adults: https://drugfree.org/ (Partnership to End Addiction, 2021)

This level of care will be especially useful if a patient presents one or two risk factors but doesn't present as needing care after being assessed by one of the alcohol screening tools previously discussed. For example, if a patient doesn't necessarily score in a level that would normally cause concern on an alcohol screening test but does shows signs of impulsivity that concerns the PCP, step one can be easily administered. This is especially warranted if multiple risk factors present together. Step one can also be useful if the patient screens as low risk on an alcohol use screening test. If a PCP notices a patient presents risk factors or scores low risk on a screen, they can immediately refer the patient to one of the Web-based

preventions. The benefit of this is that if a PCP is at all concerned about any of the risk factors mentioned above, or if a patient scores extremely low risk on a screen, there doesn't have to be any hesitation to implement step one as is takes so little time and effort to refer a patient to Web-based intervention. Since this approach is not at all invasive nor does it require much effort or cost, it can lower the threshold of implementation of step one to the point where true early prevention can take place. This may prevent unhealthy alcohol use habits maybe even before alcohol use is present. Additionally, another way to utilize the appearance of risk factors can be to use them as an indication for the need to administer an alcohol screening test in addition to their annual screen if any time has passed since their last screening. For example, if a patient presents extreme stress or a PCP is aware of a family history of alcohol, in addition to administering step one, the PCP can then administer an alcohol screen in order to become more aware of the patient's risk for unhealthy alcohol use.

In addition to online interventions, bibliotherapy (i.e., therapy grounded in evidence-based, self-guided books) has emerged as another effective means of preventing alcohol issues from worsening, especially among those who are not experiencing clinically significant alcohol use disorder (Connors et al., 2017). Especially in rural areas, where constant phone or Internet contact may not always be feasible, bibliotherapy provides an excellent option to help patients learn more about alcohol use issues and learn strategies for preventing alcohol use from transforming into alcohol use disorder. A few examples of books that can be utilized for this process are as follows:

1. Rational Drinking: How to Live Happily With or Without Alcohol (Edelstein & Ross, 2013)
   (a) Available online and in print from www.amazon.com
2. So You Want to Cut Down Your Drinking?: A Self-help Guide to Sensible Drinking (Robertson & Heather, 1998)
   (a) Currently available only in print, ISBN-13: 978–1,902,030,036
   (b) Utilized in Connors et al. (2017) study of the effectiveness of bibliotherapy in prevention of alcohol problems in rural areas

13.6.3 Stepped Care Level 2: Brief Intervention

If a patient screens as moderate risk for alcohol use disorder or does not respond to the self-guided options in step one, step two on the model can be used. This would include meetings conducted by a PCP, nurse practitioner, nurse, or another trained staff member. The meetings would include training in skills such as stress management and coping skills that can replace alcohol use in situations when one wants to drink to cope. Additionally, these meetings would include the brief interview that was discussed above. More detailed information on how to implement the brief

interview can be found in in "SBIRT: A Step-By-Step Guide" by the Bureau of Substance Abuse Services. Throughout all of the interventions, including a shared decision-making approach as used in the SPARC program is recommended to increase implementation effectiveness. Additionally, educational programs may be beneficial to implement into a practice. Cook et al. (2003) outlined a program that involved three 45-minute sessions that included information on stress management, nutrition, and substance use prevention, and results showed reductions in alcohol consumption, and results were maintained 8 months later. This prevention strategy would require adoption of a specific program, but medical practices could potentially save time if they were able to group at-risk patients together in a classroom setting for implementation. For more information, the program is discussed in further detail in the cited article by Cook et al. (2003).

Finally, step three would be if the patient screens as high risk or if actions taken in step two were unsuccessful and the patient didn't show signs of improvement or risk worsened. This step is implemented if prevention efforts fail or if treatment is now needed as opposed to prevention. This step is significant for this chapter, however, to understand that step three is the option after steps one and two are unsuccessful or if the patient screens as high risk. It is also worth mentioning that if a primary care facility wanted to take an all-in approach to prevention and treatment, adopting and fully implementing one of the programs listed such as SPARC or SBIRT would be particularly beneficial.

13.6.4 Stepped Care Level 3: Referral

There is always the possibility that the prevention technique described above will not be successful in preventing a patient's symptoms from progressing into alcohol use disorder. When scores on the screening tools (such as the AUDIT) combine with clinical interview data to suggest that a patient is meeting criteria for alcohol use disorder, it may be time to consider a referral to more specialized treatment, longer-term therapy. If that is the case, the database at www.abct.org can be useful in locating a skilled provider with the needed skillsets (ABCT, 2021).

13.7 Conclusion

Screening and brief interventions for alcohol use have become important parts of the toolkit in preventing alcohol use disorder and addressing other alcohol use issues (Spear et al., 2016). The SBIRT model highlighted in this chapter provides guidance for prevention programs that can be implemented in integrated care. Screening and brief interventions as well have been augmented by up-to-date screening tools, many of which can be administered in an easier-to-use online format. This gives providers a powerful set of measures that can efficiently be used to

identify those who might benefit from brief interventions and thus prevent more serious alcohol-related problems.

However, more remains to be done. In many healthcare settings, patients with alcohol use issues are not identified quickly and thus do not gain access to preventative help (Vinson et al., 2007). Therefore, a key factor in the prevention of alcohol use disorder is to increase the accessibility of information regarding screening and brief intervention methods. It is hoped that this chapter will serve in this role and will aid in the building of prevention programs in integrated care clinics.

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