INTRODUCTION

The estimated majority of those currently misusing substances do not recognize that they have a substance use problem and do not seek treatment [1]. In 2013, over 22.7 million Americans needed treatment for alcohol or other substance use, but only 2.4 million people received treatment at a hospital, mental health center, or rehabilitation center [2]. To increase Primary Care Providers (PCPs) ability to identify and treat substance misuse, the United States Preventive Services Task Force (USPSTF) developed a Screening, Brief Intervention, and Referral to Treatment (SBIRT) protocol [3,4]. This model has been found to be effective in a variety of settings (e.g., emergency rooms, trauma centers, etc.) to reduce substance misuse, which has been shown effective for short-term substance use reductions [5,1]. However, the statistics that have been previously referenced indicate that patients struggling from substance use are not exposed to the appropriate services to screen, provide brief interventions, and refer to treatment. Furthermore, [6] reported PCPs do not always feel comfortable treating or working with patient alcohol or drug use.

It is critical to improve PCPs ability to assess for substance use and to intervene, when appropriate. In particular these efforts would be best directed towards those most at risk for substance misuse. There is evidence that in the United States, members of these populations to improve the ability to appropriately assess substance use and intervene. This brief review of substance screening and intervention includes a focus of Bio-psychosocial (BPS) factors that influence substance use for primary care patients. Additionally, three substance use screening tools are reviewed and recommended for use (AUDIT, DAST-10, and CRAFFT). A review of skills and principles is included that may assist PCPs provide a brief intervention to treat patients struggling with substance use. Finally, the advantages of Integrated Behavioral Healthcare (IBHC) are reviewed and recommended.

Despite recent improvements in healthcare accessibility, many below the poverty line remain uninsured or underinsured and have less access to medical care [9]. Those who are underinsured or uninsured are more likely to receive primary care services at public sector hospitals or from community health clinics [10,8]. It is expected that at these sites, there may be a disproportionate number of patients struggling with substance use disorders [11]. However, PCPs at these sites may not be as prepared to identify, assess or assist patients with substance abuse struggles [12]. The purpose of this review is to serve as a reference for PCPs utilizing a Bio-psychosocial (BPS) lens while assessing and intervening with patients struggling with substance abuse.

The Bio-psychosocial Model

The Bio-psychosocial (BPS) model posits that presenting concerns and solutions within traditional and integrated care settings are the result of biological, psychological, and social components [13-16], argued that substance use treatment would be more effective if providers utilize the BPS model to understand addiction, as these complex systems play a critical role. There are various BPS conditions that may initiate, be co morbid with, or exacerbate substance use for primary care patients.

The biological illnesses may include hypertension and diabetes mellitus [17,12] as well as chronic musculoskeletal pain [18]. The psychological concerns may include mood disorders (e.g., depression & bipolar disorder) anxiety disorders (e.g., generalized anxiety disorder and posttraumatic stress disorder) [12]. The social concerns may include lack of social supports, estrangement from family, and low socioeconomic status [19,20-
which can also result in lack of access for resources, underemployment or unemployment. While these known associations between substance use and the BPS model, they do not explicitly guide assessment or treatment.

**Substance Use Assessment**

Depending on the age, availability of assessment materials, and substance that is the focus of the screening, we have reviewed three substance use screens AUDIT [26-29] to screen for substance use concerns. Though these screening tools are not specifically designed to incorporate components of the BPS model, each screening tool addresses the BPS aspects, particularly how substance use affects the individual socially.

**Audit**

The AUDIT was originally developed for use within a primary care setting [30,31] It is a 10-item self-report screening tool of alcohol use over the last year available in English and Spanish [27]. Scores range from 0-40, a score of 8 or higher identifies an individual who may at risk or is currently experiencing problems related to alcohol use [32]. It has been found to be a valid, reliable and discriminant measure of alcohol use and health risks in adolescents 14-18 [26,29,27] and adults up to 66 years old [27]. Items include “Drinking at unusual times” and “Drank more than friends”.

**DAST-10**

The DAST-10 is a brief 10-item questionnaire of drug-use problems over the last year in 15 to 66 years old [27]. The DAST-10 has been found to have internal reliability σ = .94, test-retest consistency (.71), and sensitivity [27,33]. The DAST-10 has English and Spanish versions available for use. Items include “Do you ever feel guilty about your drug use?” and “Have you neglected your family because of your drug use?” This measure was also able to discriminant between substance abusers and non-substance abusers [33].

**CRAFFT**

The CRAFFT is a 6-item yes/no assessment of alcohol and drug use of the last year for adolescents and young adults aged 14-18 [34,29,35]. A score of 2 or higher warrants further investigation by a provider [35]. The CRAFFT has a sensitivity of .80 and a specificity of .86 [36]. Items include “do you ever use alcohol or drugs to relax, feel better about yourself, or fit in?” and “do you ever forget things you did while using alcohol or drugs?”

These assessment tools are preferred due to the ease of administration and interpretation [27,35]. These assessments are insufficient by themselves to diagnose substance use problems, but can identify those whose lives are being negatively affected bio-psychosocially. If there is a positive screening, the provider can move forward with a brief intervention [1].

**Primary Care Substance Abuse Intervention**

If primary care patients respond with a positive screening, it is recommended that the PCPs use motivational interviewing to genuinely be present, actively listen to patient, and use open-ended questions (e.g., is your substance use a problem), to assess for the stage of change (Table 1) [37,8,38]. Motivational interviewing provides flexibility for the patient to direct the conversation, by viewing the patient as the expert, which empowers the patient to create his/her own motivation to change [39]. [40] conducted a systemic review, in which motivational interviewing was shown to have a significant effect on substance use compared to the no treatment control groups. Motivational Interviewing includes four basic skills, 1) open-ended questions, 2) affirmations, 3) reflective listening, and 4) summary statements (which creates the acronym OARS) [41]. Open-ended questions allow for the client to initiate forward movement that PCPs can use to help the patient change [41]. Affirmations must be genuine and congruent for PCPs to use to build rapport and to empower patients [41]. Reflective listening is utilized to gather information from patients on what has worked and what has not worked, in addition it provides PCPs the opportunity to highlight change-talk when he/she hears it from patients [41]. Summary statements are where PCPs have the opportunity to focus on important aspects of the conversation with patients as well as shift the direction of the conversation if necessary [41].

In addition to the four basic skills, motivational interviewing also has five principles, 1) roll with resistance, 2) express empathy, 3) avoid argumentation, 4) develop discrepancy, and 5) support self-efficacy [41]. Rolling with resistance is a way for the patient to be directly involved in the process of problem solving regarding substance use behaviors and should be seen as a resource for additional information collection [41]. Resistance should not be viewed as negative in motivational interviewing or be met with opposition on the part of the PCP [41]. Expressing empathy provides the opportunity for the PCP to build rapport with the patient by engaging in reflective listening in a non-judgmental manner to increase acceptance and respect, which allows patients to engage in the process of change [41]. Avoiding argumentation is the opportunity for the PCP to help the patient with self-recognition of the substance use behavior; rather than create arguments that can possibly result in defensive reactions and increased resistance from the patient [41]. Developing discrepancy is when a patient is able to identify his/her present behavior patterns (e.g., substance use) and what his/her personal goals in life [41]. One technique that can be useful in developing discrepancy is to identify the positives and negatives of a particular behavior (e.g., substance use) [41]. The last principle of motivational interviewing is supporting self-efficacy, which is a patient’s belief in his/her ability to make changes towards his/her behavior goal [41].

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<th>Table 1: Stages of change.</th>
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<td>1 Pre-contemplation</td>
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Primary Care Providers have the opportunity to provide accolades for positive changes as well as small step-by-step goals...
towards the larger behavioral goal (e.g., substance use) [41]. By utilizing the four basic skills and five principles of motivational interviewing PCPs have the opportunity to provide patients with brief interventions that can create behavior changes in substance use.

**Integrated Behavioral Healthcare**

After these brief interventions, PCPs can refer patients diagnosed with substance use disorders to a Behavioral Health Provider (BHP) for longer term care. The best situation for this type of collaboration is an integrated behavioral healthcare (IBHC) site. Traditional isolated healthcare systems especially those that served Medicare and Medicaid patients reported more substance use, physical health and mental health diagnoses, higher healthcare utilization and poorer outcomes [42]. The integrated healthcare model was designed to reduce utilization and increase treatment outcomes [43].

Integrated behavioral healthcare can come in many varieties, but it is generally a multidisciplinary team utilizing a BPS approach to create and treat patients via one treatment plan that covers medical and behavioral elements [44]. Within an IBHC site, a PCP can take responsibility for the physical health and a BHP can manage the behavioral health, mental health and substance use disorders [42]. These sites can be especially effective, when PCPs and BHPs are co-located. Patients with at-risk alcohol use were more likely to follow-through with their referral, if referred to a BHP at a co-located integrated care site, versus when referred to an off-site provider [44]. Furthermore, co-located integrated care may reduce the stigma of mental health and substance use treatment increasing the likelihood of receiving treatment [42].

Perceptions of staff and providers regarding the effectiveness of IBHC are also positive. Primary care staff recommended and highly valued the integration of mental health and substance use treatment within primary care settings [45,46]. Primary Care Providers found that consultation between PCPs and BHPs was helpful to patients [46]. In a recent assessment emphasizing substance treatment within integrated care, it was found to be needed and valued by PCPs and BHPs, but underutilized [6]. With so much potential, it is hoped that more PCPs will seek to integrate their practices to ensure higher quality care and treatment for the substance use patients.

**Recommendations for Providers**

1. Be aware that most substance use goes unscreened and untreated.
2. If serving those in poverty, substance use may be especially prevalent.
3. When screening use valid measures such as the DAST-10, the CRAFFT, or the AUDIT
4. Utilize an approach guided by motivational interviewing to identify and increase the patient’s willingness to change
5. If interested in receiving treatment for substance use, refer to a BHP for longer term care
6. If possible, the optimal situation will be in an integrated care setting, where behavioral health and primary care providers collaborate to treat the substance use.

**CONCLUSION**

Substance use is an under treated medical problem with large financial implications. Utilizing the BPS model to guide the SBIRT protocol, providers can assess and offer brief interventions. It is the recommendation of this paper to refer to a behavioral health specialist and collaborate regarding treatment of substance use issues for patients. This paper recommends that an integrated care setting is the ideal location for the collaboration of PCPs and BHP to ensure BPS treatment for patients to occur.

**REFERENCES**

2. Substance Abuse and Mental Health Services Administration (SAMHSA) Center for Behavioral Health Statistics and Quality. Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings.
12. Shapiro B, Coffa D, McCance-Katz EF. A primary care approach to...


