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Commentary

Failure to treat tobacco use in mental health and addiction treatment settings: A form of harm reduction?

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ABSTRACT

In mental health and addiction treatment settings, failure to treat tobacco dependence has been rationalized by some as a clinical approach to harm reduction. That is, tobacco use is viewed as a less harmful alternative to alcohol or illicit drug use and/or other self-harm behaviors. This paper examines the impact of providers' failure to treat tobacco use on patients' alcohol and illicit drug use and associated high-risk behaviors. The weight of the evidence in the literature indicates: (1) tobacco use is a leading cause of death in patients with psychiatric illness or addictive disorders; (2) tobacco use is associated with worsened substance abuse treatment outcomes, whereas treatment of tobacco dependence supports long-term sobriety; (3) tobacco use is associated with increased (not decreased) depressive symptoms and suicidal risk behavior; (4) tobacco use adversely impacts psychiatric treatment; (5) tobacco use is a lethal and ineffective long-term coping strategy for managing stress, and (6) treatment of tobacco use does not harm mental health recovery. Failure to treat tobacco dependence in mental health and addiction treatment settings is not consistent with a harm reduction model. In contrast, emerging evidence indicates treatment of tobacco dependence may even improve addiction treatment and mental health outcomes. Providers in mental health and addiction treatment settings have an ethical duty to intervene on patients' tobacco use and provide available evidence-based treatments.

1. Introduction

Tobacco dependence is the most prevalent drug abuse disorder among adults with psychiatric diagnosis or illness, a group estimated to account for nearly 1 in 2 cigarettes sold in the United States (Grant et al., 2004; Lasser et al., 2000). Neurobiological and psychosocial factors are thought to contribute to the high rates of tobacco use in this group, including the reinforcing mood-altering effects of nicotine, shared environment or genetic factors, and reduced coping for cessation efforts (Dursun and Kutcher, 1999; Kendler et al., 1993; Ziedonis et al., 1994). Nicotine's reinforcing actions on the mesolimbic dopamine reinforcement pathway in the brain are similar to those of cocaine and amphetamine, contributing to elevation of mood, cognitive enhancement, and decreased appetite (Stahl, 2000). Nicotine delivered by a transdermal patch has produced improvement in attention among smokers and nonsmokers, in persons with and without attentional deficits (Conners et al., 1996; Levin et al., 1998), and in patients with schizophrenia and nonpsychiatric controls (Barr et al., 2008).

Though a number of factors are believed to contribute to the high smoking rate among individuals with psychiatric disorders, systemic factors and failure to treat tobacco dependence in mental health and addiction treatment settings have been largely ignored. Historically, the tobacco industry marketed their product to persons with mental illness, provided tax-free cigarettes to psychiatric facilities, and funded research promoting a self-medication hypothesis for nicotine (Prochaska et al., 2008a). In inpatient psychiatry, cigarettes were provided to patients, considered among the most effective forms of reinforcement, with some patients first starting to smoke while hospitalized (Hayworth, 1996; Holtzman, 1975; Robertson, 2000). Still to this day, most mental health training programs lack adequate instruction in treating tobacco dependence (American Psychiatric Nurses Association, 2008; Prochaska et al., 2006), and, likely related, psychiatric patients' tobacco dependence is rarely addressed in clinical practice (Himelhoch et al., 2004; Montoya et al., 2005; Phillips and Brandon, 2004; Prochaska et al., 2005). In a recent national survey, psychiatrists were the least likely to address tobacco use with their patients relative to other medical specialties (Association of American Medical Colleges, 2007).

In mental health and addiction treatment settings, failure to treat tobacco dependence has been rationalized by some as a clinical approach to harm reduction. That is, tobacco use is viewed as a lesser evil, a lower treatment priority, or less harmful alternative to alcohol or illicit drug use and/or other self-harm behaviors (Fuller et al., 2007; Prochaska et al., 2006; Richter et al., 2002). The assertion by treatment providers is that if patients were to quit

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their tobacco use, they would relapse to other substances of abuse, have a recurrence of depression, engage in cutting or other self-mutilation behaviors, attempt suicide, and/or exhibit some other form of decompensation. Since tobacco is a legal drug, its effects on the individual and significant others are viewed as less consequential than illicit substances of abuse. In a survey study with inpatient psychiatry nursing staff in the United Kingdom, 53% believed clinicians smoking with patients was therapeutic and 22% believed cigarettes should be handed out to patients as part of therapy (Stubbs et al., 2004). The purpose of the current paper is to examine the empirical evidence for failure to treat tobacco use in mental health and addiction treatment settings from the viewpoint of a harm reduction model.

Harm reduction refers to public health policies intended to reduce the harm associated with illegal activities, such as illicit prostitution and drug use. While harm reduction has met with political sensitivities in the United States, it is an explicitly endorsed treatment approach in many other countries (e.g., see EurAsian Harm Reduction Network, www.harm-reduction.org). According to Marlatt, harm reduction was "founded on a set of pragmatic principles and compassionate strategies designed to minimize the harmful consequences of personal drug use and associated high-risk behaviors" (Marlatt et al., 1988). Harm reduction has been further defined as "an individualized approach to positive changes in behavior" (Marlatt et al., 1988). In contrast with abstinence-only models in addictions treatment, harm reduction strategies may include reduced or controlled use of a drug (i.e., controlled drinking) or use of a licensed alternative (e.g., prescribed methadone instead of heroin). Extended to the mental health field, harm reduction has aimed to minimize clients' self-harm behaviors. The evidence for the success of harm reduction approaches include reduced HIV, Hepatitis C and STD exposure among sex workers (Rekart, 2005) and IV drug users (Des Jarlais et al., 2005); reduced drinking and alcohol-related consequences (Marlatt et al., 1988); and reduced homelessness (Tsemberis and Eisenberg, 2000).

This paper does not examine the merit of harm reduction strategies for addressing tobacco dependence, which has been reviewed previously (Baer and Murch, 2002; Silagy et al., 2002). Rather, this paper seeks to examine the empirical evidence for providers' failure to treat tobacco use in mental health and addiction treatment settings as a viable harm reduction strategy.

2. Weighing the evidence

2.1. Is tobacco use less harmful than alcohol, illicit drug use, or other self-harm behaviors?

Tobacco is the leading preventable cause of death in the United States, contributing to greater mortality than alcohol, illicit drugs, HIV, suicide, homicide, motor vehicle accidents, and obesity, all combined (Centers for Disease Control, 2005). Nearly one in two long-term tobacco users will die from a tobacco-related illness (Doll et al., 2004). Individuals with serious mental illness carry a disproportionate level of tobacco-related morbidity and mortality and, on average, are dying 25 years prematurely with the chief causes being chronic, tobacco-related diseases (Colton and Manderscheid, 2006). Individuals in treatment for alcohol dependence are more likely to die from their tobacco than their alcohol use (Hurt et al., 1996). Individuals with drug problems who also smoke are four times more likely to die prematurely relative to individuals with drug problems who do not use tobacco (Hser et al., 1994).

Further, there is no safe level of tobacco use. Tobacco smoke contains an estimated 4800 compounds; 11 of them are proven human carcinogens including benzene, cadmium, lead, nitrosamines, and formaldehyde (National Cancer Institute, 2001). Smoking even one to four cigarettes a day nearly triples the risk of death from heart disease (Bjartveit and Tverdal, 2005). Reviews of interventions that promote smoking reduction have concluded that there is no safe level of use and, while reduction can be a useful cessation strategy, complete abstinence should be the ultimate goal (McNeill, 2004). Use of nicotine replacement therapy (NRT) for sustained smoking reduction has shown some promise, although NRT is not currently licensed in many countries for use in this way and no strong evidence yet exists of health benefits from this strategy (McNeill, 2004). A randomized clinical trial of smoking reduction with NRT use in heart disease patients found no significant improvements in clinical outcomes (Joseph et al., 2008). Previous attempts by the tobacco industry to create "less harmful" tobacco products have yielded little to no health benefits for smokers and instead have served to sustain the prevalence of smoking and perpetuate public health problems (Stratton et al., 2001; Warner, 2002).

Tobacco use also harms others. There is no safe level of secondhand smoke exposure (U.S. Department of Health and Human Services, 2006). Condoned tobacco use in mental health and addiction treatment settings puts staff and other clients at risk for secondhand smoke exposure as well as smoking initiation or relapse (Kohn et al., 2003). Mental health and addiction treatment settings are among the only remaining sites with exemptions to permit continued tobacco use.

2.2. Does tobacco use support abstinence from alcohol and illicit drugs?

Tobacco has been implicated as a "gateway" to other drugs of abuse (Kandel, 2002). Whether there is a causal progression from tobacco to other substances of abuse remains under debate (Degenhardt et al., 2010). Yet, notably over 80% of youth with substance use disorders smoke cigarettes, most use tobacco daily, and many become highly dependent, long-term smokers (Myers and MacPherson, 2004; Upadhyaya et al., 2003). When individuals enter addictions treatment, their tobacco use is often overlooked and sometimes condoned or encouraged out of fear that their sobriety from alcohol or illicit drugs will be compromised (Ziedonis et al., 2006).

Research indicates, however, that continued smoking is associated with worse drug treatment outcomes (Frosch et al., 2000), while smoking cessation is predictive of improved sobriety (Bobo et al., 1998; Hughes, 1993; Shoptaw et al., 1996). In a 12-month prospective study, clients in addictions treatment who quit smoking were less likely to be diagnosed as alcohol dependent and had significantly greater total days of abstinence from alcohol and illicit drugs compared to those who remained smokers (Kohn et al., 2003). Further, clinical treatment of clients' tobacco dependence may actually serve to enhance addiction treatment outcomes. A meta-analysis of 19 randomized controlled trials evaluating tobacco treatment interventions for individuals with substance abuse problems found that smoking cessation interventions were associated with a 25% *increased* likelihood of long-term abstinence from alcohol and illicit drugs (Prochaska et al., 2004a).

The evidence indicates that tobacco use does not support abstinence from alcohol and illicit drugs. Contrary to previous concerns, tobacco dependence interventions and smoking cessation efforts during addictions treatment appear to enhance rather than compromise long-term abstinence.

2.3. Is tobacco use associated with lower risk for depression and suicidal behavior?

Depression is two to three times more common in smokers than in nonsmokers (Acton et al., 2001; Farrell et al., 2001; Tsoh

et al., 2003). In an 11-year population follow-up study, Klungsoyr et al. (2006) identified tobacco use as a significant predictor of first depression episode with evidence of dose–response relationships both with respect to the number of cigarettes smoked and the amount of time one had been smoking (Klungsoyr et al., 2006). For heavy smokers, the risk of depression was four times greater relative to never smokers. In a prospective study of 3056 smokers, continued smoking and history of depression both independently predicted the development of a major depressive episode (Torres et al., 2010). Lastly and significantly, though the relationship is not clear, multiple prospective studies with youth and adults, controlling for confounding variables, have identified tobacco use as one of the strongest predictors of future suicidal behavior (Breslau et al., 2005; Oquendo et al., 2004).

2.4. Does tobacco use aid mental health treatment?

Mental health settings have a history of providing cigarettes to clients, describing tobacco as an effective form of treatment for addressing agitation and encouraging patient compliance (Robertson, 2000; Hayworth, 1996). Yet the science indicates that tobacco use negatively impacts psychiatric treatment. The hydrocarbons of tar in cigarettes increase the metabolism of some antipsychotic (e.g., haloperidol, olanzapine) and antidepressant (e.g., nortriptyline) medications (Zevin and Benowitz, 1999). The result is higher doses being required to achieve therapeutic levels in individuals who smoke, with the potential for increased pharmaceutical costs and neuroleptic side-effects (Goff et al., 1992). Studies have reported greater hospitalization rates, higher medication dosages, and more positive symptoms among patients with schizophrenia who smoke relative to those who do not (Goff et al., 1992; Patkar et al., 2002; Ziedonis et al., 1994). While tobacco may be viewed as a highly effective form of reinforcement for medication adherence, the effect in reducing medication blood levels is clearly antithetic to treatment goals.

Psychiatric inpatient units that have voluntarily opted to go smoke-free have reported minimal to no disruption in clinical practice and patient management (Lawn and Pols, 2005). Effective management of patients' nicotine dependence and withdrawal, however, is critical to good care. A systematic review of 250 medical records found that when patients who smoked were hospitalized on a smoke-free unit and not prescribed NRT to manage withdrawal, they were twice as likely to be discharged against medical advice (AMA, 22%) compared to smokers prescribed NRT (10%) ($p < .05$) (Prochaska et al., 2004b). Notably, smokers who were prescribed NRT did not differ in their AMA discharge rate from nonsmokers (8%).

Tobacco is not an effective or ethically viable aid to mental health treatment. Failure to treat patients' tobacco dependence may negatively impact their psychiatric care.

2.5. Is tobacco use an effective coping strategy for stress?

Stress is often cited as a primary reason for smoking (Fidler and West, 2009; Shiffman, 1993). Smokers, however, often confuse the relief of their nicotine withdrawal with the feeling of relaxation. Nicotine is a stimulant and can enhance mood, but only transiently. Smoking increases stress levels due to the constant need to smoke to avoid nicotine withdrawal. The goal is to help patients (and mental health and addiction treatment providers) realize that tobacco is the problem, not the solution. Tobacco does not address the underlying stressors in one's life. Research indicates that stress levels may actually decrease following smoking cessation (Cohen and Lichtenstein, 1990; Parrott, 1999).

Tobacco is not an effective coping strategy for stress and more likely contributes to stress levels in patients who smoke. Mental health providers are well placed to assist their patients with employing effective stress management strategies that are not harmful to health such as progressive muscle relaxation, deep breathing, positive imagery, distraction, and emotion regulation.

2.6. Will quitting smoking lead to decompensation in mental health functioning?

Patients and clinicians often are concerned that quitting smoking will remove a coping strategy and lead to decompensation in mental health functioning. Alarming case studies in the literature reported the recurrence of major depression following tobacco cessation in smokers with a history of depression (Stage et al., 1996). The case studies could not, of course, control for the elevated risk for depression recurrence among individuals with depression histories.

Three empirical studies have examined smoking cessation and depression recurrence in those with a history of depression. In the first study, an investigation of the use of sertraline for smoking cessation, which was found to be ineffective, Glassman et al. (2001) reported a 7-fold greater recurrence of depression among those who quit smoking compared to those who continued to smoke. Differential rates of attrition, however – 39% among continued smokers compared to 5% of successful quitters – limit the findings. It is quite possible that continued smokers lost to follow-up also had a recurrence to depression that was not documented. In the second investigation, Tsoh et al. (2000) analyzed data from 304 participants in two randomized clinical trials and found that individuals with a history of depression were at a greater risk of recurrence of depression; depression recurrence, however, was independent of smoking cessation status. Kahler et al. (2002) similarly found that smoking abstinence did not increase the risk of depression recurrence among smokers with a history of major depression. Depression is a remitting and relapsing disorder and the data suggest that abstinence and depression are unrelated.

It is important to note that nicotine withdrawal is characterized by dysphoria or depressive symptoms, though not diagnosable depressive disorders, during the 2- to 4-week period post-abstinence (American Psychiatric Association, 1994). A recent study examined bupropion for smoking cessation in those with current or past depression (Evins et al., 2008). Success with quitting smoking was unrelated to baseline levels of depressive symptoms. A secondary analysis reported increased depressive symptoms among those who quit smoking versus those who continued to smoke; the finding was specific among those who entered the study with low depressive symptoms. The severity and duration of depressive symptoms were not reported, and the high rate of attrition (61% study drop-out among those initially enrolled) prohibited examination of the risk of recurrence of diagnosable major depressive disorder associated with abstinence. Participants were recruited from the community. Antidepressant use at study enrollment was an exclusion criterion, and concurrent treatment for depression during the course of the study was not reported. Integrating or providing cessation treatment concurrent with psychiatric care may be particularly helpful for managing nicotine withdrawal symptoms in smokers at risk for depression.

Three randomized controlled trials have examined the impact of smoking cessation on mental health functioning among individuals in concurrent treatment for current mental illness. In a trial with 322 smokers with co-occurring clinical depression, tobacco cessation rates for the intervention group exceeded those of control participants at months 12 (20% vs. 12%) and 18 (25% vs. 19%) (Hall et al., 2006). Follow-up analyses of 10 psychiatric indicators, including depression symptoms, suicidality, psychiatric hospitalization, and use of alcohol and illicit drugs, found no detriment to mental health recovery among individuals who quit smoking as compared to con-

tinued smokers (Prochaska et al., 2008b). Similarly, in a trial with smokers in treatment for post-traumatic stress disorder (PTSD), subjects assigned to integrated care were five times more likely than subjects undergoing usual care to be abstinent from smoking at 9 months follow-up. Critically, treatment for cigarette smoking was not associated with worsening PTSD symptoms (McFall et al., 2006).

In smokers diagnosed with schizophrenia, a trial examining bupropion use for tobacco cessation found that abstinence from tobacco was not associated with worsening of attention, verbal learning/memory, working memory, or executive function/inhibition nor worsening of clinical symptoms in individuals with schizophrenia (Evins et al., 2005). A second trial of bupropion added to high-dose NRT for smoking cessation in individuals with schizophrenia similarly showed no effect of abstinence on psychiatric symptoms and indication of a significant decrease in akathisia and extra-pyramidal symptoms scores for bupropion relative to placebo (Evins et al., 2007). In both studies, relapse rates were high following discontinuation of cessation pharmacotherapy, suggesting the need for longer-term treatments for this patient population.

The evidence indicates that individuals with psychiatric disorders can be aided in quitting smoking without threat to their mental health recovery. Fear of decompensation should not be used as an excuse to overlook patients' tobacco use in clinical practice. Integration of smoking cessation treatment within psychiatric care is encouraged so that clinicians can identify and address nicotine withdrawal and any changes in psychiatric symptoms during the quit attempt.

3. Discussion

Harm reduction strategies aim to replace a highly unhealthy behavior with one that is considerably less unhealthy. Some mental health and addiction treatment providers have rationalized that their failure to treat tobacco dependence is a form of harm reduction in that their clients' tobacco use is viewed as a healthier alternative to alcohol or illicit drug abuse, suicidal ideation, or other self-harm behaviors. Tobacco use, however, does not meet the philosophy and tenets of the harm reduction model.

Tobacco use causes greater morbidity and mortality than alcohol, illicit drugs, and suicide combined and is identified as a major contributing factor for the 25-year premature mortality rate among people with serious mental illness (Colton and Manderscheid, 2006). Tobacco use is associated with greater risk of relapse to alcohol and illicit drug use and, though the relationship is not well understood, is one of the strongest predictors of future suicidal behavior. Treatment of tobacco dependence is associated with enhanced, not decreased, sobriety from alcohol and other drugs. Tobacco use is not a form of mental health treatment, and in fact, reduces the therapeutic blood levels of a number of psychiatric medications (Zevin and Benowitz, 1999). Further, tobacco use is not an effective strategy for managing stress and mood.

Mental health and addiction treatment providers are well placed and trained to provide clients with effective, alternative coping strategies that are not lethal in one in two long-term users. As treatment providers, it is their ethical duty to do so. Failure to treat tobacco dependence with effective, available treatments according to recognized clinical practice guidelines is unethical and in violation of the legal duty of health care providers, potentially bringing substantive liability risks for charges of malpractice (Torrijos and Glantz, 2006).

Treatments for tobacco dependence are available, effective for achieving abstinence and improved health outcomes, and cost-effective (American Psychiatric Association, 2006; Fiore et al., 2008). Evidence-based tobacco treatments include NRT, bupropion, varenicline, nortriptyline, clonidine, and psychosocial therapies. Combined therapies (counseling plus pharmacotherapy) for treating nicotine dependence are emphasized. Treatment guidelines recommend integration of smoking cessation efforts within psychiatric care (American Psychiatric Association, 2006). The American Psychiatric Association (2006) recommends psychiatrists assess the smoking status of all patients, including readiness to quit, level of nicotine dependence, and previous quitting history, and provide explicit advice to motivate patients to stop smoking. Addiction treatment settings are gaining success with banning smoking and effectively treating all substances of abuse, which includes tobacco (Bauman, 2008).

People with mental illness can quit smoking and without detriment to their mental health recovery (Hall et al., 2006; McFall et al., 2006; Prochaska et al., 2008b). Failure to treat tobacco dependence in mental health and addiction treatment settings ignores clinical practice treatment guidelines and brings real liability risks (Torrijos and Glantz, 2006). Tobacco use is not a form of harm reduction and needs to be a treatment priority in mental health and addiction treatment settings to improve the health and well being of individuals with psychiatric and addictive disorders.

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Judith Prochaska, PhD, MPH conceived of this written commentary and wrote the manuscript in entirety.

Conflict of interest

The author holds no conflicts of interest.

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