

### **INTRODUCTION**

Tobacco use is the chief preventable cause of death in the United States.<sup>3</sup> Smoking is a known cause of cancer, heart disease, stroke, and chronic obstructive pulmonary disease.<sup>4</sup> While a reduction in tobacco use has occurred in the general population and effective smoking cessation treatments are becoming integrated into mainstream medical care, not everyone has benefited equally. Smoking prevalence and daily cigarette consumption remains significantly higher among individuals with mental illness and substance use disorders.<sup>5</sup> It has been estimated that just under half of all cigarettes smoked in the United States are smoked by people who have had a mental illness or substance use disorder (MI/SUD) in the past month.<sup>5</sup>

The number of smokers who have MI/SUD is substantial. Many of these smokers lack basic information about the harm of smoking and benefits of quitting, are unaware of existing cessation services that can help them, and may have limited access to services that meet their unique needs. As more smokers with MI/SUD seek and are offered help, current treatment services will need to be adapted, and additional services added and promoted in order to better assist these smokers to quit.

### **FACTORS IN HIGHER SMOKING RATES**

Researchers believe that genetic/familial and psychological factors play a role in higher smoking rates among people with MI/SUD. There are data that show a strong genetic influence on the initiation of smoking, maintenance of smoking, and the pattern of smoking. These associations are especially strong between depressive symptoms and smoking.<sup>6</sup> There are also data to show that prenatal exposure to maternal smoking is correlated with higher risk of smoking in offspring.<sup>7</sup> Smoked nicotine can normalize some psychiatric symptoms (e.g. sensory gating for those with schizophrenia)<sup>8</sup> and reduce other symptoms (e.g. anxiety, boredom, and poor concentration).<sup>6</sup> Because smoked nicotine provides an immediate coping mechanism for modulating mood, it can be effective for blunting some effects of past or current traumatic events or life stressors.<sup>9,10</sup> Social factors also play a role since smoking is part of the normal culture in most mental health treatment facilities and among persons with substance use disorders. Smoking continues to be part of the normal culture for these clients after they are discharged from treatment facilities and as they continue in their recovery.<sup>11</sup>

### **SMOKING AND DEPRESSION**

The relationship between smoking and depression is particularly strong. In an American study of adults, about 70% of men and 80% of women with a history of major depression were current or past smokers, (compared to about 50% of the general population) and 25% to 40% of psychiatric patients seeking smoking cessation treatment had a past history of major depression.<sup>11,12</sup> Researchers believe that a possible explanation is that continued smoking elicits changes in the hippocampus that protect people from experiencing depressive symptoms. It follows, that people with depression might use tobacco to manage their symptoms and to subsequently experience episodes of depression when they stop. In one study, depressed smokers were more likely to report “self medication” processes.<sup>13</sup> In another, patients with a history of depression were more likely to experience depressive episodes after being treated for tobacco dependence than were smokers without such a history.<sup>14</sup>

### **SMOKING WORSENS MENTAL ILLNESS**

In addition to the physical health consequences of smoking that have been documented for the population as a whole,<sup>4</sup> there is evidence that smoking contributes to a worsening of mental illness. Tobacco use is strongly associated with abuse of and dependence on alcohol, cannabis,

and other substances.<sup>15</sup> Tobacco smoking has been shown to be a predictor of greater problem severity and poorer treatment responses in patients undergoing outpatient substance use treatment.<sup>16,17</sup> Smokers with the diagnosis of schizophrenia are generally more psychotic and have a greater number of hospitalizations than nonsmokers with the disorder.<sup>18</sup> Smoking is associated with a higher risk for suicide and attempted suicide.<sup>19,20,21</sup> Regular smokers with panic disorder report more severe and intense anxiety symptoms when compared to nonsmokers with panic disorder.<sup>22</sup> Heavy smokers have more severe psychiatric symptoms, poorer overall general well-being, and greater functional impairment when compared to nonsmokers and light smokers.<sup>23</sup>

## **SMOKING AND THE DEVELOPMENT OF MI/SUD**

Among young people, cigarette smoking is a strong predictor of the development of depressive symptoms.<sup>20,24</sup> In study of nearly 2,000 youths, tobacco smoking predicted an increase in the risk of a subsequent onset of depressed mood, but depressed mood did not predict initiation of cigarette smoking. This supports a possible causal link from tobacco smoking to later depressed mood during childhood and early adolescence but not vice versa.<sup>25</sup> Persistent smoking appears to be the strongest predictor of depressive symptoms.<sup>26</sup> Depression is also related to the initiation of other substances linked to smoking. In a report from the National Survey on Drug Use and Health, young adults (age 18-25) with a past year history of a major depressive episode (MDE) were a third more likely to initiate alcohol use than those without a MDE and twice as likely to initiate illicit drug use.<sup>27</sup>

Smoking has also been linked to the development of anxiety disorders. In a four year prospective study of adolescents and young adults, smoking was associated with an increase for subsequent development of panic disorder.<sup>28</sup> And, in an analysis of data from the National Comorbidity Survey, daily smoking was linked to the development of panic disorder and agoraphobia.<sup>29</sup>

## **MI/SUD AND TOBACCO CONTROL ENVIRONMENT**

### **PRICE INCREASES AND PROGRAMS**

Tobacco control strategies have not had the same effect on tobacco users with MI/SUD as they have in the general population of smokers. As described above, while overall smoking rates have declined, the proportion of MI/SUD among current smokers has increased.<sup>30</sup> Cigarette price increases, a widely used and promoted intervention to reduce tobacco use, may not now have the effect on reducing tobacco use as was seen in earlier reports. Low-income smokers in particular, many of whom suffer from MI/SUD, appear to be relatively unaffected by price increases.<sup>31</sup> There is also evidence that smokers with mental health problems feel excluded from mainstream cessation programs.<sup>32</sup>

### **SMOKE-FREE POLICIES**

Smoke-free and tobacco-free policies are a tobacco control strategy that has been helping to stimulate more reduction and quitting in these populations, especially as they are increasingly adopted in mental health and substance use treatment facilities. In a recent survey of state psychiatric hospitals, reported by the Association of State Mental Health Program Directors Research Institute, 41% did not permit smoking for patients, 12% planned to eliminate smoking within the next year, and another 17% planned to change their smoking policy in the future.<sup>33</sup> Despite initial resistance by facility staff members, smoke free policies can be successfully adopted, help change the MI/SUD culture around smoking, and help more clients, and staff, to quit.

## CASE EXAMPLES

In 2003, a tobacco free policy was implemented in Capitol Health in Nova Scotia. The staff members of the program were concerned that the smoke-free policy would negatively impact their services and clients both in terms of admission rates and length of stay. Further, staff believed that the new policy would result in behavior problems among clients and preclude effective treatment of other addictions. When qualitative data was analyzed, it showed improvements to treatment services and outcomes, and enhanced overall client and staff health as a result of implementation of the policy.<sup>34</sup>

In 2001, New Jersey implemented a licensure standard for all residential addiction treatment programs. The new standard required treatment programs to be completely tobacco free (including grounds) and to assess and treat tobacco dependence for their clients who smoked. At 1-year follow-up, all 30 residential programs surveyed provided some tobacco dependence treatment and 50% had tobacco-free grounds. Eighty-five percent of the programs accepted the state's offer to provide free NRT for their clients, reaching more than 2,326 smokers. Seventy-seven percent of all clients were smokers, and 65% of the smokers reported they wanted to stop or cut down tobacco use. Forty-one percent of the smokers reported that they did not use any tobacco during their entire residential stay. There was no increase in irregular discharges, or reduction in proportion of smokers among those entering residential treatment, compared with prior years. When surveyed, program directors reported that they recognized the benefits of treating tobacco in addictions treatment and of creating a supportive environment. The new requirement worked as a catalyst for organizational and cultural change in New Jersey treatment facilities.<sup>35,36</sup>