

# Smoking and Mental Illness — Breaking the Link

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“My doctor told me I’m too stressed out to quit smoking,” remarked a woman hospitalized with severe depression. “Well, 43 years later, I’m still stressed and I’m still smoking.” This woman’s dilemma is all too familiar to health care providers and patients seeking the ideal time to treat tobacco dependence in the face of chronic mental illness.

Since smoking and mental illness commonly occur together, many clinicians see them as inextricably linked and believe that smoking in the mentally ill is therefore particularly challenging to treat. Little examined are the systemic and treatment factors that have contributed to disparities in tobacco use and tobacco-related morbidity and mortality among people with mental illness.

Twenty years ago, the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO, now the Joint Commission) proposed a national ban on tobacco use in hospitals, noting the contradiction between hospitals’ health care mission and their exposing of patients, staff members, and visitors to the harms of secondhand smoke. Patient-advocacy groups for the mentally ill strongly opposed the ban, arguing that tobacco’s therapeutic, calming effect was valuable and warning that psychiatric patients who were denied their cigarettes would revolt. JCAHO conceded and exempted psychiatric and drug-treatment units from the smoking ban. Psychiatric hospitals that voluntarily adopted such bans, however, have documented both

little-to-no disturbance in patients’ behavior and time savings for staff members.

Yet even in smoke-free psychiatric settings, treatment of tobacco use remains relatively rare. In my group’s recent studies, among 337 smokers recruited from inpatient psychiatry units, 82% reported having attempted to quit, and 42% reported having done so within the previous year; only 4% reported receiving assistance with quitting smoking from a mental health care or general health care provider. Moreover, there are still outpatient mental health programs that provide cigarettes as an incentive for patients to comply with treatment.

The devastating consequences of tobacco use among smokers with mental illness are evident. Smokers with serious mental illness are at increased risk for cancer, lung disease, and cardiovascular disease, and they die 25 years sooner, on average, than Americans overall. Tobacco use also complicates psychiatric treatment. Components in tobacco smoke accelerate the metabolism of some antidepressant and antipsychotic medications, resulting in lowered blood levels and probably reduced therapeutic benefit. Studies have revealed higher hospitalization rates, higher medication doses, and more severe psychiatric symptoms among patients with schizophrenia who smoke than among those who do not. Though the mechanism is unclear, tobacco use also is one of the strongest predictors of future suicidal behavior.<sup>1</sup> Smoking results in substan-

tial social and financial costs to patients, their families, and society. As greater restrictions on exposure to secondhand smoke are implemented in many public areas, tobacco use is further isolating an already-marginalized group.

Five prevailing myths have contributed to continuing tobacco use among people with mental illness. The first is that tobacco is necessary self-medication for the mentally ill. The tobacco industry has fostered this belief by funding research and presentations on the self-medication hypothesis, supporting opposition to the JCAHO smoking ban, publishing articles in the lay press, and marketing cigarettes to people with mental illness.<sup>2</sup>

Nicotine is a powerful reinforcing drug that transiently enhances concentration and attention, regardless of the smoker’s mental health status. But it has proved ineffective as an adjunctive treatment for mental disorders (e.g., depression, schizophrenia, and attention-deficit disorder), possibly because of the rapid decrease in drug response with repeated exposure. The reality is that tobacco is another problem, not a solution.

Myth number two is that people with mental illness are not interested in quitting smoking. Research argues otherwise: studies involving patients recruited from outpatient and inpatient psychiatric settings suggest that they are about as likely as the general population to want to quit smoking.<sup>1</sup> In the United States, 20 to 25% of smokers report that they

Recommended Treatments for Tobacco Dependence and the Evidence Base for Use in Smokers with Mental Illness.*	
Treatment Strategy	Findings in Smokers with Mental Illness
Clinician advice to quit and referral	In one trial in clinically depressed smokers, yielded abstinence rate of 19% at 18 months of follow-up. <sup>1</sup>
Individual cessation counseling	At 18 months of follow-up, individual counseling with access to cessation pharmacotherapy achieved abstinence in 18% of smokers with PTSD <sup>3</sup> and 25% of those with depression. <sup>1</sup>
Group cessation counseling	Group counseling plus nicotine replacement achieved 19 to 21% abstinence at 12 months of follow-up in outpatients with serious mental illness; tailoring content for smokers with schizophrenia was equally effective.
Quit-lines	The nearly 25% of callers to the California quit-line who had major depression were significantly less likely than nondepressed callers to have quit smoking at 2 months of follow-up.
Nicotine replacement: patch, gum, lozenge, inhaler, nasal spray	One trial found nicotine gum particularly helpful among depressed (as compared with nondepressed) smokers (36% abstinence at 3 months). In acute care settings, nicotine replacement reduced agitation in smokers with schizophrenia and was associated with lower rates of leaving inpatient psychiatric settings against medical advice. Extended use of a nicotine patch reduced relapse risk among smokers with schizophrenia. A case series documented that nicotine nasal spray was used appropriately by smokers with schizophrenia and supported cessation.
Bupropion	An effective cessation aid in smokers with or without current or past depression. A meta-analysis of 7 trials in 260 smokers with schizophrenia showed significant effects at 6 months of follow-up. <sup>4</sup> According to a case study, two smokers with bipolar disorder quit smoking with no adverse effects on mood.
Varenicline	Three case series involving medically stable outpatients with schizophrenia reported significant smoking reduction, 8-to-75% quit rates, improvements on some cognitive tests, and no serious adverse effects; individual case reports reveal mixed effects in smokers with schizophrenia or bipolar disorder. Three randomized, controlled trials in smokers with schizophrenia or depression are in process.
Nortriptyline	Demonstrated efficacy in the general population and among smokers with a history of depression; no data on smokers with current mental illness.
Clonidine	Demonstrated efficacy in the general population; no data on smokers with mental illness.

\* Information on recommended treatments for tobacco dependence is from Fiore et al.<sup>5</sup> Bupropion and varenicline include an FDA-mandated black-box warning highlighting the risk of serious neuropsychiatric symptoms, including changes in behavior, hostility, agitation, depressed mood, suicidal thoughts and behavior, and attempted suicide. Nortriptyline and clonidine are second-line cessation pharmacotherapies that have been identified as efficacious in the general population but are not FDA-approved. PTSD denotes post-traumatic stress disorder.

intend to quit smoking in the next 30 days, and another 40% say they intend to do so in the next 6 months. Furthermore, among smokers with mental illness, readiness to quit appears to be unrelated to the psychiatric diagnosis, the severity of symptoms, or the coexistence of substance use.

The third myth is that mentally ill people cannot quit smoking. Although treating tobacco

dependence is challenging, several randomized treatment trials and systematic reviews involving smokers with mental illness have documented that success is possible. With a stepped-care intervention tailored to depressed smokers' readiness to quit, a 25% abstinence rate at 18-month follow-up was achieved — a rate significantly higher than that in the group that received usual care (advice to quit and referrals

for help doing so) and similar to cessation rates in the general population.<sup>1</sup> A cessation intervention integrated into treatment for post-traumatic stress disorder (PTSD) doubled patients' odds of quitting.<sup>3</sup> And a meta-analysis of seven randomized controlled trials involving smokers with schizophrenia revealed a nearly three-fold increase in abstinence rates 6 months after treatment among those who used bupropion.<sup>4</sup>

Fourth, many people believe that quitting smoking interferes with recovery from mental illness, eliminating a coping strategy and leading to decompensation in mental health functioning. Five randomized tobacco-treatment trials in patients concurrently receiving mental health treatment have found that smoking cessation did not exacerbate depression or PTSD symptoms or lead to psychiatric hospitalization or increased use of alcohol or illicit drugs.<sup>1</sup>

Finally, some argue that smoking, which is perceived as having distal effects, is the lowest-priority concern for patients with acute psychiatric symptoms. Yet people with psychiatric disorders are far more likely to die from tobacco-related diseases than from mental illness. Smokers know tobacco use has deadly consequences and expect health care professionals to intervene. Indeed, raising the issue of tobacco use with patients enhances the rapport between patients and clinicians.

There is growing evidence that smokers with mental illness are as ready to quit as other smokers and can do so without any threat to their mental health recovery. Evidence supports the use of most recommended cessation treatments in smokers with mental illness (see table).

Clinicians are therefore encouraged to ask all patients about tobacco use, advise smokers to quit,

assess their readiness to quit, tailor assistance accordingly, and arrange for follow-up. Key strategies for smokers who are not ready to quit include focusing on the benefits of change and the risks associated with tobacco use, as well as addressing key barriers to cessation (e.g., stress, fear of weight gain, and nicotine withdrawal). Smokers who are ready to quit should be encouraged to set a quit date in the next 2 weeks, given a prescription for pharmacologic cessation treatment (unless it is contraindicated), and linked with counseling support. Mood-management strategies may also be helpful for smokers with current or past mental illness. Integrating cessation treatment into existing care results in greater engagement, greater use of cessation pharmacotherapy, and increased likelihood of abstinence.<sup>3</sup> Ongoing contact allows clinicians to monitor and address any changes in psychiatric symptoms during quitting attempts. Relapse rates may be high, and combined and extended use of cessation medications may be warranted.

There is a critical need to engage health care providers, policymakers, and mental health advocates in the effort to increase access to evidence-based tobacco treatment. The Joint Commission plans to adopt revised hospital standards for tobacco treatment next January. The standards should

apply to all hospitalized smokers, regardless of mental health status. More generally, we need greater advocacy for smoke-free environments for mental health treatment; training for clinicians in cessation treatment; and systems for routinely identifying patients who smoke, advising cessation, and providing treatment or referral.

The history of tobacco use in the mental health field is long and troubling. It is time to make effective cessation treatments readily available to all smokers.

Disclosure forms provided by the author are available with the full text of this article at [NEJM.org](http://NEJM.org).

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## The Clean Air Act and Health — A Clearer View from 2011

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From my office, I have views of downtown Los Angeles and the San Gabriel Mountains. Air pollution infrequently obscures

these views, and only rarely are my eyes and throat irritated by smog when I'm outdoors. The Los Angeles air of today is far

better than that of the mid-20th century, when severe oxidant pollution, initially of unknown origins, threatened the health and