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# Understanding and Treating Smoking Among Individuals with a Mental Illness

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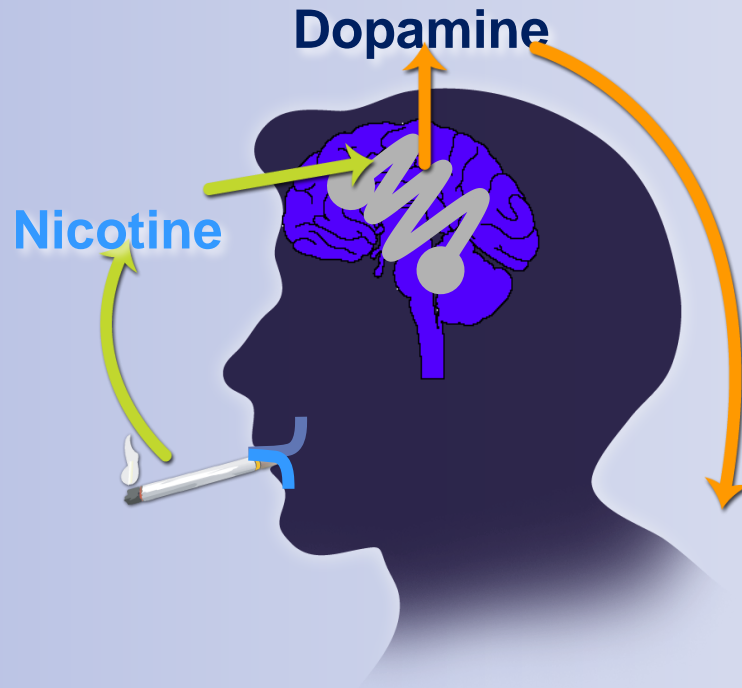
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# Understanding and treating smoking among individuals with a mental illness



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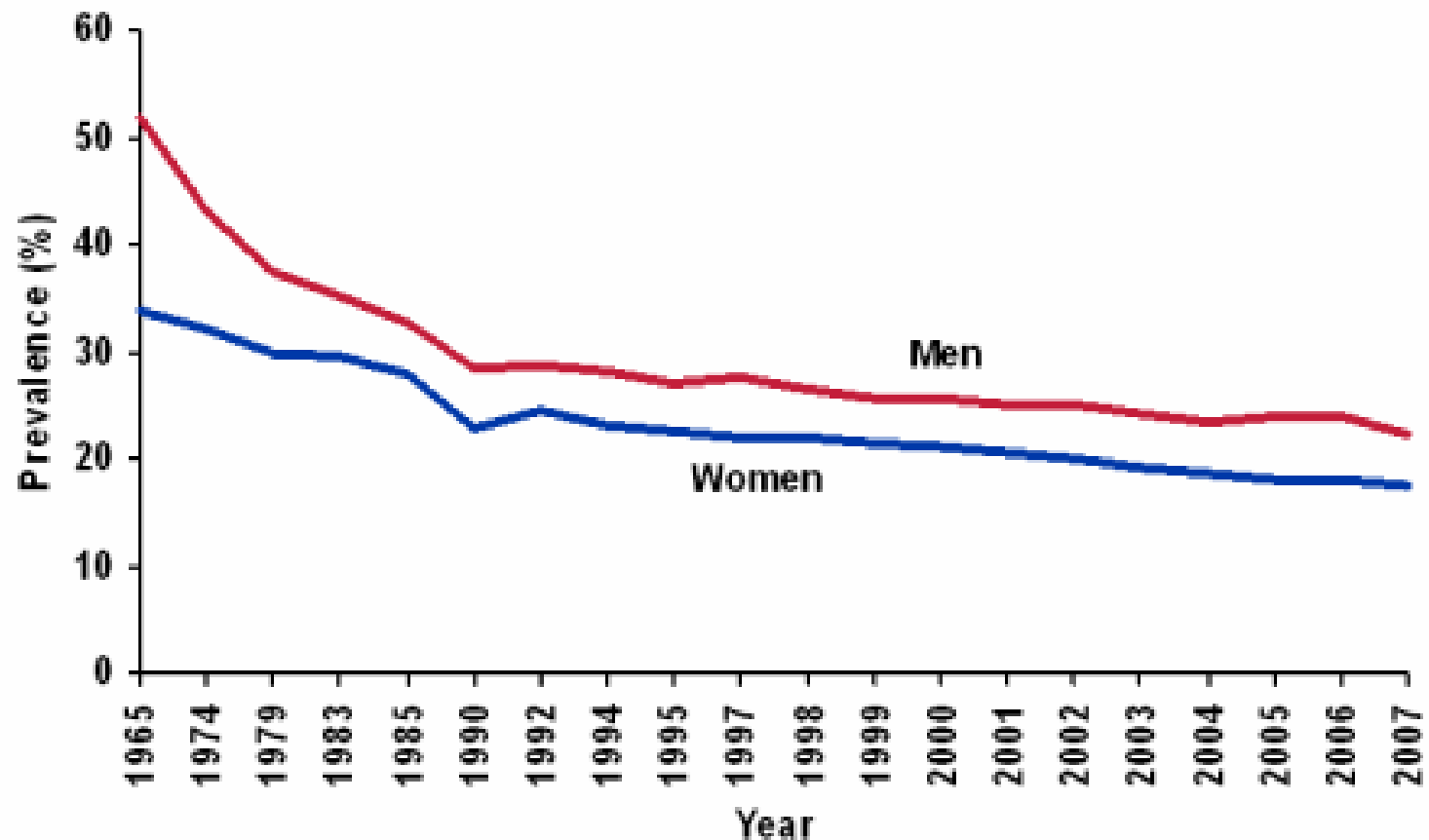
# Outline

- Background and Significance
- Reasons for Smoking among individuals living with a mental illness
- Smoking cessation treatment for individuals living with a mental illness

# Background and Significance

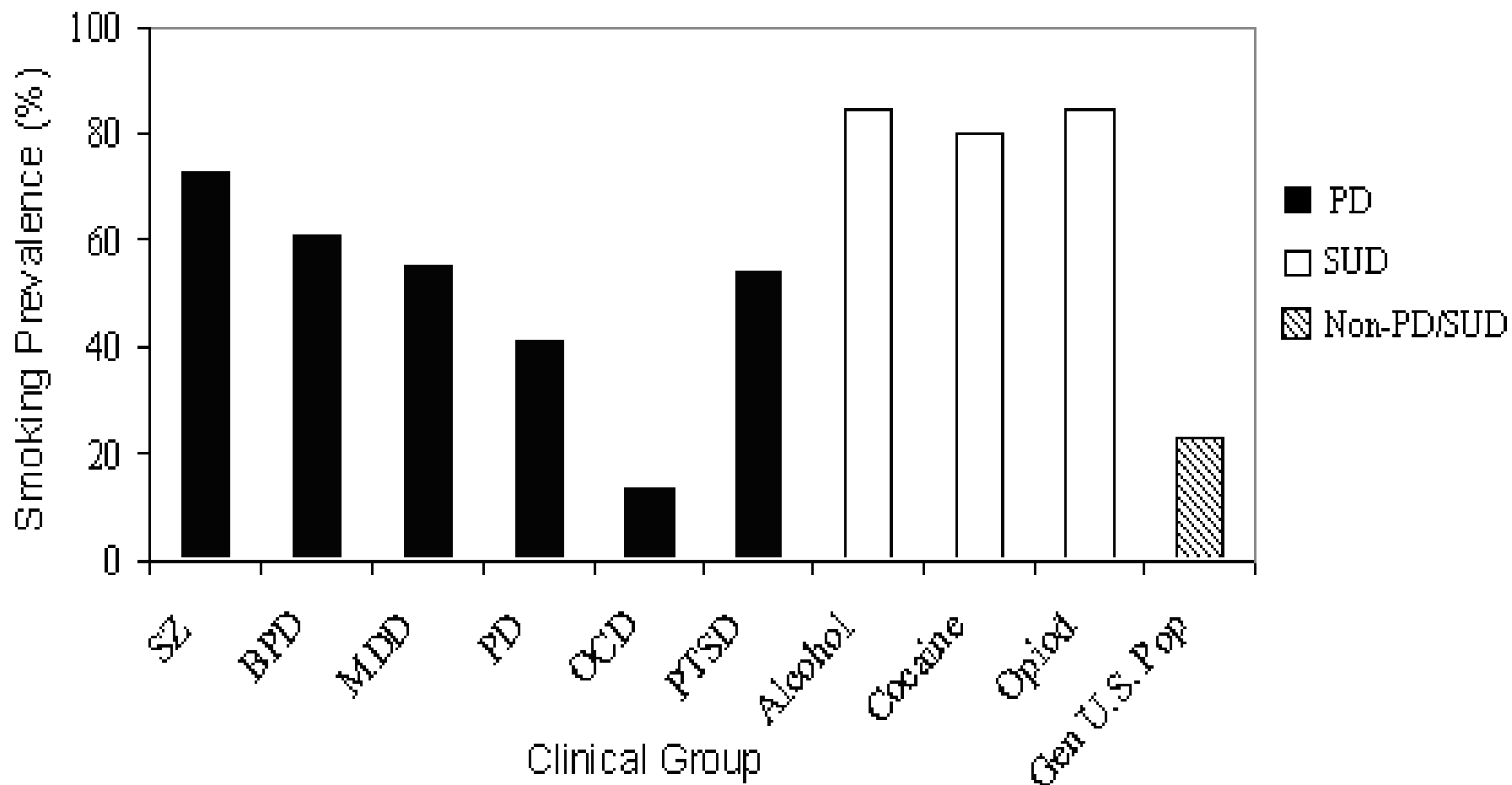


## Trends in Cigarette Smoking Prevalence\* (%), by Sex, Adults 18 and Older, US, 1965-2007



\*Redesign of survey in 1997 may affect trends.

Source: National Health Interview Survey, 1965-2007, National Center for Health Statistics, Centers for Disease Control and Prevention, 2008.



Kalman, Morissette and George (2005), Am. J. Addict., 14: 106-123

- “Nicotine-dependent individuals with a comorbid mental illness made up 7.1% of the population yet consumed 34.2% of all cigarettes smoked in the United States”



Grant, B.F. , Hasin, D.S., Chou, S.P., Stinson, F.S.& Dawson, D.A. (2004). Nicotine dependence and psychiatric disorders in the United States: Results from a national epidemiologic survey on alcohol and related conditions. Archives of General Psychiatry,61,1107-1115.

# Individuals living with mental illnesses have higher occurrences of tobacco caused mortality...

- In an 13 year follow-up of 370 individuals living with schizophrenia, smoking related fatal diseases were more prominent than the general population.
- Individuals living with severe mental illnesses (including schizophrenia, bipolar disorder, and depression) lose 25 years or more of life expectancy mostly related to cardiovascular disease
- Individuals with severe mental illness are three times more likely to die from cardiovascular disease as compared to the general population

*Brown, Barraclough, & Inskip (2000) Causes of the excess mortality of schizophrenia. British Medical Journal.*

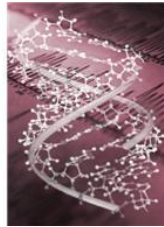
*Newcomer et al (2007) Severe mental illness and risk for cardiovascular disease. JAMA.*

*Osborn et al. (2007). Relative Risk of Cardiovascular and Cancer Mortality in People With Severe Mental Illness From the United Kingdom's General Practice Research Database. Arch Gen Psychiatry*

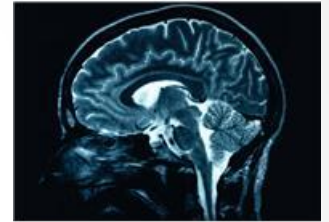


# Reasons for smoking among individuals living with mental illnesses

- Genetic

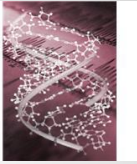


- Biologic



- Psychosocial





# Genetic Reasons: Mental health and smoking

(1,566 female twin pairs) average life time daily cigarette consumption was found to be associated with life time prevalence of major depression, suggesting that the relationship between smoking and major depression resulted solely from genes which predispose to both conditions.

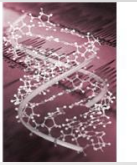


(8,169 male twins) shared genetic disorders further predispose to major depression and nicotine dependence.

Kendler KS, Neale MC, MacLean CJ, et al. Smoking and Major Depression: A Causal Analysis. Archives of General Psychiatry 1993; 50:36-43

Lyons M, Hitsman B, Xian H, et al. A twin study of smoking, nicotine dependence, and major depression in men. Nicotine & Tobacco

● Research 2008; 10:97 - 108



# Genetic Reasons: Mental health and smoking

## A Twin Registry Study of the Relationship Between Posttraumatic Stress Disorder and Nicotine Dependence in Men

Karestan C. Koenen, PhD; Brian Hitsman, PhD; Michael J. Lyons, PhD; Raymond Niaura, PhD; Jeanne McCaffery, PhD; Jack Goldberg, PhD; Seth A. Eisen, MD; William True, MD; Ming Tsuang, MD

- 63% of the association between post traumatic stress disorder and nicotine dependence co-morbidity was explained by shared genetic effects.

# Genetic Reasons: Mental health and smoking



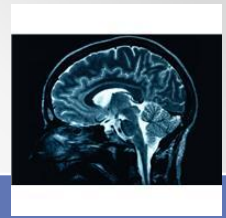
## **A Novel Permutation Testing Method Implicates Sixteen Nicotinic Acetylcholine Receptor Genes as Risk Factors for Smoking in Schizophrenia Families**

Stephen V. Faraone<sup>a,b</sup> Jessica Su<sup>b</sup> Levi Taylor<sup>c</sup> Marsha Wilcox<sup>c</sup>  
Paul Van Eerdewegh<sup>c,d</sup> Ming T. Tsuang<sup>a,b,c,e</sup>

- Found a group of candidate genes and individual genes among individuals with schizophrenia which were significantly linked to smoking behaviors.

Faraone et al. (2004). A novel permutation testing method implicates sixteen nicotinic acetylcholine receptor genes as risk factors for smoking in Schizophrenia families

# Biologic reasons: Mental health and smoking



Postma et al. Psychopharmacology (2006) 184: 589–599	nicotine reduces sensorimotor gating deficits in smokers with schizophrenia
Barr, Culhane, Jubelt, et al. Neuropsychopharmacology 2007; 33:480-490	administration of transdermal patch nicotine improves attention and response inhibition in nonsmokers with schizophrenia
Fowler, Volkow, Wang, et al. Proceedings of the National Academy of Sciences of the United States of America 1996; 93:14065-14069	brain levels of monoamine oxidase A (MAO-A) (an enzyme associated with depression) were reduced in smokers relative to nonsmokers; suggesting that people with affective disorders may smoke to reduce elevated MAO-A levels in the brain
McCabe, Chudzik, Antony, et al. Journal of Anxiety Disorders 2004; 18:7-18	Smokers with a primary diagnosis of anxiety disorder reported greater levels of general anxiety, distress, and depression as compared to nonsmokers.

# Psychosocial reasons: Mental health and smoking



- History of tobacco use as a **token economy**-- cigarettes used as a 'reward' for appropriate behavior (i.e., smoking privileges)
- Smoking among clients and staff to encourage '**socialization**'

Kawachi I, Berkman L. Social ties and mental health. *Journal of Urban Health* 2001; 78:458-467

Lawn S. Cigarette smoking in psychiatric settings: occupational health, safety, welfare and legal concerns. *Australian and New Zealand Journal of Psychiatry* 2005; 39:886-891

Keizer I, Eytan A. Variations in Smoking during Hospitalization in Psychiatric In-Patient Units and Smoking Prevalence in Patients and Health-Care Staff. *International Journal of Social Psychiatry* 2005; 51:317-328

Morisano D, Bacher I, Audrain-McGovern J, et al. Mechanisms underlying the comorbidity of tobacco use in mental health and addictive disorders. *Canadian Journal Of Psychiatry. Revue Canadienne De Psychiatrie* 2009; 54:356-367

# Arguments for Not Providing Tobacco Treatment....

*“these patients don’t want to quit”*

- In a review of 9 studies of motivation to quit smoking among individuals with psychiatric disorders at least 50% are contemplating cessation

*(Siru, Hulse & Tait, 2009).*

## *“these patients are unable to quit”*

- Recent study found end-of-treatment smoking cessation rates of **20%** among individuals with psychiatric disorders accessing outpatient tobacco treatment program

(Selby et al, 2010)

- Another recent study found end-of-treatment smoking cessation rates of **22.4%** and smoking reduction of over **50%** among participants in a smoking cessation program for individuals living with severe and persistent mental illness

(Masahura, Heah, and Okoli, 2012- under review)



# Smoking cessation medications

## Combination Pharmacotherapy

### Nicotine Replacement Therapy



Patch



Gum



Lozenge



Inhaler

### Oral Medications



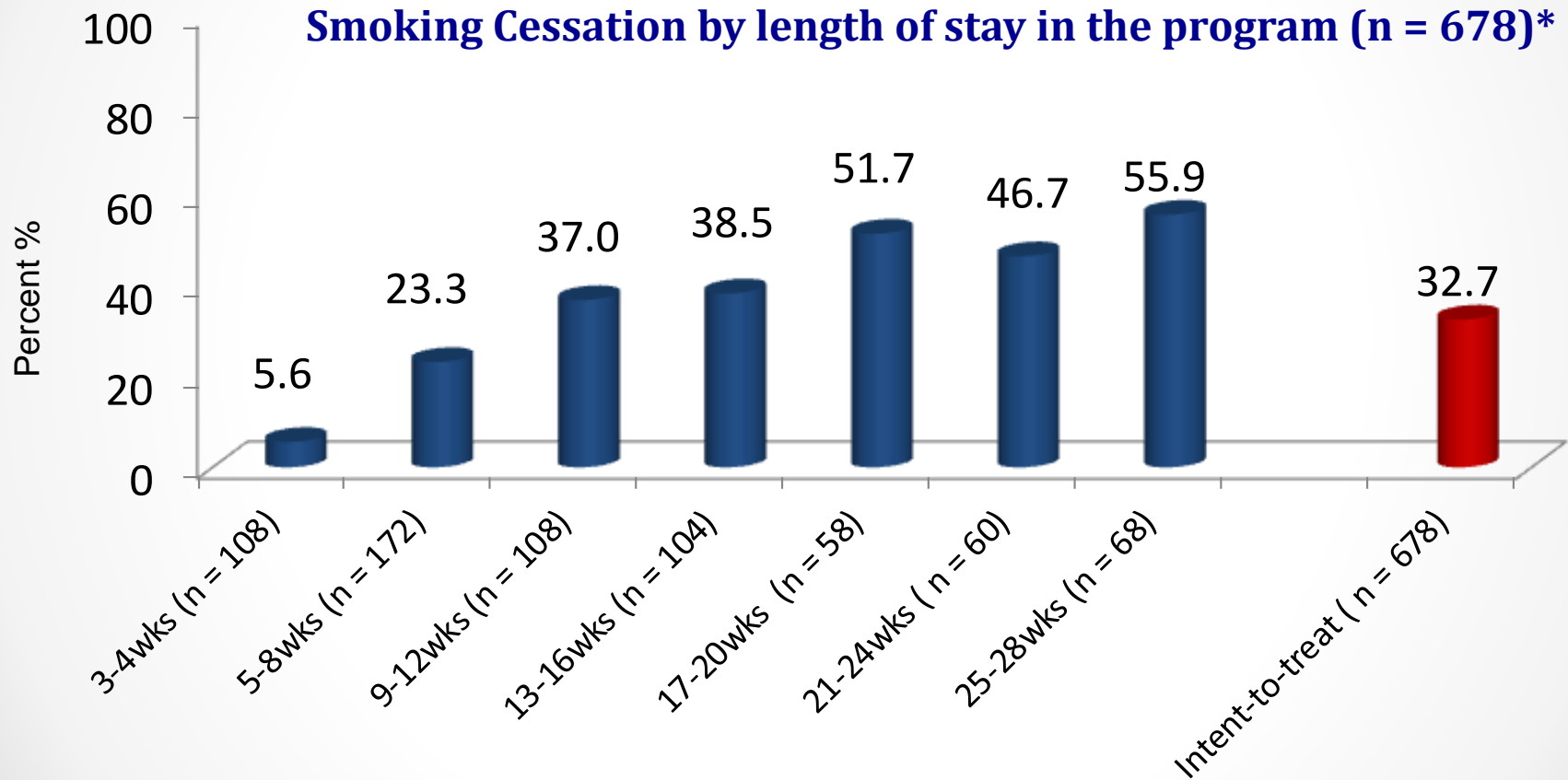
Zyban



Champix



# Longer treatment duration



\* Statistically significant differences between groups

# Important considerations of smoking cessation for individuals living with mental illnesses

- Concerns that smoking cessation will increase psychiatric symptoms or relapse among patients.
  - Among individuals with depression, smoking cessation related to increased depression symptomatology, which is one of the symptoms of the nicotine withdrawal syndrome
  - individuals with anxiety disorders and depression report more severe withdrawal symptoms
  - smoking is associated with improvements in prepulse inhibition and sensory gating which may be affected by smoking cessation

Patten C, Martin J. Does nicotine withdrawal affect smoking cessation? Clinical and theoretical issues. *Annals of Behavioral Medicine* 1996; 18:190-200

Breslau N, Kilbey MM, Andreski P. Nicotine withdrawal symptoms and psychiatric disorders: findings from an epidemiologic study of young adults. *American Journal of Psychiatry* 1992; 149:464-469

Adams CE, Stevens KE. Evidence for a role of nicotinic acetylcholine receptors in schizophrenia. *Frontiers in Bioscience* 2007; 12:4755-4772

Kumari V, Postma P. Nicotine use in schizophrenia: The self medication hypotheses. *Neuroscience & Biobehavioral Reviews* 2005; 29:1021-1034

el-Guebaly N, Cathcart J, Currie S, et al. Public health and therapeutic aspects of smoking bans in mental health and addiction settings. *Psychiatr Serv* 2002; 53:1617-1622

Ziedonis DMA, Williams JMb. Management of smoking in people with psychiatric disorders. *Current Opinion in Psychiatry* 2003; 16:305-315

# Costs associated with smoking cessation treatment

- Even though less expensive than purchasing cigarettes, the cost of pharmacotherapy and counseling presents an important barrier to seeking treatment
- Such cost barriers to accessing treatment and the potential cost-effectiveness of treatment have prompted guidelines about reducing medication costs (reduced cost or free of charge), inclusion of medications as benefits on drug insurance plans, and setting up systems for reimbursement for tobacco cessation treatment for health care providers.

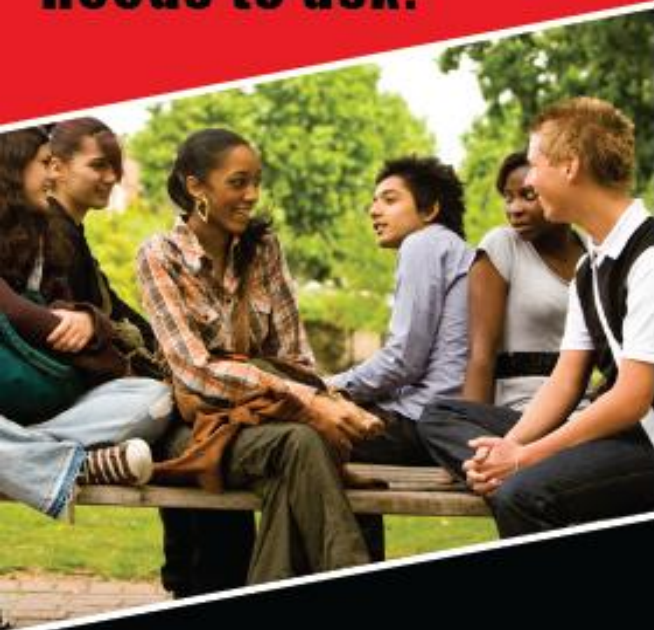
Bansal MA, Cummings KM, Hyland A, et al. Stop-smoking medications: Who uses them, who misuses them, and who is misinformed about them? *Nicotine & Tobacco Research* 2004; 6:303-310

Reilly P, Murphy L, Alderton D. Challenging the smoking culture within a mental health service supportively. *International Journal of Mental Health Nursing* 2006; 15:272-278

Fiore M, Jaén C, Baker T, et al. A Clinical Practice Guideline for Treating Tobacco Use and Dependence: 2008 Update: A U.S. Public Health Service Report. *American Journal of Preventive Medicine* 2008; 35:158-176

Raw M, McNeill A, West R. Smoking cessation: evidence based recommendations for the healthcare system. *British Medical Journal* 1999; 318:182-185

**THREE** questions  
**EVERY** smoker  
needs to ask:



contact us



To sign up for the class, or if you have questions, please contact us:

Community Education Program  
Tobacco Division  
Lexington-Fayette County  
Health Department  
805A Newtown Circle  
Lexington, KY 40511

Phone: (859) 288-2423  
Fax: (859) 252-0292

[www.lexingtonhealthdepartment.org](http://www.lexingtonhealthdepartment.org)

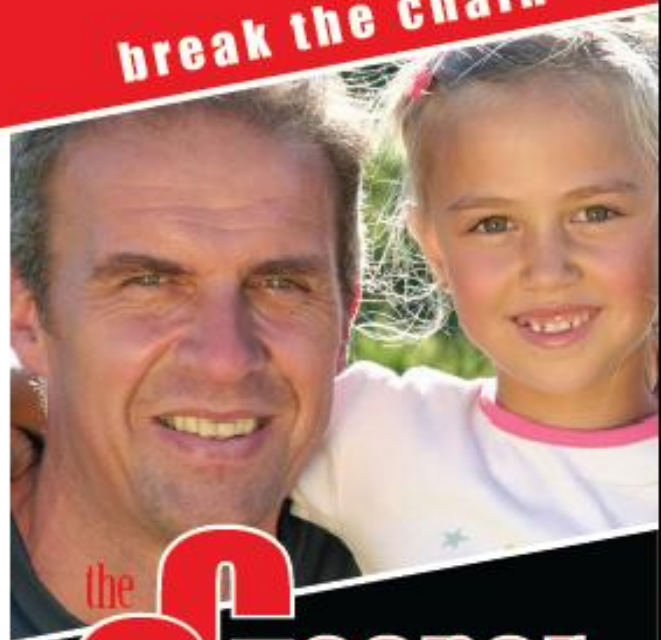


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break the chain



the  
**Cooper  
Clayton**  
Method to  
Stop Smoking

Do you remember why you started smoking?

Do the reasons you started smoking still exist?

Do you believe you will be better off as a non-smoker?

[www.lexingtonhealthdepartment.org](http://www.lexingtonhealthdepartment.org)

## are **YOU** ready to **QUIT?**

Becoming a non-smoker is not easy. You must be ready to try in order to succeed with the Cooper-Clayton method. We only ask for one hour per week to give you a lifetime of freedom from nicotine. The average smoker attempts to quit at least seven times before succeeding. If you have tried to quit and failed in the past, don't give up. Give us a chance to help you stop using tobacco.

## it's not too late

When smokers quit, the body begins to heal.

- Within 20 minutes of quitting, your pulse rate and blood pressure drop.
- Within 24 hours, your risk of heart attack is reduced.
- Within 48 hours, your ability to smell and taste improves.
- Within one year, your risk of heart disease is cut in half.
- Within 15 years, your risk of heart disease is the same as a non-smoker.



## What is the **COOPER-CLAYTON** Method?

The Cooper-Clayton Method to Stop Smoking is a proven research-based smoking cessation program that works, and:

- provides 12 education and support sessions that are led by professionals trained in the Cooper-Clayton Method (relapse prevention is taught);
- is especially effective for the long-time, heavy user of cigarettes, but can be equally effective for the light smoker;
- provides participants with FREE over-the-counter nicotine replacement products (gum, patches or lozenges);
- requires participants to be responsible for a \$50 deposit, which is fully refundable if all 12 sessions are completed and the participant remains smoke-free through class graduation.

## the support you need

Cooper-Clayton classes are support groups for people just like you who are trying to become non-smokers. Class sessions address many of the roadblocks you might encounter along the way, such as:

weight gain

depression

exercise

nutrition

stress

motivation

Nicotine  
Replacement  
Therapy



## Other helpful resources

The **KENTUCKY QUIT LINE**, 1-800-QUIT-NOW or 1-800-784-8669, provides one-on-one toll-free telephone cessation counseling.

To locate other Cooper-Clayton classes in the area, go to [www.kcp.uky.edu](http://www.kcp.uky.edu). By visiting this website, you can also learn how to become a Cooper-Clayton facilitator for your group or at your workplace by contacting your county representative at the Kentucky Cancer Program.

For additional questions, contact the **Lexington-Fayette County Health Department** at (859) 288-2423.

# Contact information

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