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ORIGINAL INVESTIGATION

Tobacco Use and Its Treatment Among Young People in Mental Health Settings: A Qualitative Analysis

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ABSTRACT

Background: Youth with psychiatric disorders are at increased risk of tobacco use. Outpatient mental health settings have received little investigation for delivering tobacco treatment. This study obtained formative data to guide development of a tobacco cessation program for transitional age youth with co-occurring psychiatric disorders with a focus on outpatient mental health settings.

Methods: Applying qualitative methods, we analyzed transcripts from interviews with 14 mental health clients (aged 16–23) and 8 mental health providers.

Results: The youth identified internal (nicotine addiction and mood), social, parental, and media influences to their use of tobacco. Providers' viewed youth tobacco use as a normative developmental process, closely tied to management of psychiatric symptoms, supported by parents, and of lower priority relative to youth alcohol and illicit drug use. Youth and providers believed that clinicians can do more to address tobacco use in practice and emphasized nonjudgmental support and nondirective approaches. Top recommended quitting strategies, however, differed notably for the youth (cold turkey, support from friends, physical activity, hobbies) and providers (cessation pharmacotherapy, cessation groups, treatment referrals).

Conclusions: Mental health providers' greater prioritization of other substances and view of youth smoking as developmentally normative and a coping strategy for psychopathology are likely contributing to the general lack of attention to tobacco use currently. Integrating care within mental health settings would serve to reach youth in an arena where clinical rapport is already established, and study findings suggest receptivity for system improvements. Of consideration, however, is the apparent disconnect between provider and youth recommended strategies for supporting cessation.

Nearly all adults who smoke start smoking before the age of 26, making tobacco use a pediatric problem (U.S. Department of Health and Human Services, 2012). In the United States, each year, over a million adolescents become regular users of tobacco (Stevens, Barron, Ledbetter, Foarde, & Menard, 2001). The decline in youth smoking during the 1990s has stalled, and the Surgeon General's 2012 report on smoking among adolescents called for greater attention to this national epidemic (U.S. Department of Health and Human Services, 2012).

According to recent U.S. surveys, 23% of high school students and 36% of young adults aged 18–25 use tobacco, the latter being the highest smoking rate among all age groups (Centers for Disease Control and Prevention, 2012; Substance Abuse and Mental Health Services Administration, 2010). Smoking rates are further elevated among youth with psychiatric disorders such as attention deficit, conduct disorder,

depression, anxiety, and alcohol or illicit drug dependencies (Mermelstein, 2003). A study of adolescent psychiatric inpatients found that 60% were current smokers with 40% smoking a pack or more daily (Ramsey, Brown, Strong, & Sales, 2002). Another study reported that half of 14- to 17-year olds with anxiety symptoms and two thirds of those with depressive symptoms used tobacco (Dudas, Hans, & Barabas, 2005). The reciprocal also is true. Youth who smoke are at increased risk of developing mental illness compared with nonsmokers, including major depressive disorder, agoraphobia, generalized anxiety disorder, and panic disorder (Chang, Sherritt, & Knight, 2005; Choi, Patten, Gillin, Kaplan, & Pierce, 1997; Hanna & Grant, 1999; Johnson et al., 2000).

Decreasing youth smoking is imperative for addressing chronic use and the incidence of tobacco-related illnesses (Al-Delaimy, White, & Pierce, 2006). With a median age of

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smoking initiation at 14 years (U.S. Department of Health and Human Services, 1988), the typical adolescent smoker will smoke for 18 years if male and 22 years if female (Giovino, 1999). Smoking during adolescence is predictive of health problems at age 30, including respiratory ailments, neurobehavioral and cognitive problems, and general malaise (Brook, Brook, Zhang, & Cohen, 2004). Tobacco-related health consequences also may emerge relatively early as suggested by findings of significant respiratory problems among heavy smoking youth in addictions treatment programs (Myers & Brown, 1994).

Tobacco use can complicate psychiatric treatment, increasing the metabolism of some antipsychotic and antidepressant medications (Zevin & Benowitz, 1999). In prospective studies, tobacco use is one of the strongest predictors of suicidal behavior in youth and adults, even after controlling for depressive symptoms, other substance use, and prior suicidal behavior (Breslau, Schultz, Johnson, Peterson, & Davis, 2005; Oquendo et al., 2004). In regions where smoking is greatly restricted, heavy smokers with mental illness may find it difficult to participate socially, leading to isolation (Prochaska, Fletcher, Hall, & Hall, 2006).

A Healthy People 2020 objective for the nation is to decrease the adolescent smoking rate to 16% (U.S. Department of Health and Human Services, 2010). Without intervention, few adolescent smokers stop smoking on their own (Mermelstein, 2003). Although an estimated 51% of high school smokers report a quit attempt in the past year (Centers for Disease Control and Prevention, 2010), only about 4% are successful (Zhu, Sun, Billings, Choi, & Malarcher, 1999). One-year abstinence success rates are even lower (2%) among adolescents with co-occurring addictive disorders (Myers & MacPherson, 2004).

Adolescent preventive service guidelines recommend clinicians regularly assess and treat tobacco use with their patients (American Medical Association, 1997; American Academy of Pediatrics, Committee on Substance Abuse, 2001). Yet, a minority of child and adolescent psychiatrists report consistently asking about smoking, advising their patients to quit, assessing readiness to quit, offering assistance, or arranging follow-up with cessation efforts, referred to as the 5 A's of tobacco treatment (Price, Sidani, & Price, 2007; Upadhyaya, Brady, Wharton, & Liao, 2003).

A recent review of predictors of cessation in adolescent and young adult smokers concluded from the sparse literature that tobacco treatment interventions will remain less than optimally effective until there is a solid evidence base on which to develop interventions (Cengelli, O'Loughlin, Lauzon, & Cornuz, 2012). None of the studies reviewed focused on youth with mental health concerns. Further, the outpatient mental health setting has not been examined as a venue for treating youth tobacco dependence. Research is needed to better understand the smoking behavior of adolescents and young adults with co-occurring psychiatric disorders and the viability of delivering tobacco treatment in outpatient psychiatry settings.

This study obtained formative data from patients and clinicians to guide development and delivery of a tobacco cessation program for transitional age youth (aged 16–24) with co-occurring psychiatric disorders. The World Health Organization (1989) defines youth as spanning 15–24 years of age. Transitional age youth are further defined as young people between the ages of 16 and 24 who are at risk and in need of

coordinated services during the developmental transition from adolescence to young adulthood (Kenney & Gilis, 2009).

METHODS

Procedures

We conducted individual interviews with youth and clinicians recruited from outpatient mental health settings in the San Francisco Bay Area and sought to identify contributing factors to tobacco use and strategies for intervention in this patient population. Recruitment strategies included direct outreach to clinical staff, clinician referrals, and posted flyers in the clinics. The human subject committees of the participating institutions and clinics approved the study procedures.

Sample and Settings

Participants were (a) youth between the ages of 16–24 who smoked at least one cigarette in the past month and at least 100 cigarettes in their lifetime and (b) mental health providers working with youth aged 16–24. The settings included an academic-based child and adolescent psychiatric outpatient clinic serving youth through age 18, a 24-hr service facility with wraparound care serving patients aged 13–25, and three county-based outpatient and residential programs serving youth up to age 25 who were Medicaid eligible. Informed consent was obtained including parental consent with adolescent assent for minors.

Data Collection

Semistructured youth and clinician interview guides were developed for this study focused on the following areas: reasons for smoking among youth with mental health concerns, perceived relationship between tobacco use and mental health, negative consequences of smoking, attention to tobacco use in current clinical practice and prioritization relative to other issues, strategies for treating tobacco dependence in youth, and considerations for working within outpatient mental health settings. Alcohol and other drug use was not directly assessed but was discussed by many of the youth. Two authors, RM and JJP, conducted the one-on-one interviews. We chose individual interviews to maximize participant confidentiality, prevent group influences in response patterns, and facilitate recruiting from multiple sites. Interviews were continued until we obtained saturation of information—that is, additional interviewees did not yield substantially new information. The interviews were anticipated to be about an hour with the youth and half an hour with the providers. Incentives for participating were \$30 gift cards for youth and \$50 in cash for providers. The interviews were audiotaped and fully transcribed for analysis.

Data Reduction and Analysis

Content analysis was conducted by two research staff members (CW, HL) working independently to thematically code the transcribed interviews using ATLAS.ti, a qualitative analysis software program providing organized open coding. Separate databases were created for the youth and provider interviews.

The two coders read the specific quotes and tentatively named concepts with codes with the same general themes in mind based on the semistructured interview guide. The code list, however, continued to evolve and grow as more themes became apparent with each additional interview. Analytic memos were used to document coding definitions and to narrate the coders' thought process. Once completed, interviews and coding styles were compared and discussed with a third team member (JJP). Coding questions were resolved, definitions and limitations of codes were discussed, existing codes were broken down, new codes were added, and a final list of codes was created. Interviews were then re-evaluated to fit the final code list.

For visualization of prevalent themes, associations, and hierarchical relationships, the Atlas.ti-generated code frequency counts were entered into Wordle.net to create customized word clouds using font size as a demonstration of frequency (Ware, 2004). Counts reflected the number of participants who expressed each sentiment, rather than the number of quotes, as participants may have made the same or similar comment multiple times during the interview.

RESULTS

Sample Description

The interviews with youth averaged 41 min in duration ($SD = 12$). Across the 14 interviews, 789 quotes were coded, averaging 56 quotes per interview ($SD = 16$). The participants were six girls and eight boys, ranging in age from 16 to 23 ($M = 20$ years, $SD = 2$), presenting with varied levels of motivation for quitting smoking. At the recommendation of our clinical collaborators, to avoid stigma, we did not directly assess or ask the youth about their mental health diagnoses. From material obtained in the interviews, we came to know that some of the youth had depression, schizophrenia, anxiety, and substance use disorders.

Ten youth smoked daily, averaging 12 cigarettes/day ($SD = 11$); four were nondaily smokers, averaging 3 cigarettes/week ($SD = 1$). Ten reported use of cigars or cigarillos in addition to cigarettes. Thirteen of the fourteen youth reported experiencing negative health effects from smoking such as coughing, fatigue, shortness of breath, and problems with control of asthma. Eight complained of the smell of tobacco smoke on their hands, clothes, and breath.

The eight interviews with mental health providers averaged 26 min ($SD = 5$) with a total of 332 quotes coded, averaging 42 quotes per interview ($SD = 7$). The providers were two psychiatrists, two psychologists, two case managers, a behavioral coach, and a program coordinator; all were women, and their experience levels in youth mental health spanned early to mid-career. All worked with youth aged 16–24, and they reported a median of 20 active clients on their caseload for direct treatment or clinical supervision. The providers estimated the smoking prevalence in their caseload at 27% ($SD = 0.17$).

Reasons for Smoking: Youth Interviews

The youth identified a number of factors contributing to their use of tobacco (Figure 1a). Failure to enforce a no-smoking ban in the home was the most frequently identified factor (10 youth, 11 quotes) and parental smoking was common (8 youth,

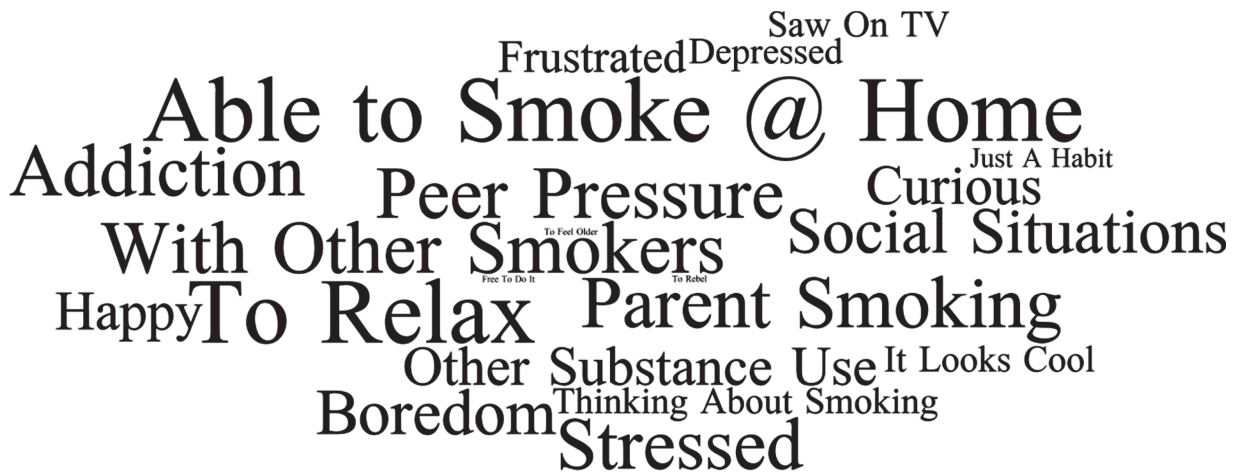
11 quotes). One youth recalled, *"I smoked my first cigarette with my dad... it was better to have him show me what smoking was like rather than have it as something that is hidden"* (23-year-old male). Another stated, *"My mom would give me money to buy cigarettes"* (22-year-old male). A third stated, *"They [parents] say they don't like me smoking, yet when they catch me, they just brush it off"* (18-year-old male). Peers also played a significant role in initiation and continued use of tobacco. Half the youth reported first smoking with friends, all reported currently having friends who smoke, and nine identified tobacco use by friends as a negative influence. One shared, *"When I didn't smoke, everyone smoked... and blew it in my face"* (21-year-old female). Another voiced concerns about maintaining friendships while quitting smoking stating, *"I'm trying to figure out how I can still be cool with them but don't do all the things that they do"* (23-year-old female). Though sample sizes were small, females were more likely to report smoking with peers (6 of 6 females vs. 2 of 8 males), whereas males were more likely to report that their parents smoke or provide them with cigarettes (2 of 6 females vs. 8 of 8 males).

Additionally, stress and affect, addiction, other substances, and media images were identified as driving tobacco use. The youth reported, *"when I get stressed or angry... I go out and have a cigarette"* (20-year-old female); *"when I start to get frustrated or nervous, it just calms me down"* (22-year-old male); and *"hypermanic is when...I'll smoke more"* (23-year-old male). Unable to quit, the youth described smoking as follows: *"first thing in the morning"* (19-year-old male), *"it made me addicted and now it's hard for me to stop"* (21-year-old female), and *"I can't stop because once I smell it... I want to go smoke"* (16-year-old male). Tobacco was used with illicit drugs *"to boost the high"* (23-year-old female) or as a drug substitute, *"smoking more when the cravings [for other drugs] were getting out of control"* (23-year-old male). Three youth identified media images as triggers to smoke, *"When I see it on TV or in the movies, like when I see someone else smoking"* (19-year-old female).

Reasons for Smoking: Provider Interviews

The providers viewed tobacco use by transitional aged youth in mental health treatment as a maladaptive strategy to cope with anxiety, depression, and other intense emotions (7 clinicians, 20 quotes); an assertion of autonomy (7 clinicians, 10 quotes); and a way to engage with peers (5 clinicians, 9 quotes) (Figure 1b). A community-based case manager explained, *"They get a lot more anxious than other kids who don't have these issues, and I believe that has a lot to do with why they smoke."* An academia-based psychiatrist stated, *"Their desire to make a statement by smoking is pretty fundamental to this process of asserting their autonomy."* Conceptualized within a developmental frame, a community-based behavioral coach explained, *"it might be their method of communicating with their parents...and the other end of the spectrum...identification with the parent who's smoking."* Described as *"a social key,"* a residential case manager acknowledged providers' encouragement of youth smoking *"to maintain and establish social relationships with their peers... with the newer clients, like saying 'oh, so-and-so is out smoking, why don't you go talk to them'."* No gender differences in causes of youth smoking were identified.

(A) Transitional age youth responses



(B) Mental health providers' responses



Figure 1. Youth with mental health concerns: Reasons for smoking.

Treatment Recommendations: Youth Interviews

The youth identified a variety of approaches for quitting smoking (Figure 2a). Notably, the most frequent were without help or assistance (cold turkey, don't need any help) and nonpharmacologic methods (physical activity, new hobbies, talk about it, support from friends, education). Four youth reported positive, whereas seven reported negative experiences with nicotine replacement, including nausea and headache with the patch, aversion to the taste of the gum and lozenge, and finding the cost prohibitive. In contrast, physical activity was identified as a useful quit smoking strategy (14 quotes, 9 youth). One youth suggested, "I can work on my fitness, and that would stop the cravings for cigarettes" (20-year-old female). Another stated, "If I'm playing basketball most of the day, then I won't smoke" (23-year-old male).

Criticism for smoking from clinicians, parents, and friends was viewed as counterproductive—the youth wanted nonjudgmental support (11 youth, 20 quotes). One youth voiced, "Instead of helping you quit, it's making you so angry at them that you want to do it just to get back at them, you know for spite" (20-year-old female). Also unhelpful is ignoring youth

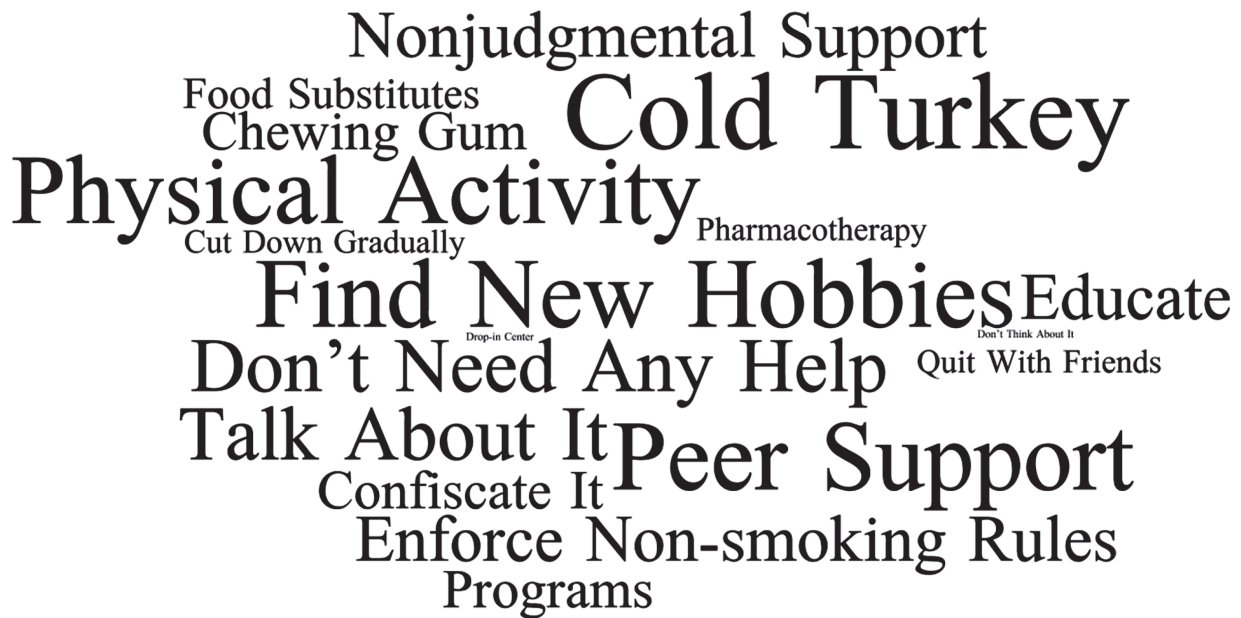
smoking, as one youth described, "It hasn't really been brought up. If they brought it up to think about it, it would still be hard, but it would do something, it would help just to talk about it" (16-year-old male).

The youth reported little knowledge of community resources for quitting smoking (7 youth, 8 quotes). Mental health clinics, in turn, were viewed as safe, comfortable, and accessible environments to work with youth facing similar struggles (9 youth, 15 quotes). One youth remarked, "There's counselors around and there's nice people...It's a safe place to express your feelings" (20-year-old female). Another stated, "Here...everyone had things in common, but in school... people might think you're different or strange" (18-year-old male). For delivering tobacco treatment, eight youth emphasized the value of in-person contacts preferable to phone or Internet-delivered interventions. Treatment recommendations did not differ by gender.

Treatment Recommendations: Provider Interviews

Nearly all the clinicians stated that the risk of tobacco is minimized relative to other drugs of abuse and mental health symptoms, documented in the medical record but rarely addressed

(A) Transitional age youth responses



(B) Mental health providers' responses

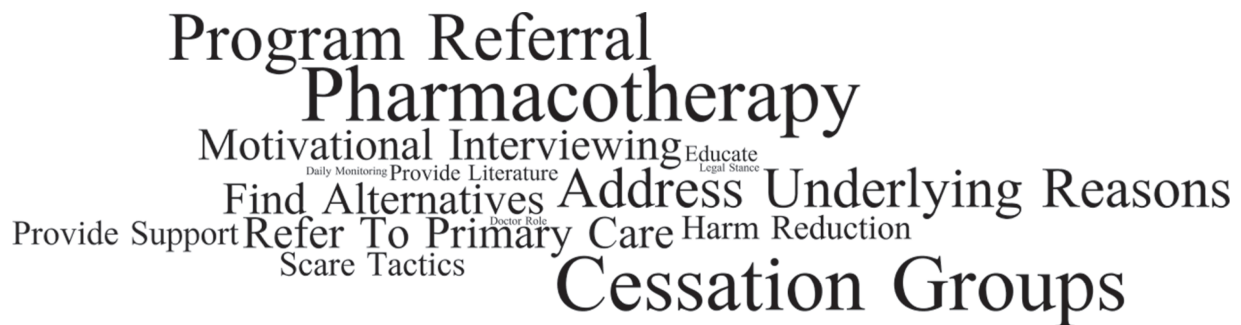


Figure 2. Tobacco treatment recommendations for youth with mental health concerns.

(6 clinicians, 15 quotes). An academia-based psychiatrist summarized, “*The tendency is to minimize it and document it as happening but not to actively address it or consider changing that behavior. We focus more on illicit street drug issues or the alcohol use... [and] feel that if they’re only smoking tobacco, that’s okay, there are worse things that they can be doing.*” A community-based case manager stated, smoking is “*treated as a fact of life that we work with. We know they’re going to be out front smoking and we put up smoking areas for them.*” At the same time, the clinicians viewed mental health settings as uniquely placed for addressing youth tobacco use. An academia-based psychiatrist asserted, “*In the mental health community, we have the greater awareness of substance use disorders and a better understanding of the psychological underpinnings of substance use and addictions, so I think the milieu would be supportive.*”

The top clinician recommended strategies for treating tobacco dependence in youth were cessation medication, specifically bupropion, nicotine patch, and nicotine gum (7 clinicians, 9 quotes); cessation groups (7 clinicians, 8 quotes);

psychoeducation (6 clinicians, 13 quotes); and referrals to community smoking cessation programs (6 clinicians, 8 quotes) (Figure 2b). Additionally, recommended strategies were targeting triggers for smoking, including other substance use (5 clinicians, 10 quotes), providing support (5 clinicians, 6 quotes), cognitive-behavioral strategies (distraction, mindfulness, daily monitoring; 4 clinicians, 10 quotes), parental involvement (4 clinicians, 5 quotes), referrals to primary care (4 clinicians, 4 quotes), encouraging smoking reduction (3 clinicians, 5 quotes), and use of dramatic imagery, such as exposing the youth to smokers with serious tobacco-related health problems (3 clinicians, 4 quotes). A community-based psychologist summarized, “*Teach them how to manage their anxiety, anger, or their feelings without needing to smoke.*” With regard to parental involvement, a college-based mental health program coordinator emphasized engagement to “*encourage their son or daughter... providing information to them, maybe attending a group with them... give them tools.*” Coordination of care also was emphasized as one academia-based psychiatrist shared, “*I have to wonder if my efforts aren’t coordinated enough with her*

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drug treatment counselor... if we were working together more closely that might be useful. Clearly I'm not doing enough if she continues to use."

Directive approaches were viewed as counterproductive to treating youths' tobacco use (7 clinicians, 10 quotes). A community-based behavioral coach reflected, "When you constantly say 'stop, stop, stop' I think it hurts them more than just explaining what it does." Instead, the clinicians recommended meeting the youth where they are motivationally (4 clinicians, 8 quotes). An academia-based psychologist explained, "It's got to come from them if we want them to stop." Another academia-based psychiatrist encouraged, "engage them around why it would be meaningful to them to stop... understand what they see as the benefit of using the substance... [and] find a way to give them something else to get that benefit." Clinicians' treatment recommendations did not differ by gender.

DISCUSSION

In seeking to inform the development of acceptable, feasible, and effective strategies for addressing tobacco use among youth with mental health concerns, this qualitative study gathered insights from youth and their treatment providers. Spanning the ages of 16–23, most of the youth interviewed were daily smokers, most had smoked cigars in addition to cigarettes, and nearly all reported experiencing negative health consequences of their tobacco use such as coughing, fatigue, and shortness of breath. The providers practiced in diverse treatment settings and represented a variety of professions. Consistently, across the interviews, there was general agreement that the level of personal reflection and clinical attention to youth tobacco use is currently inadequate in mental health settings.

The youth and clinicians discussed tobacco use within the context of psychiatric and substance use issues; however, the majority of statements focused more broadly. Overall, the factors the adolescents and young adults identified as contributing to their use of tobacco mirrored what has been reported in the literature with youth without mental health concerns (Tyas & Pederson, 1998) including peer influences and social situations; addiction; smoking for relaxation, which may in part be smoking to reduce withdrawal symptoms; and media influences. More unique, and of concern, were the harmful parental practices of tobacco use, provision of cigarettes to youth, and inconsistent enforcement of nonsmoking rules in the home. Males reported these practices more than females, whereas females reported greater peer influences than males. Parents may be more apt to accept or enable smoking among their sons than daughters, particularly in some cultural groups. Future research should examine the extent to which parental permissiveness regarding youth tobacco use is tied to beliefs that smoking is a form of self-medication among those with mental health concerns and/or a form of harm reduction relative to other substance use. In reality, the harms are substantial (Prochaska, 2010), and the youth largely expressed disappointment toward these permissive parental behaviors. The home environment is central to the youths' experience and can support or undue treatment efforts. Critical to curbing youth tobacco use will be getting parents onboard with smoking restrictions in the home, especially parents who smoke, and engaging their support with cessation efforts.

The perception that females are more likely to smoke socially was reported prior in a qualitative study of college students; however, such perceptions were not supported by quantitative data on reported behaviors (Nichter et al., 2006). Longitudinal research with adolescents indicates that peers affect both current and future smoking behaviors, as well as the development of social networks (Hall & Valente, 2007). A broader understanding and characterization of the social networks of youth with mental health concerns and their influence on risk behaviors and behavior change are warranted.

The mental health providers similarly identified social and familial influences as significant in driving youth smoking, but not addiction, withdrawal symptoms, or media influences. Instead, the clinicians were more inclined to view youth smoking as a developmental phase, an assertion of autonomy, and a form of coping with mental illness. These differences point to areas of potential mismatch that may influence providers' practices. Viewing youth smoking as a normative developmental process, closely tied to management of psychiatric symptoms, and supported by parents likely contributes to the general lack of attention to tobacco use in practice. The clinicians viewed tobacco as of lower priority relative to youth alcohol and illicit drug use. In the youth interviews, however, tobacco was identified as not only a gateway drug but also a maintenance drug in promoting continued use of other substances with synergistic effects. Of increasing concern is the co-use of tobacco and other substances. A recent study reported that half of young adult smokers in the general population also smoke marijuana (Ramo & Prochaska, 2012). Of further contrast, in the gestalt, the youth identified a greater variety of specific reasons for smoking than the clinicians, and the reasons tended to be more proximal and cue driven, suggesting early conditioning effects, whereas the providers had more global responses (Figure 1a and b), which may reflect a more distant understanding of the varied tobacco using experiences of these youth.

Differences were also found in the tobacco treatment recommendations of youth and providers. The two most frequent suggestions—pharmacotherapy recommended by providers and cold turkey identified by the youth—were directly opposite. For youth under the age of 18, cessation pharmacotherapy is not recommended given limited evidence of efficacy (Tobacco Use and Dependence Guideline Panel, 2008). For young adult smokers, pharmaceutical companies might consider younger taste preferences and use patterns and smaller unit packaging to improve acceptability and affordability.

Also central in the word cloud for providers were referrals and groups, whereas the youth emphasized peer support and engagement in other behaviors (e.g., physical activity) and hobbies (Figure 2a and b). Prescriptions for pharmacotherapy, groups, and outside programs require creating new connections and hence rely heavily on patient adherence. If the provider does not have buy-in from the youth, success is unlikely. The youth, on the other hand, recommended existing resources that are familiar and can be leveraged, enhanced, and built upon.

In terms of commonalities and consistent with clinical practice guidelines, both youth and providers recommended nonjudgmental support and motivational approaches, as well as physical activity promotion, and recommendations did not differ by gender (Tobacco Use and Dependence Guideline Panel, 2008). Motivational cessation approaches seem particularly relevant as less than a third of adolescent tobacco users

intend to quit in the next month, and the proportion is even lower (19%) among adolescent smokers seen in inpatient psychiatry (Brown et al., 2003; Leatherdale & McDonald, 2005; Mermelstein, 2003; Prokhorov et al., 2001). Intervention strategies tailored to motivation are designed to be relevant to all smokers and not just the minority ready to take action and have demonstrated evidence for treating adolescent tobacco dependence (Grimshaw & Stanton, 2006).

The youth identified secondhand smoke as triggering their use of tobacco, and a majority reported aversion to the smell of smoking. Yet, neither youth nor providers recommended tobacco bans at treatment settings, nor other tobacco control policy approaches such as restricting smoking in the media and raising cigarette taxes. Until only recently, little advocacy has sought to protect patients, providers, and family members from secondhand smoke exposure in psychiatric treatment settings (Legacy Foundation, 2011). Consideration of secondhand smoke effects on youth initiation and relapse and its association with psychiatric disorders in youth is needed (Bandiera, Richardson, Lee, He, & Merikangas, 2011).

Strengths of this qualitative study include attention to an understudied issue in a vulnerable patient population, interviews with both providers and patients, and use of open-ended questions so that a variety of themes could emerge. Not only a number of parallels between the youth and provider interviews were identified but also important contrasts. Importantly, qualitative methods can enable a richer understanding of nuanced relationships useful for generating new testable hypotheses and shaping tailoring of treatment approaches. Study limitations included the small sample size; however, saturation of information was reached, which is demonstrated by the large number of quotes within topics. Within the word clouds, font size was not too variable, suggesting agreement in the reasons for smoking and recommendations for treatment. The word clouds, as a visual display of word frequency, are a useful adjunctive tool to be interpreted within the larger meaning and context of the words (McNaught & Lam, 2010). Although Figure 2 depicts the popularity of strategies, long-term tobacco abstinence will likely be supported through a combination of approaches.

Interventions delivered in health care settings offer the appeal of broad reach and integration within ongoing medical care. Yet, historically, tobacco use in the mental health setting has been normalized. A culture shift is needed. In this qualitative study, the providers interviewed were highly trained clinicians in high-performing clinical sites. As such, the findings reflect a best-case scenario and, notably, suggest great room and receptivity for improvement.

The adolescents largely viewed the mental health setting as a safe place to tackle issues with which they struggle such as smoking. To increase clinician prioritization and delivery of tobacco treatment, recent research in adult drug treatment programs supports the evidence of organizational interventions consisting of staff training, consultation, policy development, leadership support, and access to cessation medication (Guydish et al., 2012). An emphasis on tobacco treatment's broader possible effects for enhancing sobriety and mental wellness may be particularly helpful (Prochaska, Delucchi, & Hall, 2004; Prochaska et al., 2008). At the patient level, clinical trials research is needed to evaluate the acceptability and efficacy of tobacco cessation interventions with youth in mental health settings.

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DECLARATION OF INTERESTS

The authors have no competing interests to declare related to this research.

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REFERENCES

- Al-Delaimy, W. K., White, M. M., & Pierce, J. P. (2006). Adolescents' perceptions about quitting and nicotine replacement therapy: Findings from the California Tobacco Survey. *Journal of Adolescent Health, 38*, 465–468. doi:10.1016/j.jadohealth.2005.02.005
- American Academy of Pediatrics, Committee on Substance Abuse. (2001). Tobacco's toll: Implications for the pediatrician. *Pediatrics, 107*, 794–798. Retrieved from <http://pediatrics.aappublications.org/content/107/4/794.full>
- American Medication Association. (1997). *Recommendation monograph: Guidelines for adolescent preventive services*. Chicago, IL: American Medical Association, Department of Adolescent Health. Retrieved from <http://www.ama-assn.org/ama1/pub/upload/mm/39/gapsmono.pdf>
- Bandiera, F. C., Richardson, A. K., Lee, D. J., He, J. P., & Merikangas, K. R. (2011). Secondhand smoke exposure and mental health among children and adolescents. *Archives of Pediatric Adolescent Medicine, 165*, 332–338. doi:10.1001/archpediatrics.2011.30
- Breslau, N., Schultz, L. R., Johnson, E. O., Peterson, E. L., & Davis, G. C. (2005). Smoking and the risk of suicidal behavior: A prospective study of a community sample. *Archives of General Psychiatry, 62*, 328–334. doi:10.1001/archpsyc.62.3.328
- Brook, J. S., Brook, D. W., Zhang, C., & Cohen, P. (2004). Tobacco use and health in young adulthood. *Journal Genetic Psychology, 165*, 310–323. doi:10.3200/GNTP.165.3.310-323
- Brown, R. A., Ramsey, S. E., Strong, D. R., Myers, M. G., Kahler, C. W., Lejuez, C. W., ... Abrams, D. (2003). Effects of motivational interviewing on smoking cessation in adolescents with psychiatric disorders. *Tobacco Control, 12*(Suppl. 4), IV3–IV10. doi:10.1136/tc.12.suppl_4.iv3
- Cengelli, S., O'Loughlin, J., Lauzon, B., & Cornuz, J. (2012). A systematic review of longitudinal population-based studies on the predictors of smoking cessation in adolescent and young adult smokers. *Tobacco Control, 21*, 355–362. doi:10.1136/tc.2011.044149
- Centers for Disease Control and Prevention. (2010). Youth risk behavior surveillance—United States, 2009. *Morbidity and Mortality Weekly Report, 59*, SS–S5. Retrieved from <http://www.cdc.gov/mmwr/pdf/ss/ss5905.pdf>

- Centers for Disease Control and Prevention. (2012). Current tobacco use among middle and high school students - United States, 2011. *Morbidity and Mortality Weekly Report*, 61, 581–585. Retrieved from <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm61131a1.htm>
- Chang, G., Sherritt, L., & Knight, J. R. (2005). Adolescent cigarette smoking and mental health symptoms. *Journal of Adolescent Health*, 36, 517–522. doi:10.1016/j.jadohealth.2004.05.008
- Choi, W. S., Patten, C. A., Gillin, J. C., Kaplan, R. M., & Pierce, J. P. (1997). Cigarette smoking predicts development of depressive symptoms among U.S. adolescents. *Annals of Behavioral Medicine*, 19, 42–50.
- Dudas, R. B., Hans, K., & Barabas, K. (2005). Anxiety, depression and smoking in schoolchildren—implications for smoking prevention. *Journal of Royal Society for the Promotion of Health*, 125, 87–92.
- Giovino, G. A. (1999). Epidemiology of tobacco use among US adolescents. *Nicotine Tobacco Research*, 1(Suppl. 1), S31–S40. doi:10.1080/14622299050011571
- Grimshaw, G. M., & Stanton, A. (2006). Tobacco cessation interventions for young people. *Cochrane Database of Systematic Reviews*, CD003289.
- Guydish, J., Ziedonis, D., Tajima, B., Seward, G., Passalacqua, E., Chan, M., ... Bringham, G. (2012). Addressing tobacco through organizational change (ATTOC) in residential addiction treatment settings. *Drug and Alcohol Dependence*, 121, 30–37.
- Hall, J. A., & Valente, T. W. (2007). Adolescent smoking networks: The effects of influence and selection on future smoking. *Addictive Behavior*, 32, 3054–3059.
- Hanna, E. Z., & Grant, B. F. (1999). Parallels to early onset alcohol use in the relationship of early onset smoking with drug use and DSM-IV drug and depressive disorders: Findings from the National Longitudinal Epidemiologic Survey. *Alcoholism, Clinical, and Experiential Research*, 23, 513–522.
- Johnson, J. G., Cohen, P., Pine, D. S., Klein, D. F., Kasen, S., & Brook, J. S. (2000). Association between cigarette smoking and anxiety disorders during adolescence and early adulthood. *Journal of American Medical Association*, 284, 2348–2351.
- Kenney, R. R., & Gilis, L. M. (2009). *Spotlight on path practices and programs: Serving transition age youth*. Newton Centre, MA: PATH Technical Assistance Center, Substance Abuse and Mental Health Services Administration. Retrieved from <http://pathprogram.samhsa.gov/ResourceFiles/cyw4m4nr.pdf>
- Leatherdale, S. T., & McDonald, P. W. (2005). What smoking cessation approaches will young smokers use? *Addictive Behaviors*, 30, 1614–1618. doi:10.1016/j.addbeh.2005.02.004
- Legacy Foundation. (2011). *A hidden epidemic: Tobacco use and mental illness*. Washington, DC: Legacy Foundation. Retrieved from http://smokingcessationleadership.ucsf.edu/a_hidden_epidemic_legacy_june_2011.pdf
- McNaught, C., & Lam, P. (2010). Using Wordle as a supplementary research tool. *The Qualitative Report*, 15, 630–643.
- Mermelstein, R. (2003). Teen smoking cessation. *Tobacco Control*, 12(Suppl. 1), i25–i34. doi:10.1136/tc.12.suppl_1.i25
- Myers, M. G., & Brown, S. A. (1994). Smoking and health in substance abusing adolescents: A two year follow-up. *Pediatrics*, 93, 561–566.
- Myers, M. G., & MacPherson, L. (2004). Smoking cessation efforts among substance abusing adolescents. *Drug Alcohol Dependence*, 73, 209–213.
- Nichter, M., Nichter, M., Lloyd-Richardson, E. E., Flaherty, B., Carkoglu, A., & Taylor, N. (2006). Gendered dimensions of smoking among college students. *Journal of Adolescent Research*, 21, 215–243.
- Oquendo, M. A., Galfalvy, H., Russo, S., Ellis, S. P., Grunebaum, M. F., Burke, A., & Mann, J. J. (2004). Prospective study of clinical predictors of suicidal acts after a major depressive episode in patients with major depressive disorder or bipolar disorder. *American Journal of Psychiatry*, 161, 1433–1441. doi:10.1176/appi.ajp.161.8.1433
- Price, J. H., Sidani, J. E., & Price, J. A. (2007). Child and adolescent psychiatrists' practices in assisting their adolescent patients who smoke to quit smoking. *Journal of American Academic Child Adolescent Psychiatry*, 46, 60–67. doi:10.1097/01.chi.0000242246.07797.c3
- Prochaska, J. J. (2010). Failure to treat tobacco use in mental health and addiction treatment settings: A form of harm reduction? *Drug and Alcohol Dependence*, 110, 177–182. doi:10.1016/j.drugalcdep.2010.03.002
- Prochaska, J. J., Delucchi, K., & Hall, S. M. (2004). A meta-analysis of smoking cessation interventions with individuals in substance abuse treatment or recovery. *Journal of Consulting and Clinical Psychology*, 72, 1144–1156.
- Prochaska, J. J., Fletcher, L., Hall, S. E., & Hall, S. M. (2006). Return to smoking following a smoke-free psychiatric hospitalization. *American Journal of Addictions*, 15, 15–22. doi:10.1080/105504905000419011
- Prochaska, J. J., Hall, S. M., Tsoh, J., Eisendrath, S., Rossi, J. S., Redding, C. A., ... Gorecki, J. (2008). Treating tobacco dependence in clinically depressed smokers: Effect of smoking cessation on mental health functioning. *American Journal of Public Health*, 98, 446–448.
- Prokhorov, A. V., Hudmon, K. S., de Moor, C. A., Kelder, S. H., Conroy, J. L., & Ordway, N. (2001). Nicotine dependence, withdrawal symptoms, and adolescents' readiness to quit smoking. *Nicotine Tobacco Research*, 3, 151–155. doi:10.1080/14622200110043068
- Ramo, D. E., & Prochaska, J. J. (2012). Prevalence and co-use of marijuana among young adult cigarette smokers: An anonymous online national survey. *Addiction Science & Clinical Practice*, 7, 5. doi:10.1186/1940-0640-7-5
- Ramsey, S. E., Brown, R. A., Strong, D. R., & Sales, S. D. (2002). Cigarette smoking among adolescent psychiatric inpatients: Prevalence and correlates. *Annals of Clinical Psychiatry*, 14, 149–153. doi:10.1023/A:1021134503026
- Stevens, K. R., Barron, A. M., Ledbetter, C. A., Foaarde, K. M., & Menard, S. W. (2001). Legislation, policy, and tobacco use among youth: Implications for health care providers. *Journal of School Health*, 71, 89–95. doi:10.1111/j.1746-1561.2001.tb07298.x
- Substance Abuse and Mental Health Services Administration. (2010). *Results from the 2009 National Survey on Drug Use and Health: Volume 1. Summary of National Findings. NSDUH Series H-38A, HHS Publication No. SMA 10-4586*. Rockville, MD: Substance Abuse and Mental Health Services Administration. Retrieved from <http://www.samhsa.gov/data/NSDUH/2k9NSDUH/2k9Results.htm>
- Tobacco Use and Dependence Guideline Panel. (2008). Treating tobacco use and dependence: 2008 update. Retrieved from http://www.ahrq.gov/clinic/tobacco/treating_tobacco_use08.pdf
- Tyas, S. L., & Pederson, L. L. (1998). Psychosocial factors related to adolescent smoking: A critical review of the literature. *Tobacco Control*, 7, 409–420. doi:10.1136/tc.7.4.409
- Upadhyaya, H. P., Brady, K. T., Wharton, M., & Liao, J. (2003). Psychiatric disorders and cigarette smoking among child and adolescent psychiatry inpatients. *American Journal of Addictions*, 12, 144–152.
- U.S. Department of Health and Human Services. (1988). *The health consequences of smoking: Nicotine addiction. A report of the Surgeon General, 1988*. Bethesda, MD: USDHHS, CDC, Office on Smoking and Health. Retrieved from <http://profiles.nlm.nih.gov/NN/B/B/Z/D/>

- U.S. Department of Health and Human Services. (2010). *Healthy People 2020*. Washington, DC: USDHHS. Retrieved September 29, 2012, from <http://www.healthypeople.gov/2020/topicsobjectives2020/pdfs/HP2020objectives.pdf>
- U.S. Department of Health and Human Services. (2012). *Preventing tobacco use among youth and young adults: A report of the Surgeon General*. Rockville, MD: USDHHS, Office on Smoking and Health. Retrived from <http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf>
- Ware, C. (2004). *Information visualization: Perception for design* (2nd ed.). San Francisco, CA: Elsevier.
- World Health Organization. (1989). *The health of youth: Document A42/Technical Discussions/2*. Geneva: WHO.
- Zevin, S., & Benowitz, N. L. (1999). Drug interactions with tobacco smoking. An update. *Clinical Pharmacokinetics*, *36*, 425–438. doi:10.2165/00003088-199936060-00004
- Zhu, S. H., Sun, J., Billings, S. C., Choi, W. S., & Malarcher, A. (1999). Predictors of smoking cessation in U.S. adolescents. *American Journal of Preventative Medicine*, *16*, 202–207. doi:10.1016/S0749-3797(98)00157-3