



## TOBACCO USE AND MENTAL HEALTH

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Despite reductions in smoking prevalence achieved since the first Surgeon General's report on the consequences of smoking in 1964, smoking remains the leading cause of preventable death in the United States.<sup>1</sup> Smoking accounts for more than 480,000 deaths in the United States each year, and is a major risk factor for the four leading causes of death: heart disease, cancer, chronic obstructive pulmonary disease, and stroke.<sup>2</sup> Many subpopulations, including those with mental illness, continue to suffer from disproportionately high tobacco use and its associated health consequences.

### **Tobacco Use Among Persons with Mental Illness**

According to data from the 2009-2011 National Survey on Drug Use and Health (NSDUH), 36.1% of adults with any mental illness were current smokers<sup>\*</sup>, compared to 21.4% of adults without any mental illness. Further, about three out of ten smokers (29.5%) have a mental illness. Among those with mental illness, current smoking was even higher among men, those under age 45, and those living below the federal poverty line. Nearly half of adults with mental illness living below the poverty line are current smokers.<sup>3</sup> In addition to having higher smoking rates, adults with mental illness also tend to be heavier smokers.<sup>4</sup> According to NSDUH, nearly one-third (31%) of cigarettes smoked by adults are smoked by those with mental illness.<sup>5</sup> Additional national data from the National Health Information Survey (NHIS) of adults ages 18 and over find that 40.6 percent of adults with serious psychological distress<sup>†</sup> are current smokers, compared to 14.0 percent of adults without serious psychological distress.<sup>6</sup>

It is important to note that most data on the smoking prevalence of those with mental illness are limited by the exclusion of those who are institutionalized—either in treatment or incarcerated<sup>‡</sup>—and those experiencing homelessness. Research estimates that between a quarter and a third of the chronically homeless are mentally ill.<sup>7</sup> Finally, given that NSDUH's definition of any mental illness excludes substance abuse, these rates likely underestimate smoking among the adult population with mental illness. Other data from NSDUH has indicated that those who have received treatment for a substance use disorder are three times more likely to be current smokers.<sup>8</sup>

Data on smoking rates among youth with mental illness is very limited, and is not reported in nationally representative datasets. However, some research suggests that smoking prevalence follows patterns similar to adults with mental illness, with findings ranging from 20-60% of youth with mental illness reporting tobacco use.<sup>9</sup>

### **Health and Economic Consequences of Tobacco Use Among Persons with Mental Illness**

Smoking accounts for more than 480,000 deaths in the United States each year, and is a major risk factor for the four leading causes of death: heart disease, cancer, chronic obstructive pulmonary disease, and stroke.<sup>10</sup> It is estimated that over 40 percent (around 200,000) of these deaths are among persons with mental illness or substance abuse.<sup>11</sup> According to one study, persons with serious mental illness die, on average, 25 years prematurely, primarily due to chronic illness, including tobacco-related disease.<sup>12</sup> In addition, smoking may interfere with many prescription medications commonly used to treat mental illness by reducing the therapeutic blood levels of certain psychotropic medications, thereby undermining their effectiveness.<sup>13</sup>

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<sup>\*</sup> NSDUH defines any mental illness as "having a mental, behavioral, or emotional disorder, excluding developmental and substance use disorders, in the past 12 months" and defines current smoking as "smoking all or part of a cigarette within the 30 days preceding the interview."

<sup>†</sup> Serious psychological distress defined by the Kessler psychological distress scale. Across all age groups, current cigarette smoking increased significantly for each of the four categories of psychological distress (no, low, moderate, high).

<sup>‡</sup> Tobacco sales have been banned in prison commissaries since 2006. In January 2015, the Federal Bureau of Prisons prohibited tobacco use in any form except as part of religious activity; however, staff and visitors may smoke in designated smoking areas except where prohibited by state or local law. While smoking cessation programs are sometimes available to prisoners, no financial support is provided to prisoners for nicotine replacement therapy. Further, contraband cigarettes continue to be a problem for US prisons. See <http://www.no-smoke.org/pdf/100smokefreeprisons.pdf> for more information.

In addition to the tremendous burdens that persons with mental illness often face, such as higher rates of unemployment, victimization, homelessness, poverty, incarceration and social isolation, smoking adds a significant financial burden.<sup>14</sup> For example, persons with schizophrenia have been found to spend 27% of their income on cigarettes.<sup>15</sup> Similarly, these stressful conditions can also make it harder for persons with mental illness to quit smoking and limit their access to cessation services.

### **Tobacco Industry Targeting of Persons with Mental Illness**

The tobacco industry is infamous for targeting its products to vulnerable populations, and the mentally ill are no exception. Examination of tobacco industry documents found that in the 1980s and 1990s, the tobacco industry targeted some psychiatric hospitals with sales promotions and giveaways of value brand cigarettes. There is also evidence of mental health institutions and treatment facilities soliciting financial donations and donation of cigarettes from the tobacco industry.<sup>16</sup> The tobacco industry has fought restrictions on smoking bans in hospitals and medical facilities—specifically psychiatric institutions.<sup>17</sup> Finally, the industry has funded a substantial body of research in its attempts to assert that smoking is both less harmful to those with schizophrenia and that it is a necessary self-medication tool.<sup>18</sup>

Industry targeting of the homeless population—who are disproportionately burdened by mental illness—has been even more flagrant, including donation of cigarettes to homeless shelters by Lorillard and donation of blankets branded with Phillip Morris' Merit logo to homeless shelters. RJ Reynolds' urban marketing plan in the 1990s specifically focused on targeting value brands to “street people.”<sup>19</sup>

### **Helping Persons with Mental Illness Quit Smoking**

Given that one in five adults in the US—over 45 million people<sup>20</sup>—have some form of mental illness, addressing the disparately high smoking rate in this population is critical. Services and policies to help people quit using tobacco consist of a variety of evidence-based, individual and population-level approaches aimed at reducing the toll of tobacco use by helping users quit. According to the U.S. Public Health Service Clinical Practice Guideline, tobacco cessation treatments are effective across a broad range of populations. It is critical that health care providers screen for tobacco use and provide advice to quit to tobacco users.<sup>21</sup>

Unfortunately, persons with mental illness have lower quit rates than the rest of the population. The National Epidemiologic Survey on Alcohol and Related Conditions, a nationally representative longitudinal study, found that persons with a psychiatric diagnosis<sup>§</sup> were 25% less likely to successfully quit.<sup>22</sup> However, many studies find that quit intentions are just as high, if not higher, among those with mental illness than the general population.<sup>23</sup> Further, while at the population level, persons with mental illness have lower quit rates, studies show they can achieve equal quit rates with access to appropriate cessation services.<sup>24</sup>

Myths abound that smoking is an important stress coping mechanism for those with mental illness, and therefore smoking cessation is often deprioritized by mental health providers.<sup>25</sup> While providers should closely monitor mental health patients pursuing smoking cessation, evidence does not point to smoking cessation as disruptive to mental health treatment.<sup>26</sup> Randomized controlled trials have shown that smoking cessation treatment among patients receiving mental health treatment is effective and does not exacerbate mental health symptoms or lead to increased use of alcohol or illicit drugs.<sup>27</sup> Further, studies have consistently found that smoking cessation is actually associated with reduced depression, anxiety and stress, as well as improved quality of life.<sup>28</sup> As such, both the CDC and the American Psychiatric Association (APA) encourage integration of cessation treatment with mental health services.<sup>29</sup> Unfortunately, a 2006 study of over 800 practicing psychiatrists found that only 23% recommended nicotine replacement therapy and even fewer (11%) provided referrals, despite self-reporting greater prevalence of smoking in their patient population than other practitioners. Only 62% of psychiatrists had advised smoking patients to quit, as compared to 93% of internal medicine providers.<sup>30</sup> Further, only a quarter (24.2%) of mental health centers and less than half (46%) of substance abuse treatment centers offer cessation services.<sup>31</sup>

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<sup>§</sup> Categorized as those with any lifetime or past year psychiatric diagnosis as defined by the DSM-IV. This definition includes a broader definition than defined by NSDUH data.

In addition to individual level treatment, the adoption of consistent tobacco prevention policies across mental health and substance abuse treatment contexts could help encourage cessation among those with mental illness. Effective in 1993, the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) set smoke-free standards for hospitals; however, mental health advocacy organizations successfully fought for the exclusion of psychiatric inpatient units and substance use facilities from this standard.<sup>32</sup> Further, some outpatient mental health patients still use cigarette provision or cigarette breaks as incentives for treatment compliance.<sup>33</sup> While many mental health facilities have subsequently implemented smoke-free policies, there is still progress to be made. The 2014 Surgeon General's Report, *The Health Consequences of Smoking—50 Years of Progress*, concluded that “exposure to secondhand tobacco smoke has been causally linked to cancer, respiratory, and cardiovascular diseases, and to adverse effects on the health of infants and children.” Further, the report concluded that smoke-free laws are proven to encourage smokers to quit.<sup>34</sup> As previously noted, smoke-free policies should be coupled with the integration of smoking cessation services and mental health treatment to prevent relapse when patients leave care.

**Campaign for Tobacco-Free Kids, November 21, 2016 / Laura Bach**

### **Additional Sources of Information**

- Smoking Cessation for Persons with Mental Illnesses: A Toolkit for Mental Health Providers, [http://www.integration.samhsa.gov/Smoking\\_Cessation\\_for\\_Persons\\_with\\_MI.pdf](http://www.integration.samhsa.gov/Smoking_Cessation_for_Persons_with_MI.pdf)
- Tobacco-Free Living in Psychiatric Settings: A Best Practices Toolkit Promoting Wellness and Recovery, [http://www.integration.samhsa.gov/pbhci-learning-community/Tobacco-Free\\_Living\\_in\\_Psychiatric\\_Settings\\_Toolkit.pdf](http://www.integration.samhsa.gov/pbhci-learning-community/Tobacco-Free_Living_in_Psychiatric_Settings_Toolkit.pdf)
- National Behavioral Health Network, <http://bhthechange.org/>
- Action to Quit: Behavioral Health, <http://actiontoquit.org/populations/behavioral-health/>

<sup>1</sup> *Smoking and Health: Report of the Advisory Committee to the Surgeon General of the Public Health Service*, PHS publication 1103, 1964, [http://www.cdc.gov/tobacco/sgr/sgr\\_1964/sgr64.htm](http://www.cdc.gov/tobacco/sgr/sgr_1964/sgr64.htm). McGinnis, JM, et al., “Actual causes of death in the United States,” *Journal of the American Medical Association (JAMA)* 270:2207-2212, 1993.

<sup>2</sup> HHS, *The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General*, 2014, <http://www.surgeongeneral.gov/library/reports/50-years-of-progress/>. CDC, “Deaths: Leading Causes for 2010,” Table D, *National Vital Statistics Reports*, 62(6), December 20, 2013, [http://www.cdc.gov/nchs/data/nvsr/nvsr62/nvsr62\\_06.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr62/nvsr62_06.pdf).

<sup>3</sup> Centers for Disease Control and Prevention (CDC), “Vital Signs: Current Cigarette Smoking Among Adults Aged ≥18 Years with Mental Illness—United States, 2009-2011,” *Morbidity and Mortality Weekly Report*, 62(5): 81-87, 2013.

<sup>4</sup> See e.g., “Vital Signs: Current Cigarette Smoking Among Adults Aged ≥18 Years with Mental Illness—United States, 2009-2011,” *Morbidity and Mortality Weekly Report*, 62(5): 81-87, 2013. Lasser, K, et al., “Smoking and Mental Illness: A Population-Based Prevalence Study,” *Journal of the American Medical Association*, 284(2): 2606-2610, 2000.

<sup>5</sup> CDC, “Vital Signs: Current Cigarette Smoking Among Adults Aged ≥18 Years with Mental Illness—United States, 2009-2011,” *Morbidity and Mortality Weekly Report*, 62(5): 81-87, 2013.

<sup>6</sup> Centers for Disease Control and Prevention (CDC), “Current Cigarette Smoking Among Adults—United States, 2005-2015,” *Morbidity & Mortality Weekly Report*, 65(44): 1205-1211, November 11, 2016, [http://www.cdc.gov/mmwr/volumes/65/wr/mm6544a2.htm?s\\_cid=mm6544a2\\_w](http://www.cdc.gov/mmwr/volumes/65/wr/mm6544a2.htm?s_cid=mm6544a2_w). Current smoking is defined as persons who reported having smoked ≥ 100 cigarettes during their lifetimes and, at the time of the survey, reported smoking every day or some days.

<sup>7</sup> SAMHSA, “Current Statistics on the Prevalence and Characteristics of People Experiencing Homelessness in the United States,” July 2011, [http://homeless.samhsa.gov/ResourceFiles/hrc\\_factsheet.pdf](http://homeless.samhsa.gov/ResourceFiles/hrc_factsheet.pdf).

<sup>8</sup> SAMHSA, “Nicotine Dependence among Persons Who Received Substance Use Treatment,” *The NSDUH Report*, June 23, 2011. [http://archive.samhsa.gov/data/2k11/WEB\\_SR\\_031/WEB\\_SR\\_031.htm](http://archive.samhsa.gov/data/2k11/WEB_SR_031/WEB_SR_031.htm).

<sup>9</sup> See e.g., DeHay, T, et al., “Tobacco use in youth with mental illnesses,” *Journal of Behavioral Medicine*, 35: 139-148, 2012; Upadhyaya, H, et al., “Psychiatric disorders and cigarette smoking among child and adolescent psychiatry inpatients,” *American Journal on Addictions*, 12: 144-152, 2003. MacPherson, L, et al., “Association of post-treatment smoking change with future smoking and cessation efforts among adolescents with psychiatric comorbidity,” *Nicotine & Tobacco Research*, 9: 1297-1307, 2007. Morris, CD, et al., “Predictors of tobacco use among persons with mental illnesses in a statewide population,” *Psychiatric Services*, 42: 393-402, 2006.

<sup>10</sup> HHS, *The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General*, 2014, <http://www.surgeongeneral.gov/library/reports/50-years-of-progress/>. CDC, “Deaths: Leading Causes for 2010,” Table D, *National Vital Statistics Reports*, 62(6), December 20, 2013, [http://www.cdc.gov/nchs/data/nvsr/nvsr62/nvsr62\\_06.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr62/nvsr62_06.pdf).

<sup>11</sup> See, e.g., Grant, B, et al., “Nicotine Dependence and psychiatric disorders in the United States: Results from the National Epidemiological Survey on Alcohol and Related Conditions,” *Archives of General Psychiatry*, 61(11): 1107-1114, 2004. Schroeder, SA, et al., “Confronting a Neglected Epidemic: Tobacco Cessation for Persons with Mental Illnesses and Substance Abuse Problems,” *Annual Review of Public Health*, 31: 297-314, 2010.

<sup>12</sup> Colton, CW, et al., “Congruencies in increased mortality rates, years of potential life lost, and causes of death among public mental health clients in eight states,” *Preventing Chronic Disease*, 3: A42, 2006.

- <sup>13</sup> See e.g., Zevin, S, et al., "Drug interactions with tobacco smoking. An Update," *Clinical Pharmacokinetics*, 36: 425-438, 1999.
- <sup>14</sup> CDC, "Vital Signs: Current Cigarette Smoking Among Adults Aged  $\geq 18$  Years with Mental Illness—United States, 2009-2011," *Morbidity and Mortality Weekly Report*, 62(5): 81-87, 2013.
- <sup>15</sup> Steinberg, ML, et al., "Financial implications of cigarette smoking among individuals with schizophrenia," *Tobacco Control*, 13: 206, 2004.
- <sup>16</sup> Apollonio, DE, et al., "Marketing to the marginalized: tobacco industry targeting of the homeless and mentally ill," *Tobacco Control*, 14: 409-415, 2005.
- <sup>17</sup> Prochaska, JJ, et al., "Tobacco Use Among Individuals With Schizophrenia: What Role Has the Tobacco Industry Played?" *Schizophrenia Bulletin*, 34(3): 555-567, 2008.
- <sup>18</sup> Prochaska, JJ, et al., "Tobacco Use Among Individuals With Schizophrenia: What Role Has the Tobacco Industry Played?" *Schizophrenia Bulletin*, 34(3): 555-567, 2008. See also Hirshbein, L, "Scientific Research and Corporate Influence: Smoking, Mental Illness and the Tobacco Industry," *Journal of the History of Medicine and Allied Sciences*, 2011.
- <sup>19</sup> Apollonio, DE, et al., "Marketing to the marginalized: tobacco industry targeting of the homeless and mentally ill," *Tobacco Control*, 14: 409-415, 2005.
- <sup>20</sup> Centers for Disease Control and Prevention (CDC), "Adult Smoking: Focusing on People with Mental Illness," *CDC Vital Signs*, February 2013.
- <sup>21</sup> Fiore, MC, et al., *Treating Tobacco Use and Dependence: 2008 Update—Clinical Practice Guideline*, U.S. Department of Health and Human Services. Public Health Service, May 2008, [http://www.surgeongeneral.gov/tobacco/treating\\_tobacco\\_use08.pdf](http://www.surgeongeneral.gov/tobacco/treating_tobacco_use08.pdf).
- <sup>22</sup> Smith, PH, et al., "Smoking and mental illness in the US population," *Tobacco Control*, published online on April 12, 2014.
- <sup>23</sup> See e.g., Joseph, AM, "A randomized controlled trial of concurrent versus delayed smoking intervention for patients in alcohol dependence treatment," *Journal of Abnormal Psychology*, 111(4): 670-675, 2004. Prochaska, JJ, et al., "Depressed smokers and stage of change: implications for treatment interventions," *Drug and Alcohol Dependence*, 76(2): 143-151, 2007.
- <sup>24</sup> Hickman, NJ, et al., "Treating Tobacco Dependence at the Intersection of Diversity, Poverty, and Mental Illness: A Randomized Feasibility and Replication Trial," *Nicotine & Tobacco Research*, 17(8): 1012-1021, 2015.
- <sup>25</sup> Prochaska, JJ, "Smoking and Mental Illness—Breaking the Link," *New England Journal of Medicine*, 365(3): 196-198, 2011.
- <sup>26</sup> See e.g., Prochaska, JJ, "Smoking and Mental Illness—Breaking the Link," *New England Journal of Medicine*, 365(3): 196-198, 2011. Prochaska, JJ, "Failure to treat tobacco use in mental health and addiction treatment settings: A form of harm reduction?" *Drug and Alcohol Dependence*, 110(3): 177-182, 2010.
- <sup>27</sup> See e.g., Hall, SM, et al., "Treatment of smokers with co-occurring disorders: emphasis on integration in mental health and addiction treatment settings," *Annual Review of Clinical Psychology*, 5: 555-567, 2009. Cavazos-Rehg, et al., "Smoking cessation is associated with lower rates of mood/anxiety and alcohol use disorders," *Psychological Medicine*, 44(12): 2523-2535, 2014. Prochaska, JJ, et al., "A Meta-Analysis of Smoking Cessation Interventions With Individuals in Substance Abuse Treatment or Recovery," *Journal of Consulting and Clinical Psychology*, 72(6): 1144-1156, 2004.
- <sup>28</sup> Taylor, G., "Change in mental health after smoking cessation: systematic review and meta-analysis," *BMJ*, 348, 2014.
- <sup>29</sup> CDC, "Vital Signs: Current Cigarette Smoking Among Adults Aged  $\geq 18$  Years with Mental Illness—United States, 2009-2011," *Morbidity and Mortality Weekly Report*, 62(5): 81-87, 2013.
- <sup>30</sup> Association of American Medical Colleges. Physician Behavior and Practice Patterns Related to Smoking Cessation. [http://www.legacyforhealth.org/content/download/566/6812/file/Physicians\\_Study.pdf](http://www.legacyforhealth.org/content/download/566/6812/file/Physicians_Study.pdf).
- <sup>31</sup> SAMHSA, "About 1 in 4 Mental Health Treatment Facilities Offered Services to Quit Smoking," *The N-MHSS Report*, November 25, 2014 [http://www.samhsa.gov/data/sites/default/files/Spot148\\_NMHSS\\_Smoking\\_Cessation/Spot148\\_NMHSS\\_Smoking\\_Cessation.pdf](http://www.samhsa.gov/data/sites/default/files/Spot148_NMHSS_Smoking_Cessation/Spot148_NMHSS_Smoking_Cessation.pdf). Data from the 2010 National Mental Health Services Survey (N-MHSS). See also SAMHSA, "Nearly Half of Substance Abuse Treatment Facilities Offer Counselor or Medication to Help Clients Quit Tobacco Use," *The N-SSATS Report*, June 17, 2014. [http://www.samhsa.gov/data/sites/default/files/NSSATS\\_Spot142\\_TobCes\\_06-10-14/NSSATS-Spot142-TobCess-2014.pdf](http://www.samhsa.gov/data/sites/default/files/NSSATS_Spot142_TobCes_06-10-14/NSSATS-Spot142-TobCess-2014.pdf). Data from the 2012 National Survey of Substance Abuse Treatment Services (N-SSATS).
- <sup>32</sup> Prochaska, JJ, et al., "Tobacco Use Among Individuals With Schizophrenia: What Role Has the Tobacco Industry Played?" *Schizophrenia Bulletin*, 34(3): 555-567, 2008.
- <sup>33</sup> Prochaska, JJ, "Smoking and Mental Illness—Breaking the Link," *New England Journal of Medicine*, 365(3): 196-198, 2011.
- <sup>34</sup> U.S. Department of Health and Human Services. The Health Consequences of Smoking: 50 Years of Progress. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. <http://www.surgeongeneral.gov/library/reports/50-years-of-progress/index.html>