CAN ADAPTT
Canadian Smoking Cessation Guideline

camh
Centre for Addiction and Mental Health
Centre de toxicomanie et de santé mentale

Specific Populations: Mental Health and/or Other Addiction(s)

CAN-ADAPTT's Clinical Practice Guideline Development Group;
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Pamela Kaduri, MD Mmed(psych): Reviewed and advised on background and clinical considerations, following confirmation of the summary statements by the Guideline Development Group.

Overview of Evidence

The following recommendations and supporting evidence have been extracted from existing clinical practice guidelines to inform the development of the CAN-ADAPTT Summary Statements.

CAN-ADAPTT worked with the Guidelines Advisory Committee (GAC) to conduct a literature search (years: 2002-2009) to identify existing clinical practice guidelines (CPGs). Five existing clinical practice guidelines were identified as meeting the high quality criteria set out in the AGREE Instrument. The recommendations contained in these high-quality CPGs have been used as the evidence base for the CAN-ADAPTT guideline development process. Visit www.can-adaptt.net to view CAN-ADAPTT's guideline development methodology.

New Zealand Ministry of Health (2007)[1]

Provide brief advice to stop smoking to all users of mental health services who smoke. ***(Grade = A)*** Offer smoking cessation interventions that incorporate known effective components (such as those identified in the previous sections) to people with mental health disorders who smoke. ***(Grade = √)*** People with mental health disorders who stop smoking while taking medications for their illness should be monitored to determine if dosage reductions in their medication are necessary. ***(Grade = A)***

Provide brief advice to stop smoking to all users of addiction services who smoke. ***(Grade = A)*** Offer smoking cessation interventions that incorporate known effective components (such as those identified in the previous sections) to people who smoke tobacco and who use addiction services. ***(Grade = √)***

U.S. Department of Health and Human Services Public Health Service (2008)[2]

Psychiatric comorbidity and substance use are variables associated with lower abstinence rates, but treatment can be effective despite the presence of risk factors for relapse. All smokers with psychiatric disorders, including substance use disorders, should be offered tobacco dependence treatment, and clinicians must overcome their reluctance to treat this population. Clinicians should closely monitor the level or effects of psychiatric medications in smokers making a quit attempt. ***(no Grade assigned)***

Background

Prevalence

People with mental illness are two to four times more likely to smoke, are heavier smokers, smoke more numbers of cigarettes per day, and have lower quit rates compared to smokers from the general population[3,4].

[1] Ministry of Health. (2007, August). New Zealand smoking cessation guidelines. Wellington: Ministry of Health.

[2] U.S. Department of Health and Human Services Public Health Service. (2008, May). Clinical practice guideline: Treating tobacco use and dependence: 2008 update.

[3] Ziedonis D, Hitsman B, Beckham JC, et al. Tobacco use and cessation in psychiatric disorders: National Institute of Mental Health report. Nicotine Tob Res. 2008:10(12); 1691 – 1715.

Prevalence of smoking among those diagnosed with mental disorders has been well documented. Smoking rates, differing by diagnoses, vary between 40 to 90%, compared to 17% in the general Canadian population[5]. Studies have shown smoking rates amongst people suffering from the following disorders: bipolar disorder 51 to 70%; major depressive disorder 40 to 60%; anxiety disorders 8 to 66%[6]. Smoking prevalence for persons with schizophrenia has been found to be considerably high, ranging from 45 to 88%[7]. The burden in morbidity and mortality due to high smoking rates among the mentally ill and addicted clients is alarming; this population suffers disproportionately from smoking related disabilities and this causes great financial burden to the heath care system. It appears that the mentally ill and addicted population are more likely to suffer from various physical problems such as cardiovascular, lung diseases, and diabetes[8], and tend to die much earlier than the general population[9].

Similarly, smoking prevalence within substance abuse/addicted populations is also high ; people reporting substance abuse problems have higher smoking prevalence than the general population, with nearly 50% having nicotine dependence[10]. Rates ranging from 11 to 48% have been found for those who abuse alcohol, cannabis, cocaine, amphetamines and opioids[11].

There are various factors contributing to higher smoking rates among people with mental illness and/or addictions including social, environmental and biological factors. Self-medication theory, shared genetic vulnerability and pathophysiological mechanisms may provide some explanations for high rates of comorbidity. Nicotine triggers release of various neurotransmitters involved in some psychiatric disorders and

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[4] Lasser K, Boyd JW, Woolhandler S, et al. Smoking and mental illness: a population-based prevalence study. JAMA. 2000:284(20); 2606 – 2610.

[5] Canadian Tobacco Use Monitoring Survey (CTUMS). 2010. Annual Results. http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/research-recherche/stat/_ctums-esutc_2010/ann_summary-sommaire-eng.php. Accessed November 21, 2011

[6] Kalman D, Morissette SB, George TP. Co-morbidity of smoking in patients with psychiatric and substance use disorders. Am J Addict. 2005 Mar-Apr;14(2):106-23.

[7] *Ibid*

[8] Action on Smoking and Health (2001). Mental health patients are victims of tobacco. http://www.ash.org/. Accessed 25 Aug 2011.

[9] Colton CW & Manderscheid RW. Congruencies in increased mortality rates, years of potential life lost, and causes of death among public mental health clients in eight states. Prev Chronic Dis. 2006:3(2); A42.

[10] Le Strat Y, Ramoz N, Gorwood P. In alcohol-dependent drinkers, what does the presence of nicotine dependence tell us about psychiatric and addictive disorders comorbidity? Alcohol Alcohol. 2010 Mar-Apr;45(2):167-72.

[11] *Ibid.*

are associated with the reinforcement effects of some addictive substances[12]. Consequently, people with mental illness may smoke for various reasons including to self medicate the effects of their illness[13].

The high smoking rates among those with mental illness and/or other addictions translates into more widespread health consequences and deaths due to smoking among this group[14]. People with mental health and addictive disorders who smoke also face enormous economic and social challenges. Studies have also shown that up to 27% of their disability income budge may be spent on tobacco products[15].

Need for Effective and Specialized Treatment

Smokers experience negative nicotine withdrawal symptoms when they stop smoking. These withdrawal symptoms are more pronounced in smokers who suffer from mental illness or have other addictions when they stop smoking. Some studies, for example, have found that nicotine withdrawal can mimic or worsen psychiatric disorders, although other studies have not confirmed this[16]. Smoking cessation may also aggravate medication side-effects[17]. This means that clients on some psychotropic medications must be reviewed by health care professionals when quitting smoking, as they may need adjustment in their medication dosages in order to avoid drug toxicities due to increased drug levels in the blood[18]. Thus close monitoring of the amount smoked, cessation treatment, medication side effects and psychiatric symptoms becomes important when addressing tobacco dependence treatment in populations with psychiatric disorders.

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[12] Farnam CR. Zyban: a new aid to smoking cessation treatment – will it work for psychiatric patients? Journal of Psychosocial Nursing & Mental Health Service. 1999:37(2); 36 – 42.

[13] *Ibid.*

[14] Johnson JL, et al. Tobacco Reduction in the Context of Mental Illness and Addictions: A Review of the Evidence. Prepared for Dr. J. Millar and L. Drasic of the Provincial Health Services Authority by the Centre for Addiction Research of British Columbia. May 1, 2006. Accessed Nov. 19, 2010: http://www.calgaryhealthregion.ca/programs/tobacco/pdf/evidence_review.pdf.

[15] Steinberg ML, Williams JM, & Ziedonis DM. Financial implications of cigarette smoking among individuals with schizophrenia. Tob Control. 2004:13; 206.

[16] Baker A, Richmond R, Haile M, Lewin TJ, Carr VJ, Taylor RL, et al. A randomized trial of a smoking cessation intervention among people with a psychotic disorder. Am J Psychiatry. 2006:163(11); 1934 – 1942.

[17] Lopes FL, Nascimento I, Zin WA, Valenca AM, Mezzasalma MA, Figueira I, et al. Smoking and psychiatric disorders: a comorbidity survey. Brazilian Journal of Medical and Biological Research. 2002:35; 961 – 967.

[18] Farnam CR. Zyban: a new aid to smoking cessation treatment – will it work for psychiatric patients? Journal of Psychosocial Nursing & Mental Health Service. 1999:37(2); 36 – 42.

Historically, the culture of tobacco use has been ingrained in the mental health and addictions fields with cigarettes having been used as reinforcement for compliant behaviour and enhancing social activity among individuals with mental illness[19]. This common practice in most mental health institutions and residential programs poses great challenges in addressing tobacco use problems in such settings. However, studies have shown that mentally ill clients are interested in quitting smoking[20], and are able to quit with successful rates[21]. This means that tobacco use interventions should be an integral part of the comprehensive mental health care delivery system.

CAN-ADAPTT Summary Statements *Comment on the discussion board*

CAN-ADAPTT's development process reflects a dynamic opportunity to ensure that its guideline is practice informed and addresses issues of applicability in the Canadian context. It has built from the evidence and recommendations contained in existing guidelines. It did not review the primary literature to inform the development of its Summary Statements unless emerging evidence was identified by the Guideline Development Group. The CAN-ADAPTT Guideline Development Group has provided the below Summary Statements for Mental Health and/or Other Addiction(s).

[19] Williams JM & Ziedonis D. Addressing tobacco among individuals with a mental illness or an addiction. Addictive Behaviors. 2004:29; 1067 – 1083.

[20] Prochaska JJ, Rossi JS, Redding CA, Rosen AB, Tsoh JY, Humfleet GL, et al. Depressed smokers and stage of change: implications for treatment interventions. Drug Alcohol Depend. 2004:76(2); 143 – 151.

[21] George TP, Vessicchio JC, Sacco KA, Weinberger AH, Dudas MM, Allen TM, et al. A placebo-controlled trial of bupropion combined with nicotine patch for smoking cessation in schizophrenia. Biol Psychiatry. 2008:63(11); 1092 – 1096.

Summary Statement #1 –

Health care providers should screen persons with mental illness and/or addictions for tobacco use.
GRADE*: 1A

Summary Statement #2 –

Health care providers should offer counselling and pharmacotherapy treatment to persons who smoke and have a mental illness and/or addiction to other substances.
GRADE*: 1A

Summary Statement #3 –

While reducing smoking or abstaining (quitting), health care providers should monitor the patients'/clients' psychiatric condition(s) (mental health status and/or other addiction(s)). Medication dosage should be monitored and adjusted as necessary.
GRADE*:1A

*GRADE: See below or click here for Grade of Recommendation and Level of Evidence Summary Table.

Clinical Considerations *Comment on the discussion board*

- **Screen**
  - An equally accurate term for 'screening' may be 'case finding' given the prevalence of tobacco use among persons with mental health diagnosis and/or addiction(s).
  - The term 'addictions' refers to those addicted to substances other than nicotine.
  - Asking about tobacco use should be an integral part of a routine medical, mental health and addiction screening in both ambulatory and inpatient settings.
  - Due to the high prevalence of concurrent mental illness and addiction, all patients/clients should be screened for underlying, non-debilitating, undiagnosed mental health challenges.
  - Conducting regular, brief screenings for mood changes is encouraged since it may affect quitting and can be part of withdrawal, grief over loss of identity as a smoker, or emergence of a depressive disorder.

- **Offer pharmacotherapy/counselling**
  - It should be noted that no pharmacotherapy has been contraindicated in persons with mental illness unless medically contraindicated.
  - Pharmacotherapy and counselling approaches yield greater success rates than providing either pharmacotherapy or counselling approach alone.
  - Recently there have been advisories from Health Canada regarding the need for vigilance for neuropsychiatric side effects when quitting smoking especially when assisted by bupropion SR[22] or varenicline[23].
  - Recognize that involuntary abstinence from tobacco that occurs when smoker patients are admitted to smoke free facilities requires management with an agonist at sufficient doses.
  - The withdrawal/anxiety experienced by persons abstaining from smoking should be recognized and addressed, especially in acute care facilities.

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[22] Marketed Health Products Directorate, Health Products and Food Branch. Important drug safety information for WELLBUTRIN SR and ZYBAN (bupropion HCl): warning for SSRIs and other newer anti-depressants regarding the potential for behavioural and emotional changes, including risk of self-harm—Biovail Pharmaceuticals Canada. Ottawa, ON: Health Canada; 2010. Available from: www.hc-sc.gc.ca/dhp-mps/medeff/advisories-avis/prof/_2004/wellbutrin_zyban_hpc-cps-eng.php. Accessed August 11, 2011.

[23] Marketed Health Products Directorate, Health Products and Food Branch. Champix (varenicline tartrate)—changes to the Canadian product monograph. Ottawa, ON: Health Canada; 2010. Available from: www.hc-sc.gc.ca/dhp-mps/medeff/advisories-avis/public/_2010/champix_2_pc-cp-eng.php. Accessed August 11, 2011.

- Health care providers who work with patients with mental health and or addiction should not promote smoking, provide cigarettes or smoke with clients.
- Employers of health care professionals who smoke should offer smoking cessation treatment to their employees.

- **Monitor**
  - Consider that persons with mental illness and/or addiction(s) who smoke might need higher doses of nicotine replacement therapy ,
  - Pharmacotherapy use may be required for a longer duration for persons with mental illness and/or addiction(s).
  - Flexibility in the quit date can be tailored to individual needs.
  - Assess for interactions with medications used for treating comorbid conditions.
  - Since caffeine levels can rise significantly when quitting smoking, caffeine intake needs to be monitored.
  - Dose adjustments usually downwards may be needed if client is on psychotropics (especially clozapine and olanzepine) that are affected by smoking cessation.
  - Clients' psychiatric symptoms throughout the quitting process should be monitored.
  - Clients should be encouraged to live in smoke free settings in the community.

- **Follow-up**
  - Clients should be followed by a health care provider during the quitting process.
  - Referral to appropriate healthcare services (community, program referral, other team members) for management/treatment and follow-up can be considered when one is unable to offer the service.
  - In-patient staff should be aware of community resources to support cessation and address nicotine dependence especially on discharge into community settings.

- **Resources for healthcare providers**
  - Treatment facilities staff should increase their understanding of mental health/addiction and nicotine dependence to effectively offer cessation and to address stigma attached to mental illness and/or addiction.

Additional Considerations

- Given the culture of mental health and addictions treatment facilities where staff often smoked and thereby, clients' smoking behaviour was sustained, these facilities must address smoking in their policies. For example, by becoming smoke-free indoors and where possible on the facility's grounds.

- All healthcare providers and staff in a practice setting or treatment facilities should be offered smoking cessation treatment.
- Financial resources for this "longer and stronger" counselling and/or pharmacotherapy are necessary. Persons with mental illness and/or addictions, due to a likelihood of lower disposable income and proportionally higher spending on tobacco, may especially benefit from subsidized pharmacotherapy, in sufficient dose and duration.
- Limit out-of-pocket costs to smokers with mental illness and/or addictions to improve outcomes.

Tools/Resources

Contribute a Tool/Resource

Title	Description
Canadian Mental Health Association	• Provides resources for various mental health conditions
Canadian Psychiatry Association	• This national professional association provides clinical practice guidelines on various mental health conditions and other resources.
Nicotine Dependence Clinic (Centre for Addiction and Mental Health)	• This clinic offers service to smokers and tobacco users who want to quit or reduce their tobacco use. It also provides specialized treatment services for smokers with other substance use issues, chronic mental illness and serious health concerns. • No referral is required
TEACH Program	• Tobacco Interventions for patients with mental health and/or addictive disorders • Offers a specialized course about the detection and treatment of concurrent tobacco dependence and mental health and/or addictive disorders.
Here to Help	• A partnership of seven leading mental health and addictions nonprofit agencies working to help people prevent and manage mental health and substance use problems. Work is funded by the BC Mental Health and Addiction Services.

Research Gaps

Contribute a Research Gap

- NRT to assist with reducing to quit, high dose off label use and combination NRT in this population.
- Safety and efficacy of varenicline in this patient population.
- Efficacy of free pharmacotherapy for smoking cessation in psychiatric patients including those currently taking psychiatric medication.
- Monitoring for consequences of long-term use of smoking cessation medication.
- Whether approaches or interventions should be tailored to different levels of mental health and addiction services (e.g. Crisis, first psychosis, etc.).
- Establish the efficacy and safety of concurrent or sequential quitting of tobacco use in addiction treatment settings.

Overview of CAN-ADAPTT's Practice-Informed Guideline

The full text guideline is available online at www.can-adaptt.net. The Guideline includes the following sections:

- Counselling and Psychosocial Approaches
- Pharmacotherapy *(in development)*
- Aboriginal Peoples
- Hospital-Based Populations
- Mental Health and/or Other Addiction(s)
- Pregnant and Breastfeeding Women
- Youth (Children and Adolescents)

We invite you to comment on the applicability and usability of this section, suggest additional tools and resources, and help to identify any gaps in knowledge.

Table 1. Grade of Recommendation & Level of Evidence Summary Table**

GR/LOE*	Clarity of risk/benefit	Quality of supporting evidence	Implications
1A. Strong recommendation. High quality evidence.	Benefits clearly outweigh risk and burdens, or vice versa	Consistent evidence from well performed randomized, controlled trials or overwhelming evidence of some other form. Further research is unlikely to change our confidence in the estimate of benefit and risk.	Strong recommendations, can apply to most patients in most circumstances without reservation. Clinicians should follow a strong recommendation unless a clear and compelling rationale for an alternative approach is present.
1B. Strong recommendation. Moderate quality evidence.	Benefits clearly outweigh risk and burdens, or vice versa	Evidence from randomized, controlled trials with important limitations (inconsistent results, methodologic flaws, indirect or imprecise), or very strong evidence of some other research design. Further research (if performed) is likely to have an impact on our confidence in the estimate of benefit and risk and may change the estimate.	Strong recommendation and applies to most patients. Clinicians should follow a strong recommendation unless a clear and compelling rationale for an alternative approach is present.
1C. Strong recommendation. Low quality evidence.	Benefits appear to outweigh risk and burdens, or vice versa	Evidence from observational studies, unsystematic clinical experience, or from randomized, controlled trials with serious flaws. Any estimate of effect is uncertain.	Strong recommendation, and applies to most patients. Some of the evidence base supporting the recommendation is, however, of low quality.
2A. Weak recommendation. High quality evidence.	Benefits closely balanced with risks and burdens	Consistent evidence from well performed randomized, controlled trials or overwhelming evidence of some other form. Further research is unlikely to change our confidence in the estimate of benefit and risk.	Weak recommendation, best action may differ depending on circumstances or patients or societal values
2B. Weak recommendation. Moderate quality evidence.	Benefits closely balanced with risks and burdens, some uncertainly in the estimates of benefits, risks and burdens	Evidence from randomized, controlled trials with important limitations (inconsistent results, methodologic flaws, indirect or imprecise), or very strong evidence of some other research design. Further research (if performed) is likely to have an impact on our confidence in the estimate of benefit and risk and may change the estimate.	Weak recommendation, alternative approaches likely to be better for some patients under some circumstances
2C. Weak recommendation. Low quality evidence.	Uncertainty in the estimates of benefits, risks, and burdens; benefits may be closely balanced with risks and burdens	Evidence from observational studies, unsystematic clinical experience, or from randomized, controlled trials with serious flaws. Any estimate of effect is uncertain.	Very weak recommendation; other alternatives may be equally reasonable.

*GR- Grade of Recommendation, LOE – Level of Evidence

**Adapted from: UpToDate. Grading guide. No date. Available from: http://www.uptodate.com/home/about/policies/grade.html; and Guyatt G, Gutterman D, Baumann MH, Addrizzo-Harris D, Hylek EM, Phillips B, Raskob G, Lewis SZ, Schünemann H. Grading strength of recommendations and quality of evidence in clinical guidelines: Report from an American College of Chest Physicians task force. Chest. 2006 Jan;129(1):174-81, originally adapted from the GRADE Working Group.