



The Intersection of Tobacco Use and Other Substance Abuse

Presenter: Doug Tipperman, MSW
Tobacco Policy Liaison, SAMHSA

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Implementing Physician Training
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Tobacco's Death Toll



Smoking remains the leading cause of preventable disease and death in the United States –responsible for over 480,000 deaths per year.

Between 1964 and 2014:

- Over 20 million Americans died because of smoking, including
 - 2.5 million nonsmokers
 - Over 100,000 infant deaths from parental smoking

“The cigarette is the deadliest artifact in the history of human civilization.” – Robert Proctor, Stanford University

SUD and Tobacco-Related Mortality

Tobacco-related diseases are the leading cause of death in patients previously treated for alcoholism and other substance use disorders (SUD). ([Hurt et al., JAMA, 1996](#))

Mortality Following Inpatient Addictions Treatment

Role of Tobacco Use in a Community-Based Cohort

Richard D. Hurt, MD; Kenneth P. Offord, MS; Ivana T. Croghan, PhD; Leigh Gomez-Dahl; Thomas E. Kottke, MD; Robert M. Morse, MD; L. Joseph Melton III, MD

Objective.—To determine the impact of tobacco- and alcohol-related deaths on overall mortality following inpatient treatment for alcoholism and other nonnicotine drugs of dependence.

Design.—Population-based retrospective cohort study.

Setting.—Olmsted County, Minnesota (the Rochester Epidemiology Project), and the Inpatient Addiction Program (IAP) at Mayo Clinic, Rochester.

Patients.—All 845 Olmsted County residents admitted to an inpatient addiction program for treatment of alcoholism and other nonnicotine drugs of dependence during the period 1972 through 1983.

Methods.—Patients were followed up through the medical record linkage system of the Rochester Epidemiology Project through December 1994 to obtain vital status, and death certificates were obtained for those who died. The underlying cause of death was classified as alcohol related, tobacco related, both, or neither based on the classification from the Centers for Disease Control and Prevention. The observed number of deaths by underlying cause was compared with the expected number using cause-specific 1987 death rates for the white population of the United States. All-cause mortality was also compared with that expected for persons in the West North Central Region of the United States of like age, sex, and year of birth. Univariate and multivariate assessments were made to identify predictors of all-cause mortality from baseline demographic information.


Results.—At admission, the mean (SD) age of the 845 patients was 41.4 (14.5) years, and 35% were women. Altogether, 78% had alcohol as their only nonnicotine drug of dependence and 18% had alcohol and other nonnicotine drugs of dependence, while 4% were classified as having a nonalcohol, nonnicotine drug dependence alone. At admission, 75% were current and 8% former cigarette smokers, 3% were current cigar or pipe smokers, and 2% were current users of smokeless tobacco. Follow-up after the index IAP admission totaled 8913 person-years (mean [SD] of 10.5 [5.6] years per patient). Death certificates were obtained for 96% (214) of the 222 patients who died. Of these 214 deaths, 50.9% (109) had a tobacco-related and 34.1% (73) had an alcohol-related underlying cause ($P < .001$). The cumulative mortality significantly exceeded that expected ($P < .001$); at 20 years, the observed mortality was 48.1% vs an expected 18.5%. Multivariate predictors of mortality, even after adjusting for expected mortality, were older age at admission ($P < .001$) and male sex ($P < .001$).

Conclusions.—Patients previously treated for alcoholism and/or other nonnicotine drug dependence had an increased cumulative mortality that was due more to tobacco-related than to alcohol-related causes. Nicotine dependence treatment is imperative in such high-risk patients.

(*JAMA*. 1996;275:1097-1103)

tion between cigarette and alcohol consumption, with smokers also being the heavy and vice versa.⁸ The relationship between smoking and substance use is three times that of the relationship between alcoholism and alcoholics.⁹ A quarter of all smokers, the relationship is so strong that heavy smoking is a predictor of alcoholism.¹⁰ Efforts at smoking cessation and attention in most alcoholism treatment programs.¹¹ If smoking continues, the mortality rate for alcoholism, the treatment for nicotine dependence considered by the treatment.

A key outcome of alcoholism mortality, but most death following treatment have limited sample sizes, and few have addressed tobacco-related diseases in a 20-year follow-up study. In patients treated for alcoholism, 42.9% due to circulatory disease due to lung cancer, for the expected mortality ratio of alcohol abuse may be associated with coronary artery disease. Controlling for smoking status for the increased risk among alcoholic veterans, most studies have not controlled for the contribution that smoking mortality in alcoholics.¹⁶⁻²¹ Even when tobacco use and alcohol abuse have been considered in the assessment of mortality after alcoholism treatment, the inclusion of almost all tobacco use is a significant factor.²²⁻²⁴ Thus, the more definitive information



*I'm not recovering
from drug dependence
only to die of lung cancer.*

***I need
to quit
smoking.***

~Teona

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smoke half the cigarettes in America.

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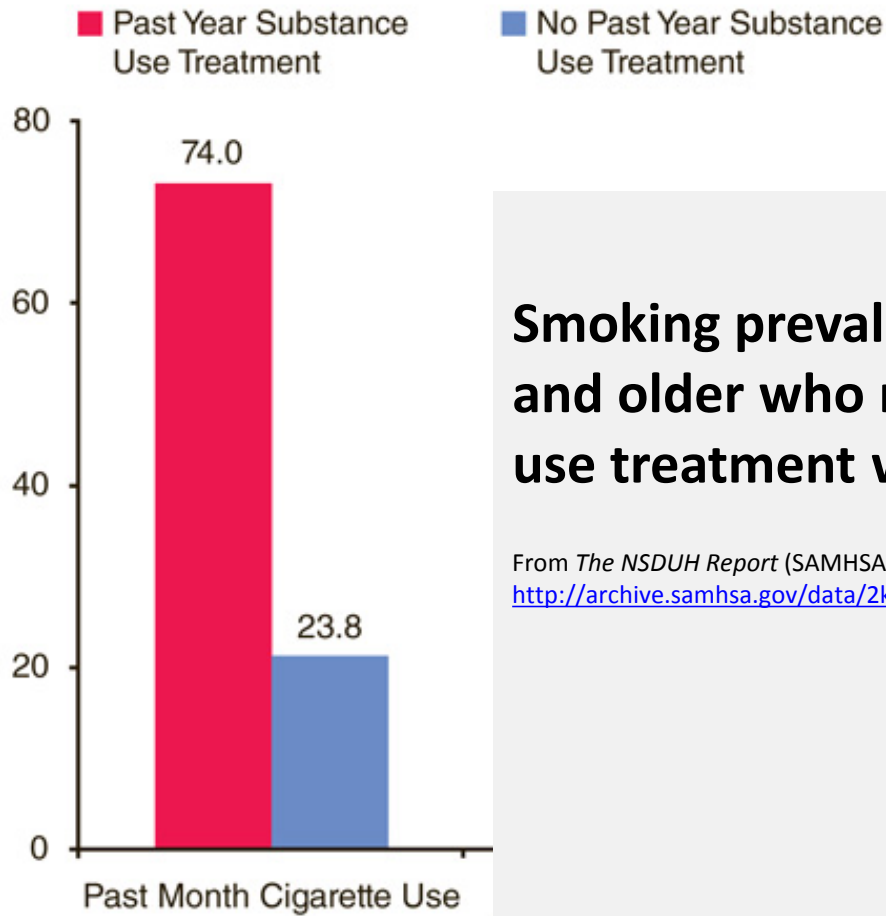
Tobacco Use Among Persons with SUD

**Current Smoking Among Adults With Past Year
Substance Use Disorder (SUD) in 2015:**

**48.3 %
vs.
18.6 % no SUD**

SOURCE: SAMHSA, National Survey on Drug Use and Health (NSDUH), 2015.

Tobacco Use Among Persons in SUD Treatment



Smoking prevalence for those 12 and older who received substance use treatment was 74 percent.

From *The NSDUH Report* (SAMHSA), June 23, 2011.

http://archive.samhsa.gov/data/2k11/WEB_SR_031/WEB_SR_031_HTML.pdf

Source: 2005 to 2009 SAMHSA National Surveys on Drug Use and Health (NSDUHs).

Cessation Improves Addiction Recovery

- A 2017 nationally representative, prospective longitudinal study of long-term outcomes for substance use disorder (SUD) found that continued smoking and smoking initiation among nonsmokers were associated with significantly greater odds of SUD relapse.
- A 2012 study analyzing 9 years of prospective data from 1,185 adults in a SUD program at a private health care setting, found that stopping smoking during the first year after substance use treatment intake predicted better long-term substance use outcomes through 9 years after intake.
- A 2004 meta-analysis of 19 studies found that smoking cessation interventions provided during addictions treatment were associated with a 25% increased likelihood of long-term abstinence from alcohol and illicit drugs.

Sources: [Weinberger et al., J Clin Psychiatry, 2017](#); [Tsoh et al., Drug and Alcohol Dependence, 2011](#); [Prochaska et al., Consulting and Clinical Psychology, 2004](#).

Cessation Improves Mental Health

- A 2014 meta-analysis of 26 studies found that smoking cessation is associated with decreased depression, anxiety, and stress and improved positive mood and quality of life compared with continuing to smoke.

“The effect size seems as large for those with psychiatric disorders as those without. The effect sizes are equal or larger than those of antidepressant treatment for mood and anxiety disorders.”

Interview with the researchers:

<https://www.youtube.com/watch?v=HZgaBwimisI>



Source: [Taylor et al., BMJ, 2014](#)

SAMHSA Recommendation

Based on this research, the Substance Abuse and Mental Health Services Administration recommends the adoption of tobacco-free facility/grounds policies and the integration of tobacco treatment into behavioral healthcare.

IMPLEMENTING TOBACCO CESSATION PROGRAMS IN SUBSTANCE USE DISORDER TREATMENT SETTINGS

A QUICK GUIDE FOR PROGRAM DIRECTORS AND CLINICIANS

Coming
this year...



Effective Tobacco Cessation

- Routinely screening patients for tobacco use and encouraging every smoking patient willing to make a quit attempt to use evidence-based cessation counseling treatments and medications.
- Counseling and medication are effective when used by themselves for treating tobacco dependence. The combination of counseling and medication, however, is more effective than either alone. Thus, clinicians should encourage all individuals making a quit attempt to use both counseling and medication.
- Many may benefit from additional counseling and longer use of cessation medications as well as combination use of medications.
- Adopting and implementing a tobacco-free facility/grounds policy.

Effectiveness of First Line Smoking Cessation Medications

Results from meta-analyses comparing to placebo at 6-month postquit:

Medication	No. of Studies	OR	95% CI
Nic. Patch (6-14 wks)	32	1.9	1.7-2.2
Nic. Gum (6-14 wks)	15	1.5	1.2-1.7
Nic. Inhaler	6	2.1	1.5-2.9
Nic. Spray	4	2.3	1.7-3.0
Bupropion	26	2.0	1.8-2.2
Varenicline (1 mg/day)	3	2.1	1.5-3.0
→ Varenicline (2 mg/day)	5	3.1	2.5-3.8
→ Patch (>14 wks) + ad lib NRT (gum or spray)	3	3.6	2.5-5.2

Source: Fiore MC, Jaén CR, Baker TB, et al. Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. May 2008

Treating Tobacco Use and Dependence: 2008 Update

- U.S. Public Health Service Clinical Practice Guideline (1996, 2000, & 2008)
- The 2008 update reflects the distillation of a literature base of more than 8,700 research articles.
- Provides detailed recommendations about clinical interventions for tobacco cessation and found that *tobacco dependence treatments are effective across a broad range of populations.*

Treating Tobacco Use and Dependence: 2008 Update




<https://www.ahrq.gov/professionals/clinicians-providers/guidelines-recommendations/tobacco/index.html>

Quick Reference Guide for Clinicians (based on Treating Tobacco Use and Dependence: 2008 Update)

<https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/clinicians-providers/guidelines-recommendations/tobacco/clinicians/references/quickref/tobaqrg.pdf>

Intervention Resources: Million Hearts®

- U.S. Department of Health and Human Services (HHS) launched Million Hearts® in 2012 to reduce cardiovascular events.
- Million Hearts® has evidence-based tools and resources for tobacco cessation interventions:
<https://millionhearts.hhs.gov/tools-protocols/tools/tobacco-use.html>



Identifying and Treating Patients Who Use Tobacco

ACTION STEPS
for Clinicians

A MILLION HEARTS® ACTION GUIDE

Rx for Change: Clinician-Assisted Tobacco Cessation

- Rx for Change is a comprehensive tobacco cessation training program (<http://rxforchange.ucsf.edu>).
- Training materials are provided at no cost by the University of California, San Francisco.
- Program draws heavily from the Clinical Practice Guideline for Treating Tobacco Use and Dependence.
- The following versions are available:
 - 5 A's (comprehensive counseling)
 - Ask-Advise-Refer (brief counseling)
 - Psychiatry
 - Cardiology
 - Mental Health Peer Counselors
 - Respiratory Care
 - Surgical Care



Contact Information

Doug Tipperman, MSW

Tobacco Policy Liaison

Substance Abuse and Mental Health
Services Administration

Douglas.Tipperman@samhsa.hhs.gov

240-276-2442