

A Comprehensive Model for Mental Health Tobacco Recovery in New Jersey

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Abstract Despite the high prevalence of tobacco use, disproportionate tobacco consumption, and excess morbidity and mortality, smokers with mental illness have reduced access to tobacco dependence treatment across the health care spectrum. We have developed a comprehensive model for Mental Health Tobacco Recovery in New Jersey (MHTR-NJ) that has the overarching goal of improving tobacco cessation for smokers with serious mental illness. Important steps involve engaging patients, professionals and the community to increase understanding that addressing tobacco use is important. In addition to increasing demand for tobacco treatment services, we must educate mental health professionals in evidence-based treatments so that patients can seek help in their usual behavioral health care setting. Peer services that offer hope and support to smokers are essential. Each of the policy or cessation initiatives described address the two core goals of this model: to increase demand for tobacco cessation services for mentally ill smokers and to help more smokers with mental

illness to quit. Each has been pilot tested for feasibility and/or effectiveness and revised with feedback from stakeholders. In this way this implementation model has brought together academics, clinicians, administrators and mental health consumers to develop tobacco programming and policy that has been tested in a real world environment and serves as a model for other states.

Keywords Tobacco · Mental health · Recovery

Introduction

Although public health interventions have resulted in decreased smoking rates in the United States general population over the last 50 years, smokers with mental illness have not benefited as greatly from these efforts. Smoking rates in individuals with a mental illness or addiction are at least double the rates of tobacco use in the general population (Lasser et al. 2000; Lawrence et al. 2009). Some estimates are that two-thirds of current cigarette smokers have a past or present mental health or substance abuse disorder and there is evidence that this group consumes a sizeable portion of the tobacco sold in the United States (Lasser et al. 2000; Grant et al. 2004). Individuals with mental illness suffer many consequences of tobacco use with 25 years of life expectancy lost with excess mortality particularly from cardiovascular disease (Brown et al. 2000, Miller et al. 2006).

The continued high prevalence of smoking among the mentally ill is likely related to several factors and one may be lack of access to cessation services. There is evidence that smokers with mental illness have less access to tobacco dependence treatment across the health care spectrum, but particularly in the behavioral health setting

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(Peterson et al. 2003; Montoya et al. 2005; Friedmann et al. 2008). Barriers to addressing tobacco in mental health settings include undervaluing tobacco addiction as a problem, behavioral health professionals and systems have been slow to change despite recommendations that they treat tobacco, a lack the knowledge about evidence-based treatment for tobacco dependence and lack of hope and advocacy among consumers and mental health advocates (Williams et al. 2009b). Recent publications corroborate past findings. A study by Ashton et al. (2010) found that only 26% of mental health staff raised the issue of tobacco use with patients, often or as part of the assessment. A study by Johnson et al. 2010 found that psychiatric hospital staff are resistant to smoke-free policy and continue to believe that tobacco is a therapeutic for patients.

Smoking cessation services, when available, are typically brief, localized to primary care or public health settings, and serve mainly the highly motivated smoker ready to quit. There is evidence that those with mental illness experience barriers in accessing health care due to disorganized lifestyles and difficulty communicating needs; this makes it likely that they face similar barriers when trying to access community based tobacco treatments. In addition, smoking cessation specialists may have limited experience and knowledge about helping smokers with mental illness (Pbert et al. 2007). Individuals with mental illness have an increased vulnerability to tobacco use, developing dependence, and experiencing difficulty quitting tobacco (Breslau et al. 2004; Hagman et al. 2008; Lasser et al. 2000) which warrants a specialized treatment approach. For example, certain mental illnesses are associated with heavy smoking, failed quit attempts, and early relapse back to smoking after a quit attempt (de Leon et al. 2002; Beckham 1999; Niaura and Abrams 2001; Anda et al. 1990; Glassman 1993). National treatment guidelines recommend that all smokers should be offered counseling and pharmacotherapy, and given that smokers with a mental illness tend to be heavier smokers, these recommendations should be followed more aggressively in this population, not less (Fiore et al. 2008).

Paradoxically, although tobacco treatment has traditionally not been offered in behavioral health settings, this sector of health care is well-suited to deliver it (Williams and Ziedonis 2006) and may offer advantages compared to primary care if barriers can be overcome. Behavioral health professionals have experience and training in the treatment of other addictions and are skilled to deliver behavioral therapies, and even group therapy for treating tobacco. As tobacco dependence is a chronic, relapsing condition, behavioral health providers have many opportunities to intervene. Most clients resume stable functioning and remain in behavioral health treatment for years. Individual office visits are also longer than in primary care. Integrated models have been successful for other co-occurring

addictions (Drake and Mueser 2001; SAMHSA 2002) and would likely succeed for tobacco treatment as well. Perhaps most importantly, smokers endorse wanting their mental health center, counselor or psychiatrist to help them to quit smoking (Williams et al. 2010b). Since a combination of factors contribute to tobacco use in this population, it also makes sense that interventions take a comprehensive approach. Recognition of complex biological, psychological and behavioral characteristics as well as social and environmental factors may be critical in adequately assessing the needs of the population and delivering optimal treatments.

At this time, little is being done for mentally ill smokers at the national level through mental health or public health systems. Tobacco control resources dedicated to, or targeting, this group remain scarce or non-existent. Few models have emerged that address smoking among the mentally ill in a comprehensive way. However, in New Jersey, we have focused on helping smokers with mental illness for more than a decade through a variety of initiatives. Each initiative has contributed to the development of a comprehensive model for Mental Health Tobacco Recovery in New Jersey (MHTR-NJ) that has the overarching goal of improving tobacco cessation for smokers with mental illness.

Consistent with Center for Disease Control (CDC) recommendations for Best Practices for Tobacco Control (2007), several interdependent elements are necessary to meet the goal of improving tobacco cessation in a population. Important steps involve engaging patients, professionals and the community to increase buy-in that addressing tobacco is important. We have sought to increase demand for tobacco treatment services for mentally ill smokers while simultaneously educating mental health professionals in evidence-based treatments so that patients can seek help in their usual behavioral health care setting. It is imperative to change accepted norms and influence the culture of behavioral health care by developing tobacco policies that restrict use and require assessment and treatment of tobacco dependence. Peer services that offer hope and support to smokers are essential. Working with mental health advocacy groups will encourage them to advocate for greater access to tobacco treatment resources including counseling and medications to and help bring greater systems change. With these larger networks in place, cessation programs have a greater chance to meet the needs of the mental health community and become sustainable.

Each of the policy or cessation initiatives described addresses the two core goals of this model: 1. To increase demand for tobacco cessation services among mentally ill smokers and 2. To help more smokers with mental illness to quit. Both of these goals are extremely important if we are to reduce smoking prevalence and tobacco-caused

morbidity and mortality in the mentally ill since both reduced access to treatment and reduced success at quitting likely contribute to elevated prevalence of tobacco use.

Although building consumer demand for evidence-based tobacco cessation products and services helps all smokers, there have not been focused efforts to reach populations of smokers with mental illness despite high tobacco use and low use of evidence-based treatments. Removing barriers to accessing treatment by disseminating clinical practice guidelines and increasing treatment capacity are essential (Orleans and Phillips 2007). Many smokers do not know about effective treatments and cannot differentiate these from unproven treatment aids and over-the-counter herbal remedies (Bansal et al. 2004). Bringing services to smokers where they are is also increasingly recognized as a needed strategy to increase tobacco treatment utilization and an important part of the MHTR-NJ model. In addition to increasing access and awareness of services, it is important that treatments are effective in preventing relapse back to smoking and are sufficient in intensity and duration to meet the needs of patients.

Each of the elements described in the MHTR-NJ model has been implemented with pilot outcomes in feasibility and/or effectiveness and revised with feedback from stakeholders. The model based initiatives have brought together academics, clinicians, administrators and mental health consumers to develop tobacco programming and policy that has been tested in a real world environment. The MHTR-NJ model focuses on smokers who receive services in the behavioral health system of care (i.e. with serious mental illness, SMI) although we acknowledge the additional contributions that community tobacco and primary care providers make in treating mental illness which are beyond the scope of this report. We have been admittedly less focused on prevention, although we agree that preventing the next generation of mentally ill people from starting to use tobacco, especially as they experience their first episode of mental illness, is laudable and could also emerge as a result of the culture change we hope to influence (Fig. 1).

The specific initiatives of the MHTR-NJ model can be conceptualized as having a focus in the community (at the level of the consumer, family member or advocate), in the clinical treatment setting (at the level of the provider or clinician) or in the environment (at the level of the agency or larger mental health system), although considerable overlap exists. A continuation between community and treatment setting is desirable as it creates a bridge to bring tobacco users into treatment and has implications for continued community support before and after treatment has been completed. The model also demonstrates the intersection between the environment, the treatment setting and the community in addressing tobacco. When these three elements come together we can expect the greatest success

in increasing demand for tobacco services and helping more mentally ill smokers to quit. The components working alone will have local results, however; the synergy between components can be expected to produce enhanced results. Below we describe each element of the MHTR-NJ model.

Elements of the MHTR-NJ Model

Clinical Treatment

Efforts to improve access to tobacco dependence treatment for smokers with SMI are well suited to the behavioral health care setting given the success of treatment for other co-occurring addictions in these settings (Drake and Mueser 2001). Co-occurring disorders treatment integrates comprehensive mental health and addiction services that are matched to the motivational level of the client and many aspects of currently existing co-occurring disorders treatment are also directly applicable to the treatment of tobacco dependence. Treatment for co-occurring disorders often takes a long-term perspective with an eventual goal of abstinence from substances. Assessment of substance use is continuous and incorporated into ongoing motivational interventions. Tobacco treatment should be integrated into mental health treatment in much the same way, with every tobacco user receiving assessment, motivational interventions and a long term treatment perspective that helps them to quit.

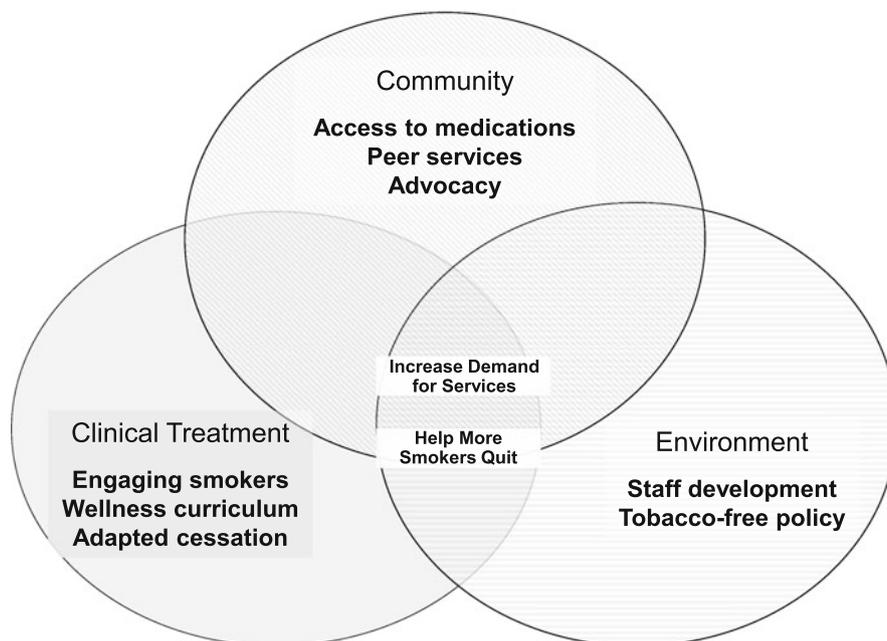
Strategies that we have employed in the clinical treatment setting include engaging low motivated smokers, incorporating tobacco into mental health wellness and psychoeducation curriculum, and adapting tobacco cessation programs to address the unique needs of mentally ill smokers. This approach is consistent with evidence-based guidelines that recommend interventions for all tobacco users that fall into 2 categories: cessation treatments for smokers wanting to quit and motivational treatments for those that do not (Fiore et al. 2008). Bringing all mentally ill tobacco users into treatment, even if the treatment is not immediately focused on cessation is an overall goal of MHTR-NJ. MHTR-NJ initiatives in the Clinical Treatment Setting address both of the core goals: to increase demand for tobacco cessation services for mentally ill smokers and to help more smokers with mental illness to quit.

Engaging Smokers

The Stages of Change model is commonly used to determine readiness to change (Prochaska and DiClemente 1983), though simpler, continuous measures of motivation such as the Contemplation Ladder (Biener and Abrams 1991) may better suited for smokers with serious mental

Fig. 1 Model of mental health tobacco recovery in New Jersey

Mental Health Tobacco Recovery in NJ



illness (DiClemente et al. 2008). Consistent with those in the general population, studies of smokers with serious mental illness are more likely to be classified in Prochaska & DiClemente's precontemplation stage (not planning on quitting in the next 6 months) than in the preparation stage (planning on quitting in the next 30 days) (Siru et al. 2009).

It is particularly important to employ strategies to engage smokers with serious mental illness in treatment for tobacco dependence, and motivational interviewing (MI) is one such strategy. MI is defined as a collaborative, person-centered form of guiding to elicit and strengthen motivation for change (Miller and Rollnick 2009). MI has a large literature supporting its use across a wide variety of problem behaviors, (Miller and Rollnick 2002; Hettema et al. 2005) however, an early meta-analysis (Hettema et al. 2005) failed to find evidence for MI for smoking cessation in a small group of studies. A more recent 2010 Cochrane Review with additional studies, however, did detect a cessation effect when compared to brief advice or usual care (Lai et al. 2010). This review detected an effect for cessation despite the fact that most of the studies included in the reviews did not recruit smokers interested in quitting and few studies in the either meta-analysis (Hettema et al. 2005; Lai et al. 2010) reported comprehensive treatment (e.g., FDA approved medication in addition to the psychosocial treatment).

Our group has used motivational interviewing to successfully motivate smokers with serious mental illness to seek tobacco dependence treatment services (Steinberg et al. 2004a). Smokers not interested in quitting smoking

were randomized to receive a one-session MI with personalized feedback intervention, Psychoeducational intervention, or a minimal assessment control. Within one month, 32% of those receiving the MI intervention, 11% of those receiving the Psychoeducational intervention, and 0% of those receiving the minimal assessment control contacted a tobacco dependence treatment provider. These data indicate that motivational interviewing is a more effective strategy for motivating smokers with schizophrenia to quit than is the more commonly used educational strategy, and that smokers with schizophrenia can benefit from even brief interventions (Steinberg et al. 2004a). Simple modifications to motivational interviewing can be used to make MI even more appropriate for individuals with serious mental illness (Martino et al. 2002). Examples of modifications include: presenting information with verbally and visually, keeping open-ended questions simple, rather than compound, liberal use of reflective listening, and using summaries to help organize patients' statements.

While motivational interviewing is difficult to learn without extensive training and ongoing supervision (Miller and Mount 2001), further study is warranted to determine if mental health counselors trained in the "spirit" of motivational interviewing can also be more effective in motivating smokers to quit than those not trained. The "spirit" of MI includes evoking motivation from within your patients, respecting their autonomy, and working collaboratively with them. This contrasts with a more directive, hierarchical strategy commonly employed with this population.

Wellness and Psychoeducation Curriculum

An additional strategy for working with mentally ill smokers who may not be ready to quit is to incorporate tobacco information into wellness or other psychoeducation curriculum. New initiatives in behavioral health embrace a wellness model for treatment that addresses helping the whole person and improving healthy lifestyles although few of these published models incorporate tobacco dependence. Wellness topics cover a broad range, often including strategies for improving diet and nutrition, exercise, stress reduction and managing symptoms. Addressing tobacco fits into the current Wellness and Recovery movement, which incorporates addressing physical health and mental health. Wellness goals to reduce mortality in the seriously mentally ill may be unattainable without emphasis on tobacco, the leading cause of preventable death in the United States.

“Learning about Healthy Living,” (LAHL) was a treatment developed to provide information to mental health consumers on how addressing tobacco use enhances healthy living (Williams et al. 2009a). Goals of LAHL are to raise awareness about tobacco use consequences, and to educate participants about and the benefits of tobacco treatment. Learning about Healthy Living includes session on other wellness topics, such as physical activity and nutrition, however, the majority of sessions focus on tobacco. This wellness curriculum is delivered by mental health staff in 20 group sessions. Incorporating tobacco information into an overall wellness curriculum helps make the material appealing to a broader audience of lower motivated smokers and also links it to other activities promoting healthy lifestyles. A group format helps to provide additional support and modeling experiences for participants who can benefit from seeing peers succeed and develop new coping strategies.

LAHL has been well received by mental health staff and consumers. Weekly feedback from clinicians who participated in the pilot implementation indicated good consumer attendance, good retention of consumers through the duration of the group session, and high levels of consumer interest and participation. Clinicians felt the program was easy to implement with limited training (8 h or less) and rated their own ability to lead group as excellent or very good (Williams et al. 2009a). Even if some individuals continue to use tobacco, participation in a wellness curriculum like LAHL can also help to foster culture change and disseminate valuable health information to the population. The LAHL manual is available as a publicly available resource on the internet and organizations from across the country are using it in their behavioral health setting (<http://rwjms.umdnj.edu/addiction/community/choices.html>). The NJ Division of Mental Health Services

has supported its statewide dissemination to outpatient treatment programs and it is being implemented in all of the NJ state psychiatric hospitals.

Adapted Cessation

Brief tobacco dependence interventions, which are effective in primary care and public health settings, may lack the intensity or specialization needed for this population to stop smoking (Steinberg and Williams 2007). Typical community smoking cessation groups are 4–8 sessions. Participants, who are typically highly motivated to quit at enrollment, are encouraged to quit at Week 2 and receive brief education and counseling in subsequent sessions. Even telephone-based counseling interventions, which are becoming a popular and cost-effective approach for many states, may be inadequate for some mentally ill smokers since they are time-limited (offer 4 counseling sessions). There has been little study of the efficacy of quitline services in smokers with behavioral health disorders and currently there is no consensus about how to screen or assess mental illness in quitline callers (Morris et al. 2009). Practical matters like not having a telephone or internet access could also be barriers to using telephone or internet-based services effectively. Referral to a community or state-funded tobacco treatment may also not be likely given that psychiatrists lack awareness about these programs more often than other medical colleagues (Steinberg et al. 2006).

In addition, smokers with SMI have high levels of nicotine dependence that may warrant a specialized treatment approach. Factors that are linked to worse outcome in tobacco cessation studies in all smokers include high nicotine dependence and low socio-economic status (Foulds et al. 2006). Heavy smoking and high levels of nicotine dependence are common in schizophrenia (George et al. 2002; Williams et al. 2005), bipolar disorder (de Leon et al. 2002), and substance abuse (Hughes and Kalman 2006; Sullivan and Covey 2002) and questions persist about how mental illness affects the ability to quit smoking. Newly published guidelines from the Schizophrenia Patient Outcomes Research Team (PORT) similarly recommend intensive treatment (combining pharmacological with psychosocial approaches) for smoking cessation (Buchanan et al. 2010) although recommendations for specific treatments should be cautious given that there are not published clinical trials on several of the 7 FDA approved tobacco treatment pharmacotherapies and fewer still comparative studies in the behavioral health population.

There are likely to be differences in cessation rates among individuals with different disorders, as well as by illness severity or presence of a current episode of illness, but the evidence is limited. A cross-sectional analysis by

Lasser et al. (2000), using data from the National Comorbidity Study, found lower lifetime quit rates among smokers with current mental illness than among those without. A meta-analysis of 15 studies showed no effect of history of major depression on either short-term (<3 months) or long-term (>6 months) abstinence rates (Hitsman et al. 2003) although less is known about those with persistent symptoms and/or serious or recurrent illness. Similarly, a history of alcohol dependence is not associated with lower ability to quit smoking (Covey et al. 1994; Hughes and Kalman 2006) but there are questions about when in alcohol treatment is the best time to intervene (Joseph et al. 2004). In schizophrenia, schizoaffective disorder, and bipolar disorder, which are more severe forms of mental illness often characterized by persistent mental symptoms, small clinical studies have found that quit rates for a given attempt are low (de Leon et al. 2002; Hitsman et al. 2009). Cessation rates may also be low for individuals with attention deficit hyperactivity disorder (ADHD) and post-traumatic stress disorder (PTSD) (Humfleet et al. 2005; Hapke et al. 2005). Data from the National Survey on Drug Use and Health also confirms that individuals with serious mental illness are more likely to be nicotine dependent and have reduced lifetime quit rates compared to smokers without this comorbidity (Hagman et al. 2008; Williams et al. in press).

In general, there is a dose–response relationship with better smoking abstinence rates associated with more psychosocial treatment (total minutes of contact) during the quit attempt (Fiore et al. 2008). Community-based smoking cessation services for the general population are often brief in session length and time limited. Altered learning and information processing associated with serious mental illness may require adaptations from traditional smoking cessation approaches. More and longer treatment sessions may be needed to adequately cover materials, review key concepts and allow for in-session practicing of new skills. Several prior studies of smoking cessation in psychotic disorders have included extra sessions prior to the quit date in order to provide more time for the use of motivational enhancement techniques (Baker et al. 2006; George et al. 2000; Williams et al. 2010a, b). Additional time for client education is also essential and handouts also facilitate different learning styles and can help reinforce medication information. In the delivery of motivational techniques, it is helpful to provide personalized feedback via handouts and visual displays of information via graphs (Steinberg et al. 2004a).

Since 2001, the UMDNJ-Robert Wood Johnson Medical School and UMDNJ-Tobacco Dependence Program have collaborated to develop specialized services for smokers with mental illnesses. These differed from traditional tobacco services in several ways: services were open-ended and not limited to a set number of contacts,

all patients were encouraged to use a combination approach of pharmacotherapy and counseling and there was no requirement to set a quit date in order to be in treatment. An addictions psychiatrist and mental health social worker that was also a certified tobacco treatment specialist provided most services. Both individual and group counseling services were available. More than 300 smokers with mental illness have received these specialty services, and long term abstinence rates for these smokers are similar to those without a history of mental health problems treated in the same clinic (Foulds et al. 2006; Williams and Foulds 2007). The specialization of services for the smoker with mental illness may have contributed to better than predicted outcomes.

We have also developed smoking cessation treatments that could be delivered as individual sessions within the mental health treatment center in conjunction with over-the-counter nicotine replacement medications. We compared two intensities (high vs. moderate) of individual behavioral counseling for smokers with schizophrenia or schizoaffective disorder who wanted to try to quit smoking using the nicotine patch. One treatment (TANS) was 24 weekly 45 min sessions of motivational interviewing, skills training and relapse prevention. Medication management (MM) was a briefer treatment of nine 20 min sessions. Treatments consisted of a simple, repetitive and encouraging therapy style which included education about tobacco use consequences and the benefits of quitting. The treatment was successfully delivered by mental health clinicians who completed a brief (2 day) training in tobacco dependence treatment. The rates of continuous abstinence (CA) in this trial, although not different between treatment groups, were better than those previously published for schizophrenia (Williams et al. 2010a, b). Smokers in both groups who did not quit significantly reduced smoking as measured by cigarettes per day and exhaled carbon monoxide. This was the first study demonstrating the successful model of mental health clinicians delivering tobacco dependence treatment in the mental health setting. The briefer MM treatment is a particularly viable model for outpatient mental health settings.

Environment

For years, tobacco use and the mental health system have been inextricably linked. In the MHTR-NJ Model we use the term environment to include the level of the agency or larger mental health system since these social and institutional factors outside of the person likely reinforce or enable tobacco use within the overall system. Treatment settings have used cigarettes and smoking breaks to reward appropriate behaviors and staff incorrectly fear that restricting smoking will result in violence by patients

(NASMHPD 2006). Mental health professionals and professional group organizations have not made tobacco treatment a priority despite the recommendations of published clinical practice guidelines (Williams 2008). This may be due at least in part to a knowledge deficit in mental health professionals about evidence-based practices for treating tobacco (Williams et al. 2009b). These reinforcing and enabling factors have likely worsened smoking in mental health settings by reducing hope and incentives to quit and resulting in fewer cessation attempts.

Smoking restrictions have been powerful for reducing the opportunity to use tobacco in the general population and most have focused on the workplace with a primary intent to reduce exposure to environmental tobacco smoke (ETS) (Bierer and Rigotti 1992). Additional benefits of clean indoor air regulations are that they contribute to a reduction in smoking prevalence and increase cessation efforts of smokers (USDHHS 2006; Bauer et al. 2005; Farrelly et al. 1999). Although the Joint Commission on the Accreditation of Health Organizations (JCAHO) has accreditation standards that restrict smoking in hospitals, these restrictions have been implemented to varying degrees in psychiatric hospitals and many programs still provide an adjacent or outdoor smoking area that allows patients and staff to continue to smoke. General hospitals with a psychiatric or substance abuse unit have been found to have worse compliance with the JCAHO tobacco control standards compared to those that do not (Longo et al. 1998; Joseph et al. 1995). Tobacco-free hospital initiatives have not shown an adverse effect on hospitalized psychiatric patients (NASMHPD 2006; Patten et al. 1995; Haller et al. 1996).

Changing behavioral health care systems to address tobacco will require policy development and training for staff. In order for cessation programs to develop and be successful, staff need to become educated about evidence-based tobacco dependence treatment practices. Education can also help to improve attitudes about the hope for successful treatment and encourage providers to offer alternatives to smoking. A tobacco-free environment will support the cessation efforts of individuals and also effect culture change by establishing new accepted norms.

Staff Development

Changing behavioral health care professionals' current practices is essential before tobacco cessation can be successfully implemented in mental health settings. Reduced tobacco dependence services in behavioral health care settings may, at least in part, represent a training or knowledge deficit. In psychiatry residency training programs, tobacco treatment education is not a training requirement and only half of programs currently provide it

(Prochaska et al. 2006). Both training and practicing psychiatrists appear unprepared to treat nicotine dependence, although they report considerable interest in this area (Prochaska et al. 2005; Williams et al. 2009b). Practical clinical matters include the fact that tobacco smoke impacts hepatic metabolism of several psychiatric medications which might require dose adjustment when individuals quit smoking (Zevin and Benowitz 1999; Desai et al. 2001).

Nationally representative studies have documented that psychiatrists counsel smokers less often than other physicians (Thorndike et al. 2001; Easton et al. 2001; AAMC 2007). Moreover, compared to other physicians, psychiatrists were among the least familiar with state funded tobacco treatment resources, thus leading to reduced utilization among mentally ill smokers (Steinberg et al. 2006). Despite over 10 year old recommendations for psychiatrists to treat tobacco in all their patients (APA 1996), most still do not (Peterson et al. 2003; Montoya et al. 2005; Himelhoch and Daumit 2003).

Training the next generation of providers, and those professionals currently in practice is needed. Interventions aimed at training behavioral health professionals can be an important first step in increasing the delivery of tobacco dependence treatments for mentally ill smokers (Lancaster et al. 2000). The availability of continuing medical education programs on tobacco dependence for psychiatrists and psychiatric nurses, however, are profoundly lacking (AAMC 2007). In NJ, we have been delivering a focused continuing medical education (CME) curriculum to mental health practitioners since 2006.

The original educational objectives of our CME training were to educate prescribers who work in the mental health system and provide them with increased knowledge and skills for the assessment and treatment of smokers. Targeting advanced practice nurses in addition to psychiatrists is reasonable as they are treatment team leaders on health issues and can help enhance smokers' access to tobacco treatment medications. The curriculum emphasizes motivational and pharmacotherapy techniques for addressing tobacco use in mentally ill smokers.

Baseline knowledge in nearly all areas of tobacco assessment and treatment is poor and psychiatrists do not score better than most other mental health professionals. Questions with very low correct responses on the pretest included those on evidence-based pharmacologic and psychosocial treatments for tobacco dependence, the duration of nicotine withdrawal and knowledge of tobacco's effect on drugs metabolized by the cytochrome1A2 system. Paired t-tests found significant increases in posttest scores among psychiatrists, nurses and other professionals. When asked about barriers, more psychiatrists than nurses reported that their limited experience in intervening with

smokers was a barrier (79 vs. 43%; $p < 0.05$; Williams et al. 2009b).

An overwhelming number (90%) believe that helping patients to stop smoking is part of their role as psychiatrist or mental health nurse although actual rates of interventions done by these individuals are low (Williams et al. 2009b). Although the training is open to anyone, we have targeted NJ prescribers by offering scholarships to cover the cost of the training fee supported by the NJ Comprehensive Tobacco Control Program. By offering incentives, we have been able to train more than 95 NJ Psychiatrists and Psychiatric Advanced Practice Nurses. Although the training was originally marketed to psychiatrists and advance practice nurses, it continues to attract a broad range of mental health professionals and we have expanded the curriculum to include more about changing mental health systems to address tobacco.

Tobacco-Free Environment

Hospitals In addition to training and treatment development, policy initiatives will drive greater systems change. Tobacco-free hospital policies are intended to create a healthy environment for everyone who comes there to receive care, visit a patient or work. Although many general medical health care facilities have policies that restrict tobacco use, not only in buildings but on all adjacent outdoor areas or “grounds”, these are less often found in hospitals with a psychiatric or substance abuse unit (NASMHPD 2006). The most frequently cited obstacles to change involve the professional staff and not the patients. Staff are often opposed to such policies, for a variety of reasons including fear that patients will become violent, despite evidence to the contrary (NASMHPD 2006). It is also estimated that a higher percentage of staff working in mental health hospitals use tobacco themselves and studies have shown that mental health staff express less favorable attitudes than general staff to smoke-free health care settings (McNally et al. 2006).

Using the hospital setting to address tobacco use offers advantages both in terms of policy and treatment initiatives. The hospital is also a supportive environment with access to medications and counseling that may not be available in the community. In the psychiatric hospital setting, all patients should be given access to a safe and comfortable detoxification from tobacco, as is done with other addicting substances, to prevent the emergence of nicotine withdrawal symptoms. Pharmacotherapy may be particularly important for smokers with serious mental illness who have high levels of nicotine dependence. Psychiatric inpatients that were not given a prescription for nicotine replacement therapy were more than twice as likely to be discharged from the hospital against medical

advice (Prochaska et al. 2004a, b). Staff should also be discouraged from using tobacco to control or shape patient behavior, such as rewarding group attendance with smoking breaks. Perhaps most importantly, using the hospital setting to address tobacco underscores the mission of these facilities as promoting optimal health and health care.

Programs that treat behavioral health problems are the only remaining sector of health care that fail to systematically help patients quit smoking. At state funded psychiatric hospitals, medical directors and administrators are attempting to enact policies that restrict tobacco use in these facilities- not only in buildings but on all adjacent outdoor areas or “grounds”. Exempting mental health hospitals from smoke-free laws aimed at protecting the public also has the potential to worsen health inequalities for people with mental illness and further their stigmatization (Williams 2008). Groups that are outside the protection of public policies or laws, are often perceived as stigmatized. Stigma is a resonating issue for the mental health community that strives for greater social acceptance and integration of individuals with mental illnesses. Smokers increasingly face stigma as tobacco use rates decline and smoking is further marginalized from the general society. Thus, advocacy that aims to protect smoking can further marginalize and stigmatize smokers with mental illness who are looking to succeed in securing housing and employment.

A survey of state psychiatric hospitals indicated that although many restrict smoking on their premises and have written policies regarding tobacco, far fewer offer treatment to smokers in these settings (NASMHPD 2006). In 2008, the State of New Jersey enacted a law allowing publicly-operated residential facilities to prohibit smoking on its grounds (NJSA 26:3D-58.1 et seq) that led to a 2009 policy for Tobacco-Free State Psychiatric Hospitals in NJ (AB 3:33).

Recognizing the need for treatment, the NJ Division of Mental Health Services developed policies that required trainings for staff on smoking cessation treatments, and required assessment of all tobacco users. These policies requiring assessment, documentation and treatment went beyond usual policies that merely eliminate smoking in hospital facilities and specify that tobacco dependence be included in the treatment plan and that the treating psychiatrist is primarily responsible for the coordination of care (AB 3:32). In the hospital, tobacco users are encouraged to attend LAHL Wellness groups and nicotine replacement medications are readily available via pre-printed orders and floor stock supply (patches and lozenges) that facilitate prescription and delivery of medications to smokers (Williams et al. 2010a, b).

Physicians in the state hospital system received quarterly feedback reports that tracked their utilization of tobacco treatment medications; reports were compiled both

by hospital and by individual practitioner. Using a central pharmacy database, medication orders for the 5 forms of nicotine replacement medications (nicotine patch, gum, lozenge, inhaler and nasal spray) and varenicline (Chantix) were tracked on a quarterly basis. Bupropion was not included since its use for tobacco treatment could not be distinguished from its use as an antidepressant. There was a significant increase in the prescribing of tobacco treatment medications after 2008 when tracking began. Initially only about 11% of all the patients treated at the NJ State Psychiatric Hospitals received a prescription for a tobacco treatment medication (July–Sept 2008). This increased to 52% by April–June 2009 and highest use coincided with each hospital's unique tobacco-free implementation date although prescribing has remained at these higher rates even 1 year later.

The NJ Division of Mental Health Services was essential to the success of the initiative through funding support, policy development and leadership at the state level. In addition to policy development and support for trainings, they purchased carbon monoxide (CO) meters for these facilities, and provided unlimited access to all tobacco treatment medications on the state hospital formulary.

Tobacco Using Staff An additional barrier to a tobacco-free environment is tobacco use among health professionals themselves. An international review of tobacco use in the nursing profession reveals declines in smoking rates among nurses over the last 30 years, although rates among U.S. female nurses remain about 30%, higher than the national average (Smith and Leggat 2007; Bain et al. 2004). There are also variations by specialty with psychiatric nurses smoking more than those in general medical practice (Trinkoff and Storr 1998). This is an important consideration since studies show that health professionals including nurses who use tobacco, provide fewer cessation services and rate their ability to help patients quit smoking as lower than colleagues who were former or non-smokers (Slater et al. 2006; Braun et al. 2004; Reeve et al. 1996). Restrictions of staff smoking are an important part of an overall policy addressing tobacco use in facilities, even if there is no plan to be entirely tobacco-free. Examples can include not allowing staff to smoke alongside patients, since reinforcing substance using behavior is often contrary to organizational treatment philosophy.

Community

Community based initiatives for addressing tobacco are a foundation of current CDC Best Practices and are critical in transforming the social norms around the way tobacco is promoted and used. In the MHTR-NJ Model we use the term community to include the level of the mental health

consumer, advocate, family member or any other community group that interfaces with the mental health system. Building demand for services and strengthening advocacy in the community can help to establish the critical mass needed to more treatment efforts forward and enhance their importance among administrators and key decision makers. Even if they themselves endorse treating tobacco, mental health leadership may want to hear from consumers and community stakeholders that tobacco is an important issue before taking steps to change policy. Partnering efforts with community agencies then can help to facilitate greater and more rapid systems change.

Community agencies can also provide an essential role in disseminating information and educating the public. Smokers with mental illness and their families may lack information about the risks of tobacco use and higher rates of death from cardiovascular disease in the mentally ill. Community coalitions can assist by promoting cessation services and facilitating communication between agencies at various levels. A grass roots level movement for addressing tobacco among mental health consumers and their families can help to increase the demand for tobacco cessation services among consumers. Peers are essential in this process to communicate hope for treatment and advocacy for greater treatment opportunities. This can have a secondary effect of helping to change the larger mental health system by shifting accepted cultural norms and changing the behaviors of professionals who treat them.

Peer Services and Outreach

The peer support model is based on shared responsibility, respect and mutual understanding of what is helpful (Mead et al. 2001). Peers are able to provide services in a less threatening way to those fearful of change, and consumers report high satisfaction with peer delivered services (Solomon 2004). Recent expert panels, including the SAMHSA Consensus Statement on Recovery, have concluded that peer providers are essential to the design and delivery of future mental health care (Campbell and Leaver 2003; SAMHSA 2005; Stotland et al. 2008) especially in the area of physical and mental health integration.

Having peers who have succeeded in recovering from tobacco dependence talk to smokers with mental illness offers advantages. The population of mentally ill smokers may not have experienced seeing many people succeed in quitting smoking and thus have few role models. In addition, peers may have greater success in reaching smokers who are not motivated to discuss changing their tobacco use. Advantages of using peer counselors include reduced language and cultural barriers, increased trust and lowered defenses, and low cost. Peer counselors are often rated highly by other consumers and there is an added benefit in

the modeling that comes from seeing peers do well and return to work.

We have promoted community based advocacy and education through the CHOICES Program (Consumers Helping Others Improve their Condition by Ending Smoking). CHOICES employs mental health peer counselors known as Consumer Tobacco Advocates (CTA) to deliver the vital message to smokers with mental illness that addressing tobacco is important and to motivate them to seek treatment (Williams 2007). The philosophy of CHOICES is to bring information to smokers with mental illness about the harms of tobacco, as well as the benefits of quitting and possibilities of treatment. Additional goals are to enhance advocacy and education about addressing tobacco in mental health treatment settings through strong partnerships with a consumer advocacy organization (Mental Health America) and state government (New Jersey Division of Mental Health Services).

The CTAs serve as tobacco-focused consultants to consumers and/or agencies to assist them with reerrals to treatment, advocacy, support and the provision of educational materials. The goal of the CTAs are to visit mental health centers, self-help centers and health fairs to communicate with and educate consumers and provide personalized feedback about their smoking. They also provide resources about places in New Jersey where smokers with mental illness can receive tobacco dependence treatment.

Since 2005, CHOICES has conducted over 298 community visits reaching more than 10,000 smokers with mental illness (about 2500/year; Williams et al. 2010a, b). A telephone-based outcome study was conducted in 102 outpatient smokers who received a CHOICES peer-to-peer session. Subjects reported smoking an average of 19 cigarettes/per day during the last week and had smoked for approximately 25 years. Most of them were moderately to severely nicotine dependent with almost half smoking within the first five minutes of waking in the morning, an indicator to severe nicotine dependence. Fifty-eight percent of subjects reported that a family member and/or friend buy tobacco for them. Additionally, a majority of participants reported living with another smoker (59%), having a disease caused or aggravated by smoking (61%), and smoking inside their home (60%). Subjects interviewed reported statistically significant decreases in cigarettes smoked per day. Subjects also endorsed that it was easier talking to peers about their smoking than their psychiatrist or other staff member. Future goals are to continue to expand the program and develop satellite CHOICES organizations in other states.

Advocacy

Advocacy is essential in mental health in order to overcome the effects of stigma, ensure access to treatment and

influence policy and policy makers on behalf of the needs of individuals with mental illness. As mental health systems move towards addressing tobacco use, advocates can provide an important role in raising awareness about the inequities of tobacco use, its consequences and also shine a light on the lack of tobacco control funding directed towards smokers with mental illness. Advocates should demand that access to evidence-based tobacco dependence treatments be more widely available for their mentally ill constituents. Perhaps the greatest barrier to immediate policy and systems change within the mental health setting is that tobacco use is not always seen as a problem among mental health consumers and their families. To date, mental health advocacy groups have not been vocal in demanding tobacco treatment services for smokers with mental illness. In fact these groups have traditionally taken a position to protect tobacco use in mental health treatment settings, even using legal means to stall or overturn them (Martineau 2007; Kleiss 2005). These groups have been vocal in requesting exemptions to smoke-free air provisions for treatment facilities with an impassioned, yet ill-informed argument to “let them smoke” (Longo et al. 1998; Williams 2008). Advocacy that aims to protect smoking can further marginalize and stigmatize smokers with mental illness and worsen health disparities. The mere threat of legal or political action has been effective in getting states to rescind or exempt psychiatric or addictions treatment facilities from tobacco-free policies (Williams 2008).

Advocacy is important and working with advocacy organizations, and not against them has been an essential element of our approach. We suspect that tobacco misinformation is common in the community and consumers and their families may minimize the long-term risks of tobacco, keeping it a low priority. Education is an important step and we have stressed a message about tobacco consequences that includes not only the medical risk but also the negative impact of tobacco on finances, quality of life and community integration (Steinberg et al. 2004b). Studies have shown that all smokers experience stigma in obtaining employment and housing (Stuber et al. 2008), yet these critical issues in mental health recovery are going unnoticed.

The Mental Health Association in NJ, a local affiliate of Mental Health America, has been an especially effective community partner in our tobacco recovery efforts in NJ. This consumer-driven mental health advocacy organization has partnered not only in the CHOICES project, linking us to an audience of consumers and consumer employment resources but has also demonstrated leadership in the state by addressing tobacco through policy and other work. The CHOICES newsletter has also been an efficient and low-cost way to enhance advocacy efforts and disseminate

information about tobacco use in the population. In addition to a mailing list of more than 600 mental health consumers and professionals, each issue is posted on a website for free access (njchoices.org). Other advocacy groups in NJ have joined these efforts and provided support of initiatives such as the tobacco-free state psychiatric hospitals. This grass-roots advocacy approach is leading to evidence of change in the mental health system in NJ as clinicians are responding to their clients' demand for these services and seeking out training so as to acquire the skills needed to treat tobacco.

Access to Tobacco Treatment Medications

Practice guidelines indicate that all smokers trying to quit should use pharmacotherapy as a first-line treatment, except where there may be contraindications (Fiore et al. 2008). Review of clinical practice however suggests that use is much less; fewer than one out of every 3 smokers who try to quit in the US use an FDA-approved smoking cessation medicine. Use of products like nicotine replacement (NRT) is lower in the US than other countries (Hyland 2007). Even when medication is used it is often under-used (too little for too short a time) and a recent policy paper by Foulds et al. (2009) outlines several important barriers to the use of smoking cessation medications in the US.

Both provider and patient negative beliefs about medications are two of the greatest barriers to use. Patterns of under-prescribing tobacco treatment medications (compared with the U.S. Clinical Practice Guideline recommendations) and reports of doubts by prescribers regarding efficacy, safety and lack of time to counsel patients, suggest a lack of training and awareness of existing treatment guidelines among health professionals (Foulds et al. 2009). Similarly, smokers are often misinformed, mistakenly believing that nicotine is a carcinogen and that NRT poses more cardiovascular threat than smoking (Bansal et al. 2004). Many also do not believe that NRT improves a smoker's chance of quitting despite an abundance of evidence to the contrary. A group of tobacco treatment experts published a statement to smokers to help counter common myths about NRT safety and encourage effective dosing (Kozlowski et al. 2007) but more efforts like this are needed.

These same barriers are even greater in the mental health system where, despite the efficacy and usefulness, tobacco medication treatments are used to a limited degree. Pharmacotherapy may be even more important to smokers with mental illness as they have high levels of nicotine dependence. It is important to educate smokers with mental illness about available treatment options and using community outreach and self-help efforts can be cost-effective ways to disseminate the message. Self-efficacy in this group is low and understanding pharmacotherapy treatment

options can increase hope for a successful future cessation attempt.

Cost is an important issue that influences demand for tobacco treatment medications. NRT became over-the-counter (not needing a doctor's prescription) in 1996, a measure designed to increase availability of these products. The downside of this policy is that insurance companies, including Medicare, no longer offer coverage, and the out of pocket cost for low income groups may be too high (\$25–55 for each 2 week supply). The evidence showing increased demand for NRT when it is covered by insurance or provided free via cessation programs suggests that cost is an important barrier to use (Miller et al. 2005; West et al. 2005).

Financing tobacco treatment medications and counseling through Medicaid is an option that is gaining in popularity (Halpin et al. 2006; Medicaid Partnership Project 2009) given that one in seven Medicaid dollars is spent on tobacco-related illness, and cigarette smoking rates are higher among adult Medicaid recipients than the general adult population (MMWR 2009). Although it is estimated that about one in ten Medicaid dollars is spent on behavioral health services, the degree of overlap spending for tobacco illness in mental health populations is not known (Mark et al. 2003). The number of Medicaid programs providing some coverage for tobacco-dependence counseling or medication increased to 36 in 2001, but only one offers all treatments recommended by the 2000 PHS guideline (MMWR 2009). Tobacco treatment is also highly cost-effective (Song et al. 2002; Woolacott et al. 2002).

As Medicaid pays for medications in the mentally ill (usually without a lifetime benefit or maximum duration of treatment) including other addictions treatment medications, it is reasonable that they pay for tobacco treatment medications in the same way. Coverage must be comprehensive and include OTC treatments like nicotine patch, gum and lozenge. The types of tobacco dependence treatments covered by Medicaid vary by state. Although most cover prescription treatments like varenicline (marketed in the US as Chantix), only 26 states cover some form of tobacco-cessation counseling (group, individual, or telephone; MMWR 2009). Treatments are frequently time limited or have inclusion criteria (e.g., for pregnant smokers only). Cost and insurance issues frequently dictate treatment choice for tobacco treatment medications, and options will remain limited for mentally ill smokers until this issue is addressed.

Next Steps

Tobacco control programs are often evaluated in terms of short or long-term outcomes. A limitation of the Mental Health Tobacco Recovery in New Jersey (MHTR-NJ) Model is that it has not been evaluated for long term

outcomes such as smoking prevalence or quit rates among individuals with mental illness in New Jersey. Several factors contribute to the lack of intermediate and long-term outcomes of these programs. First, long-term outcomes have not been the focus of any of the specific programs outlined in this paper and funding for each might dictate the presence and type of evaluation conducted. As these often began as pilot or demonstration projects initial feasibility and short term effectiveness took priority over more distal goals. In addition, distal outcomes are considered to be secondary in the process of assessing key outcome for Tobacco Control Programs due to the strong association between short and long term outcomes (Starr et al. 2005).

Although New Jersey had a moderately well funded Comprehensive Tobacco Control Program in place from 2000 to 2010, very little state tobacco money was directed to help smokers with mental illness address their tobacco use. Funding for these initiatives has been modest compared to other preventive and treatment-related health care initiatives. For example, between 2000 and 2010, more than \$184 million was spent in New Jersey on various Tobacco Control Activities related to prevention and cessation (CTFK 2009). Less than 1% of this state money went to support some of the programs described. Additional funds from other areas of state government (i.e. Department of Human Services) and/or grants to support training are cumulatively estimated to be about \$1 million, making the cumulative cost of implementation \$2.5 million over 10 years, or \$250,000/year. Many studies document that state spending on tobacco control reduces health care costs in both the short and long term, including a reduction in state Medicaid program expenditures (Lightwood and Glantz 1997; Kabir et al. 2008). For every one dollar spent in California on tobacco control, they estimate a reduction in statewide healthcare costs by more than \$3.60 (California 2000).

In addition, surveillance of tobacco use patterns at a population level remains difficult to assess in smokers with mental illness. Few population-based datasets, such as, the National Survey on Drug Use & Health (NSDUH), National Health Interview Survey (NHIS), and Behavioral Risk Factor Surveillance System (BRFSS) collect both mental health and tobacco use measures (Delnevo and Bauer 2009), however only NSDUH contains information to diagnose specific mental illnesses. While anxiety and depression are detected reasonably well in population-based surveys such as these, more serious illnesses such as bipolar disorder and schizophrenia are not. Thus gaps exist about the most vulnerable smokers with more serious forms of mental illness. Greater surveillance is an urgent need both at a state and national level to better understand the scope of this problem and determine longitudinal trends. The extent to which effective tobacco control strategies (tobacco excise taxes and price, clean indoor air laws and

workplace tobacco bans, state prevention and cessation initiatives, restriction of tobacco sales to minors, and anti-tobacco counter-marketing efforts) are effective in smokers with mental illness is largely unknown.

In an effort to document smoking rates in individuals with serious illnesses who may be missed in certain population studies, we conducted an analysis of data from the 2002 National Survey on Drug Use and Health using the proxy measure of Serious Psychological Distress (SPD; Hagman et al. 2008). Screening for SPD has been operationalized using the K6 scale. Although the K6 focuses on non-specific characteristics, the scale has been clinically validated and accurately screens for serious psychological distress (Kessler et al. 2002, 2003).

Ever use and current (past month) use of tobacco are higher for those with SPD versus those without. Overall, cigarettes were the most common tobacco product utilized, with 44.9% of those with SPD reporting use in the past month, compared to 26.0% without SPD. Additionally, adults with SPD were much more likely to be daily smokers than those without SPD (30.2% vs. 16.7%). SPD symptom severity is associated with greater likelihood of being a current smoker. In addition, current smokers with SPD were more likely to be nicotine dependent according to the NDSS and FTND, both common indicators of nicotine dependence. The overall quit ratio for adults in the US according to the 2002 NSDUH was 0.47. In other words, 47% of ever smokers in US had quit, or were former smokers at the time of the survey. However, the quit ratio differed notably by SPD status; the quit ratio for adults without SPD was 0.49 whereas the quit ratio for those with SPD was 0.29 (Hagman et al. 2008).

These findings from a population based sample validate prior clinical studies of persons with serious mental illness with evidence of increased ever and daily use of tobacco, greater likelihood of having nicotine dependence and reduced cessation. This type of surveillance data, done on a statewide level, is needed to track the overall effectiveness of the Mental Health Tobacco Recovery in New Jersey (MHTR-NJ) Model.

Conclusions

Given the high prevalence of tobacco use, disproportionate tobacco consumption, and excess morbidity and mortality in those with mental illness, it is not acceptable that they have reduced access to tobacco dependence treatment. The behavioral health system is well suited to provide tobacco dependence treatment. Clinicians and staff have many opportunities to intervene, although few models have emerged. We have developed a comprehensive model for Mental Health Tobacco Recovery in New Jersey (MHTR-NJ) that has the overarching goal of improving tobacco

cessation for smokers with mental illness. This approach recognizes the complex biological, psychological, psychosocial and behavioral characteristics as well as the social and environmental factors that may be critical in adequately assessing the needs of the population and delivering optimal treatments.

The MHTR-NJ model has three main components focused on increasing demand for tobacco cessation services and helping more smokers with mental illness to quit. These components, Clinical treatment, Environment and Community overlap to reach smokers in a variety of different including where they live and receive treatment. A combined approach is needed to engage patients, professionals and the community in a new area that they may not have prior experience. Increasing demand for tobacco treatment services is important and motivated patients must have a place to easily access treatment services when they are ready in their usual behavioral health care setting. Many professionals need training in assessment and evidence-based treatment for tobacco dependence and this should be a major focus on subsequent effort. Policies that restrict tobacco use will enhance treatment efforts and help to change the culture of smoking in behavioral health settings. Peers and self-help centers are untapped resources for bringing smokers into treatment and providing additional support. Working with mental health advocacy groups will encourage them to advocate for greater access to tobacco resources including tobacco treatment medications and help bring greater systems change.

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