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Smoking Cessation  
Leadership Center



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University of California  
San Francisco

*The Glass is Half Full: Smoking cessation for  
smokers with opioid use disorder, co-hosted by  
ATTUD*

Kimber J. Richter, PhD, MPH, NCTTP

Shadi Nahvi, MD, MS

# Moderator

**Catherine Saucedo**

Deputy Director

Smoking Cessation Leadership Center  
University of California, San Francisco

[catherine.saucedo@ucsf.edu](mailto:catherine.saucedo@ucsf.edu)



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**Shadi Nahvi, MD, MS –**

**Pfizer – Grant/Research Support**

# Thank you to our funders



Robert Wood Johnson Foundation



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Course meets the qualifications for 1.0 hour of continuing education credit for **LMFTs, LCSWs, LPCCs, and/or LEPs** as required by the California Board of Behavioral Sciences.

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- All participants will be in **listen only mode**.
- Please **make sure your speakers are on** and adjust the volume accordingly.
- If you do not have speakers, please request the dial-in via the chat box.
- **This webinar is being recorded** and will be available on SCLC's website, along with the slides.
- **Use the chat box to send questions** at any time for the presenters.

# American Association for Respiratory Care (AARC)



- Free Continuing Respiratory Care Education credits (CRCEs) are available to Respiratory Therapists who attend this live webinar
- Instructions on how to claim credit will be included in our post-webinar email

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- Licensed Clinical Social Workers (LCSWs)
- Licensed Professional Clinical Counselors (LPCCs)
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# California Behavioral Health & Wellness Initiative

For our CA residents, we are starting a new venture in CA helping behavioral health organizations go tobacco free and integrating cessation services into existing services thanks to the support of the CTCP.

Free CME/CEUs will be available for all eligible California providers, who joined this live activity. You will receive a separate post-webinar email with instructions to claim credit.

Visit [CABHWI.ucsf.edu](https://CABHWI.ucsf.edu) for more information.

# Tips® Campaign Overview

**A TIP ABOUT SECONDHAND SMOKE**

**LET FUTURE GENERATIONS KNOW THE DANGERS OF SECONDHAND SMOKE.**

Nathan, Age 54  
Ogala Sioux  
Idaho

Secondhand smoke at work triggered Nathan's severe asthma attacks and caused infections and lung damage. If you or someone you know wants free help to quit smoking, call 1-800-QUIT-NOW.

#CDCTips

**A TIP FROM A FORMER SMOKER**

It's easier to move forward when you're not short of breath.

Rebecca, age 57, Florida

Et qui vobis, nosi ritasiam niffa ga arf  
Vid qui molate non param, volokis, actio,  
sili consuet essevidet a boratibet quatio.  
Enant, et ad vobis dilemipod maion faga samam.  
Pabiam ar, suatit, vobis quociaten ritroci.  
You can quit.

**CALL 1-800-QUIT-NOW.**

#CDCTips

**A TIP FROM A FORMER SMOKER**

**BE CAREFUL NOT TO CUT YOUR STOMA.**

Shawn, Age 50, Diagnosed at 46  
Washington State

Smoking causes immediate damage to your body. For Shawn, it caused throat cancer. You can quit. For free help, call 1-800-QUIT-NOW.

1. CDC. Current Cigarette Smoking Among Adults—United States, 2005–2014.. MMWR 2015;64(44):1233–40
2. The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. Atlanta: HHS,CDC, NCCDPHP, OSH, 2014

# Introduction

**Kimber P. Richter, PhD, MPH, NCTTP**

Joy McCann Professor of Women  
in Medicine & Science, Department of  
Preventive Medicine and Public Health

University of Kansas School of Medicine

Member, ATTUD Behavioral Health  
Committee



# Presenter

**Shadi Nahvi, MD, MS**

Associate Professor  
Departments of Medicine, and of  
Psychiatry & Behavioral Sciences

Albert Einstein College of Medicine /  
Montefiore Health System





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# The glass is half full: smoking cessation for smokers with opioid use disorder

Shadi Nahvi, MD, MS  
Associate Professor  
Departments of Medicine and Psychiatry

SCLC / ATTUD Webinar  
April 2019

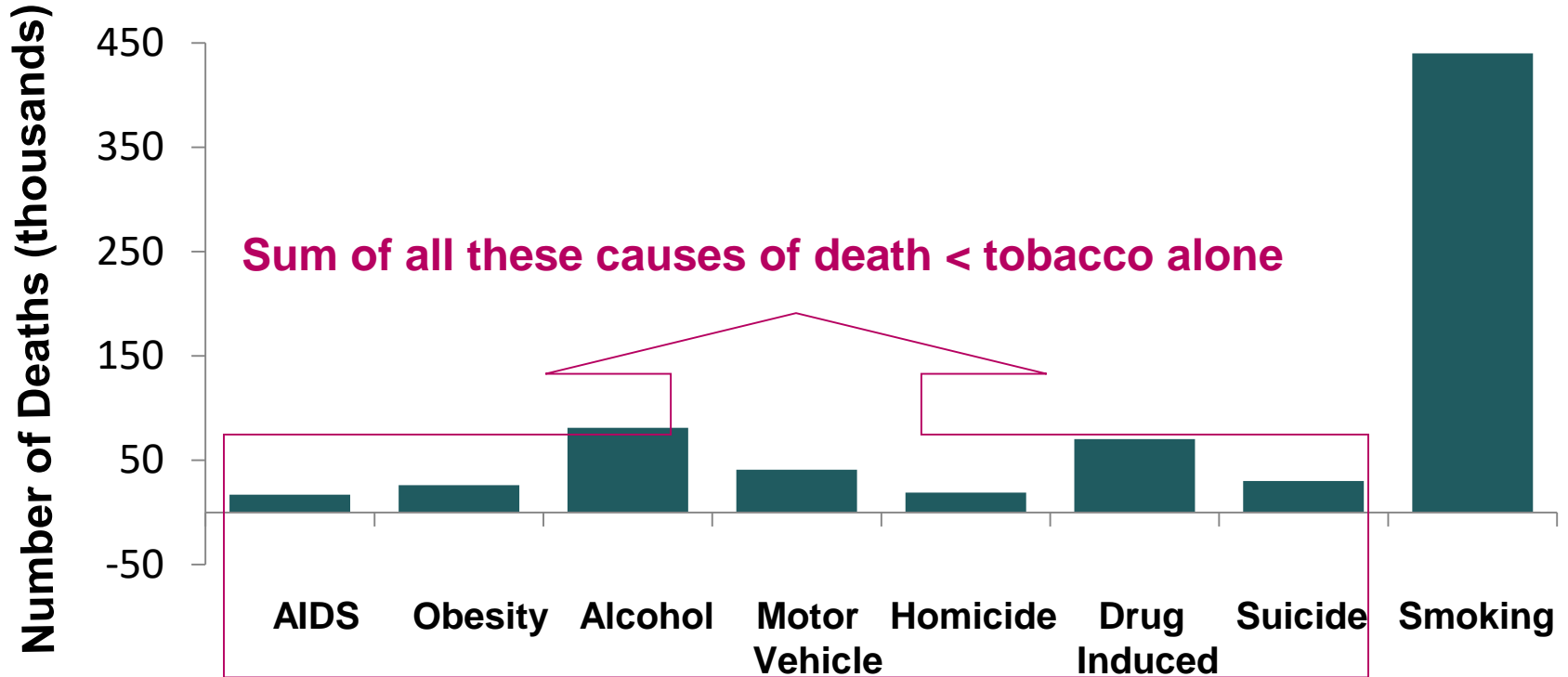
# Disclosures

- Smoking Cessation Leadership Committee/  
Pfizer Innovative Grants for Learning and  
Change (through 3/2018)
- Pfizer research support (active and placebo  
medication)

# Outline

- Health burden of tobacco use
- Evidence-based cessation treatments
- Optimizing efficacy
- Optimizing implementation

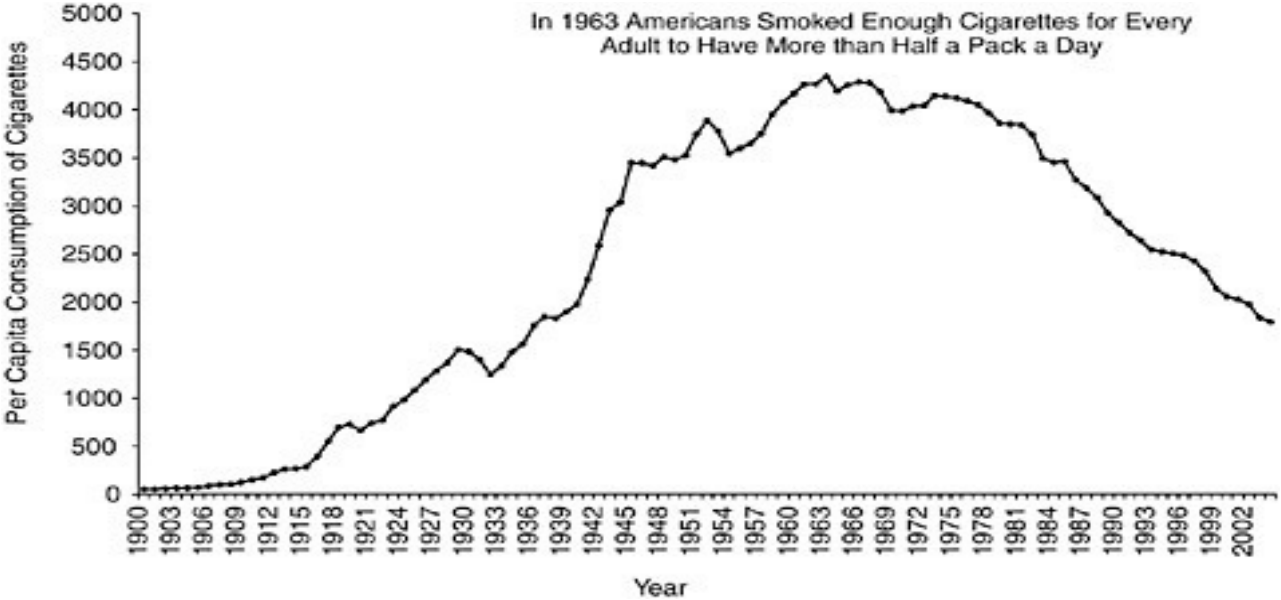
# Comparative Causes of Annual Deaths in the U.S.



Source: CDC

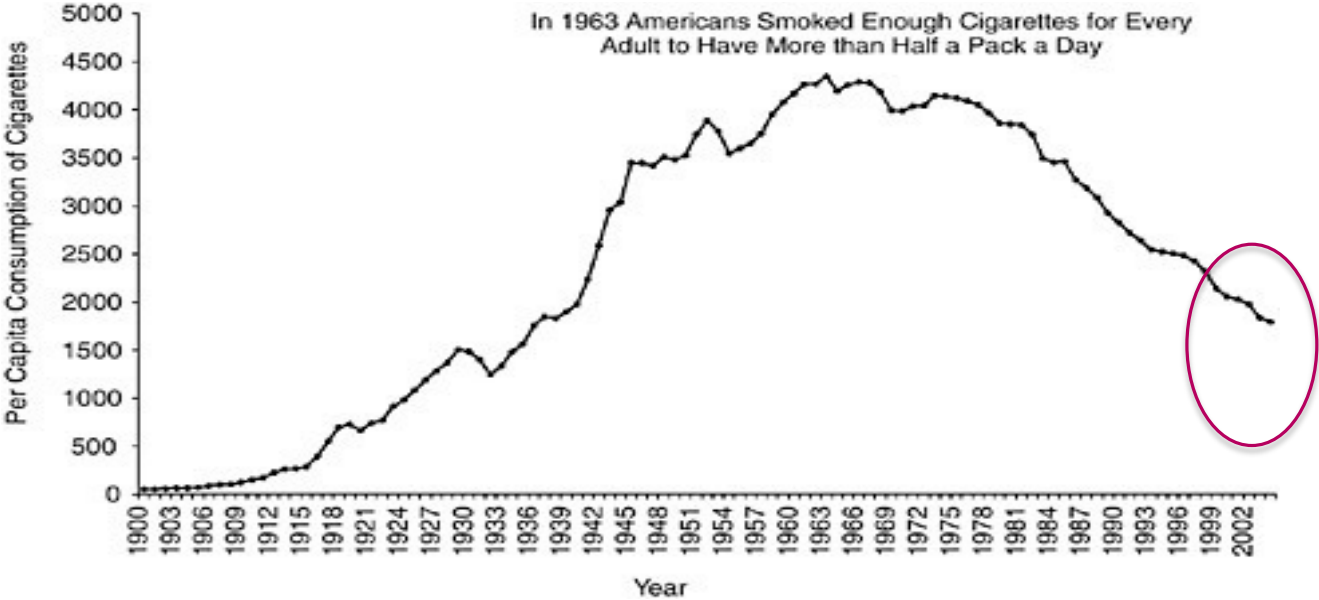


# Declining Tobacco Use



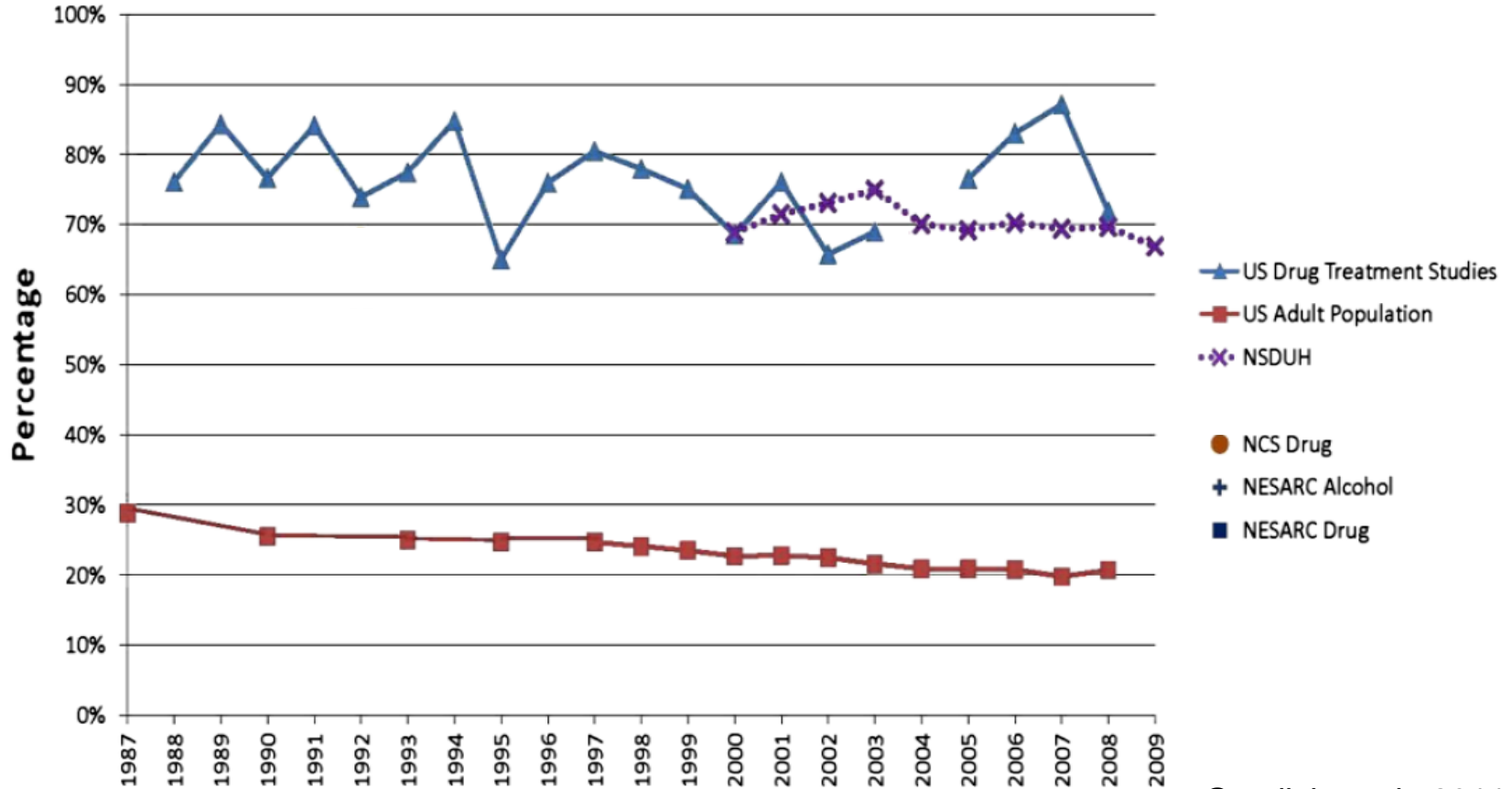
IOM, 2007

# Declining Tobacco Use

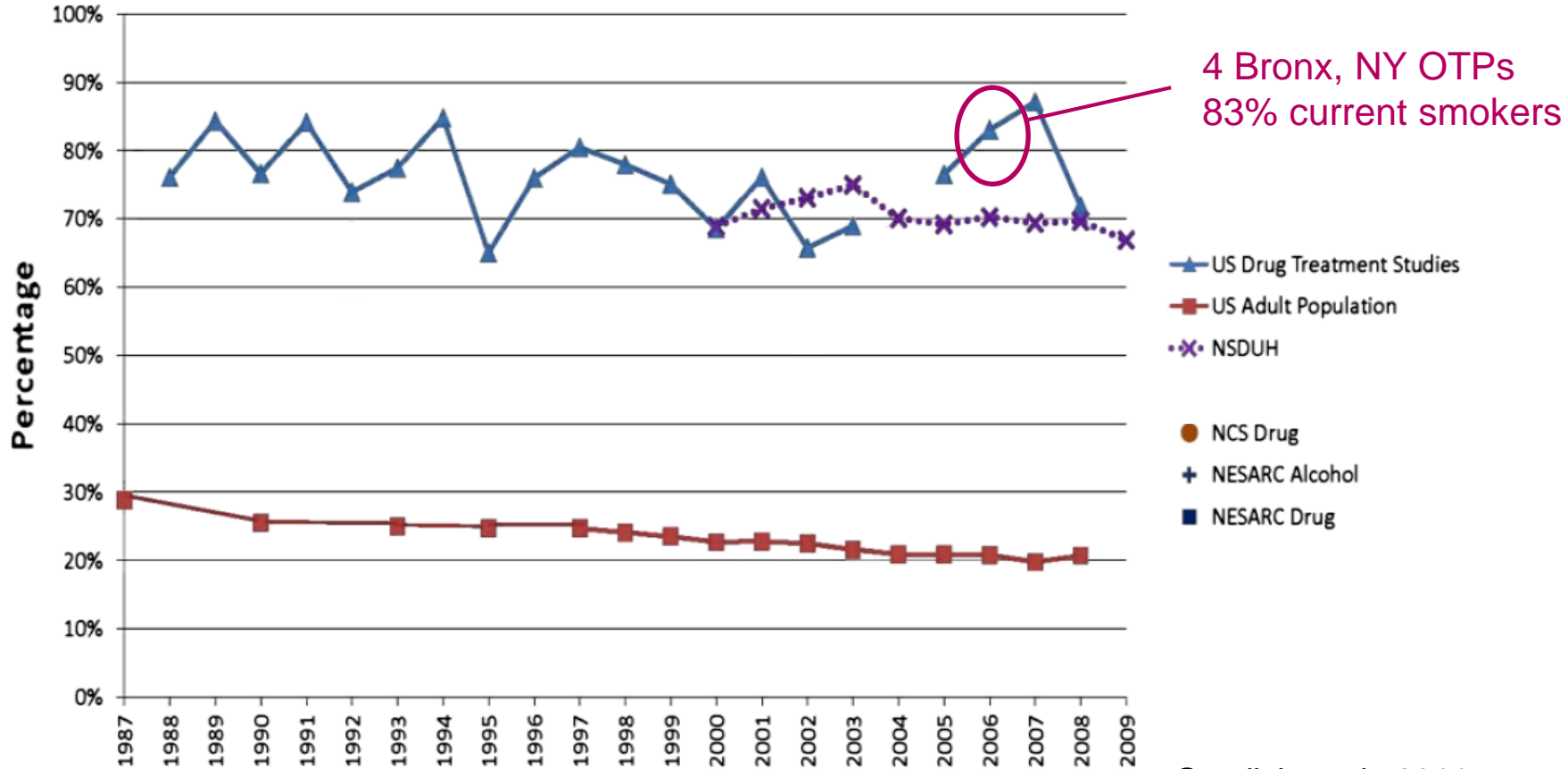


IOM, 2007

# Disproportionate Prevalence



# Disproportionate Prevalence



# Smoking threatens recovery; cessation promotes it

Study	Findings
National epidemiologic study (Weinberger et al, 2017)	Tobacco use initiation or continuation increases risk of SUD relapse
Meta analysis of 19 RCTs (Prochaska et al, 2004)	25% increased likelihood of long term abstinence from alcohol and drugs
RCT (Shoptaw et al, 2002)	Smoking cessation correlated with opiate and cocaine abstinence

# Tobacco-related mortality

- Tobacco-related illness is a major cause of death:
  - 51% died of tobacco-related causes
  - Death rate of smokers 4x that of non-smokers

Hurt et al, JAMA, 1996; Hser et al,  
Preventive Medicine, 1994



I didn't survive drugs & alcohol  
so I could die from lung cancer.

I had to stop smoking.

—SELMA

**CIGARETTES ARE MY GREATEST ENEMY**  
TOBACCO CAUSES MORE DEATHS THAN AIDS, DRUGS, BREAST CANCER AND GAY BASHING COMBINED

Supported by the American Legacy Foundation, however, this does not necessarily represent the views of the Foundation, Foundation staff, or its Board of Directors. Design: Better World Advertising (www.socialmarketing.com)

(Better World Advertising : My Greatest Enemy Campaign, 2009)

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# Outline

- Health burden of tobacco use
- Evidence-based cessation treatments
- Optimizing efficacy
- Optimizing implementation



How can we help smokers with  
opioid use disorder to quit?

# Provide evidence-based treatment

# What is the evidence base?

- In opioid agonist treatment:
  - Methadone > buprenorphine
- Smokers interested in quitting
- Behavioral and pharmacological interventions

# Brief Counseling Intervention: The 5As

**Ask** about tobacco use

**Advise** to quit

**Assess** willingness to quit

**Assist** in quit attempt

**Arrange** follow up

(Fiore et al., 2008)

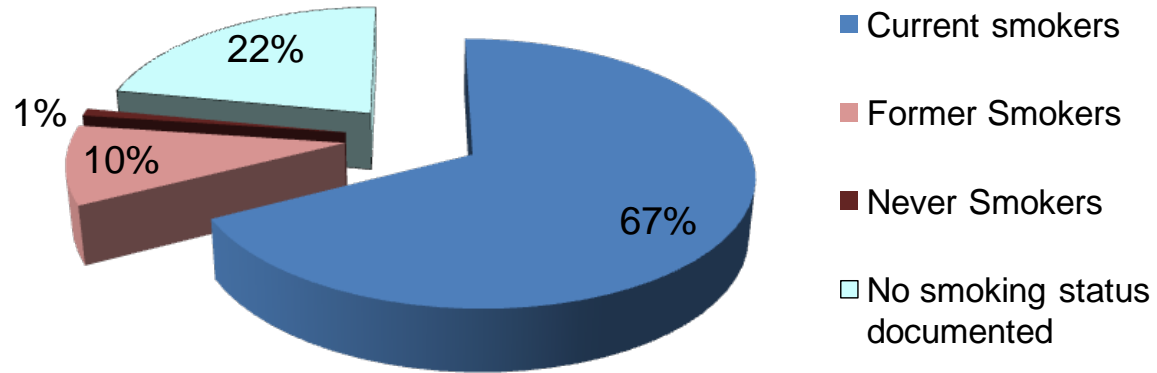
# How well are SUD treatment programs doing?

- Multiple surveys of SUD treatment programs
  - 18 - 45% of programs provide smoking cessation counseling
  - 12 - 33% of programs provide cessation pharmacotherapy
  - Number of treated patients is low
  - Declines in treatment provision over time

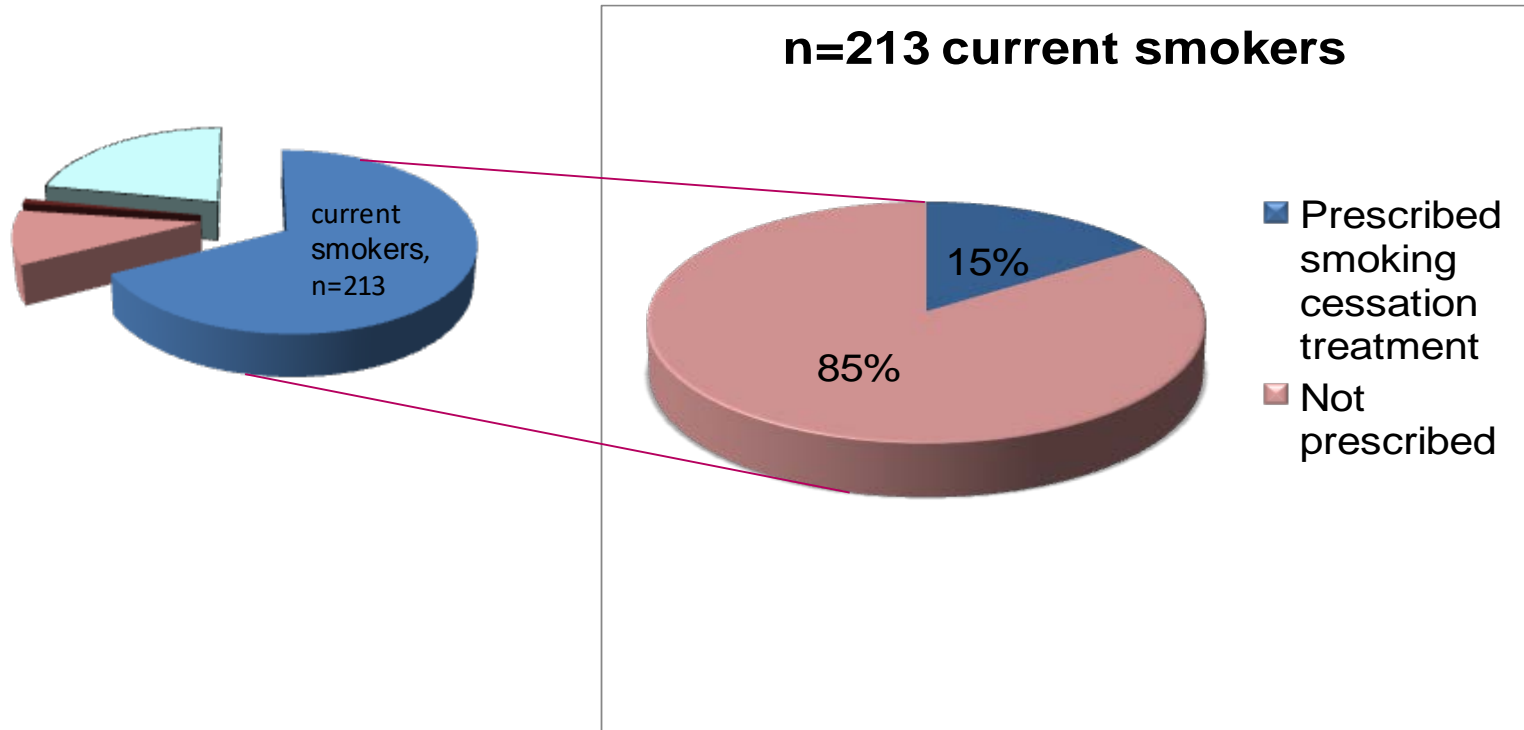
Richter et al., Psych Serv, 2004;  
Friedmann et al., JSAT, 2008; Hunt et al.,  
JSAT, 2012; Eby et al., JSAT, 2015

# Smoking status

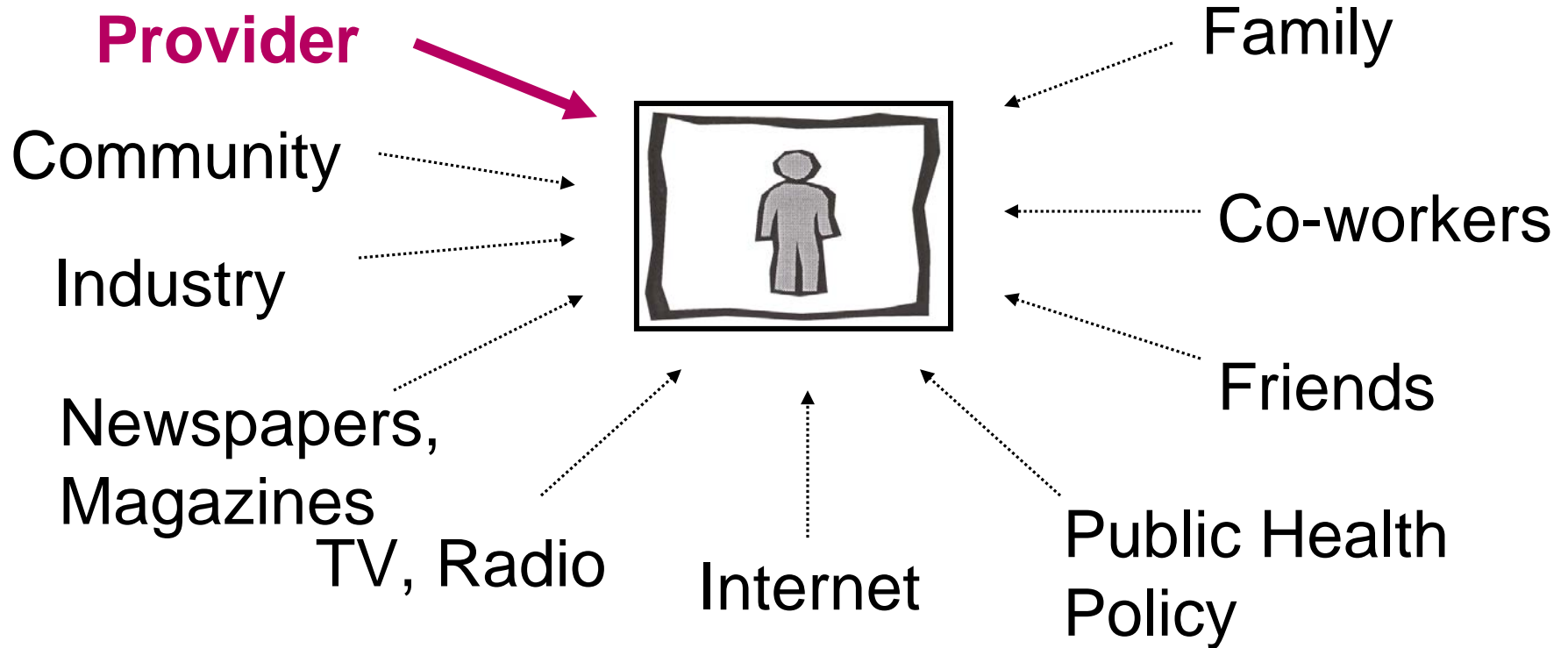
n=319 buprenorphine patients at FQHC



# Smoking cessation treatment



# If not us, who provides cessation information?





# Misperceptions about smoking cessation treatment

## Limited perceived efficacy

- Don't know that meds alleviate withdrawal symptoms and craving
- 16% agree: “helps people quit smoking”

## Overestimate the risks

- Believe that medication effects are worse than the effects of smoking



SMOKING IS A DISEASE  
**TREAT IT!**

You wouldn't let a patient with heart disease or diabetes leave your office without being treated. But every day, doctors in New York State fail to treat their patients who smoke.

**DON'T BE SILENT  
ABOUT SMOKING**  
Talk To Your Patients.org



e

THE UNIVERSITY HOSPITAL



# Provide evidence-based cessation treatment

1. Provide behavioral treatment
2. Provide pharmacotherapy

*Maria is a 56 year old woman with HIV (CD4 400s on HAART) who was recently hospitalized for pneumonia. She has never tried to quit smoking and doesn't want to stop.*

# Brief Counseling Intervention: The 5As

Ask about tobacco use

**Advise** to quit

Assess willingness to quit

Assist in quit attempt

Arrange follow up

(Fiore et al., 2008)

# Brief Counseling Intervention: The 5As

Ask about tobacco use

Advise to quit

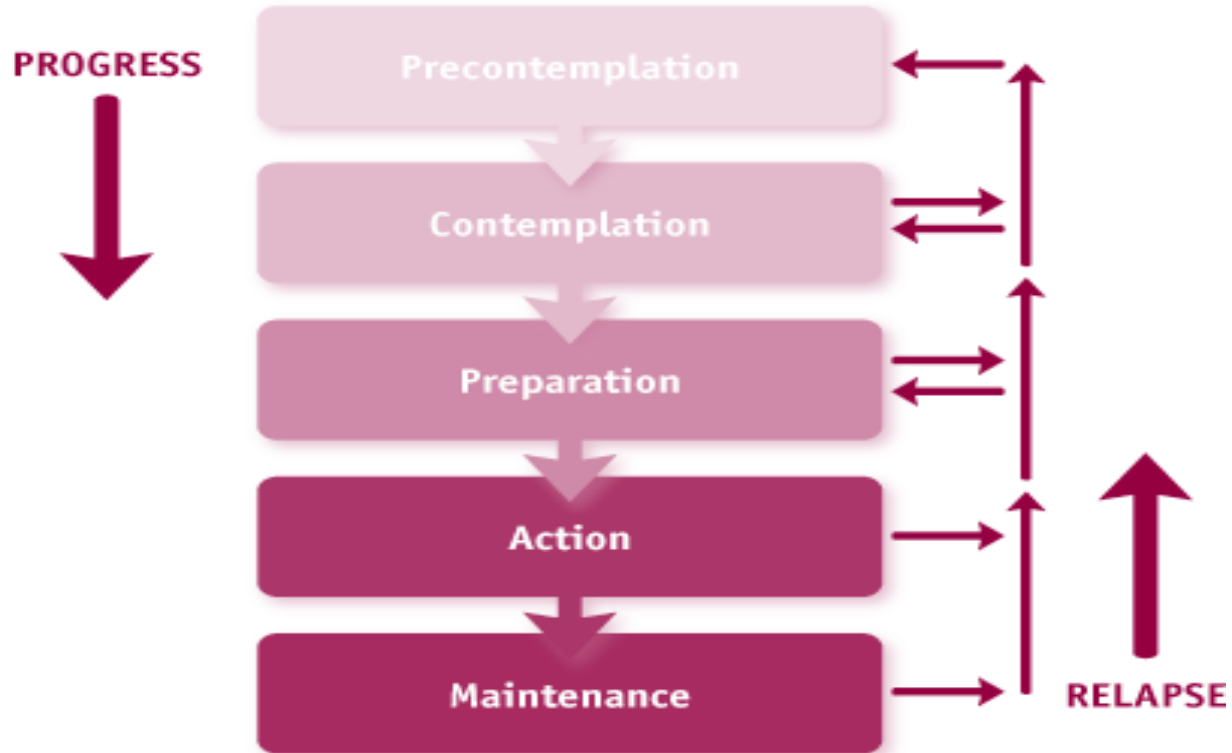
**Assess** willingness to quit

Assist in quit attempt

Arrange follow up

(Fiore et al., 2008)

# Stages of Change



# Motivational 5Rs for smokers not ready to quit

**Relevance** to quitting smoking

**Risks** associated with cont'd smoking

**Rewards** to being tobacco-free

**Roadblocks** to successfully quitting

**Repetition** of assessment



# Evidence base is limited

## Pilot Study of a Tailored Smoking Cessation Intervention for Individuals in Treatment for Opioid Dependence

Nina A. Cooperman PsyD<sup>1</sup>, Shou-En Lu PhD<sup>2</sup>, Kimber P Richter PhD<sup>3</sup>  
Steven L. Bernstein MD<sup>4</sup>, Jill M. W

## A smoking cessation intervention for the methadone-maintained

Michael D. Stein, Marjorie C. Weinstock, Debra S. Herman, Bradley J. Anderson,  
Jennifer L. Anthony & Raymond Niaura<sup>1</sup>

## Cigarette Smoking Cessation Intervention for Buprenorphine Treatment Patients

Sharon M. Hall PhD<sup>1</sup>, Gary L. Humfleet PhD<sup>1</sup>, James J. Gasper Pharm D<sup>2</sup>,  
Kevin L. Delucchi PhD<sup>1</sup>, David F. Hersh MD<sup>3</sup>, Joseph R. Goydish PhD<sup>4</sup>

Brown University Medical School, Providence, RI, USA

# Smoking reduction

- Enhance cessation
  - $\geq 50\%$  reduction: predictor of cessation
- Improve health
  - Decreased cardiovascular risk
  - Decreased respiratory symptoms
  - Decreased lung cancer risk
- Engage smokers not yet ready to quit

# Remaining questions

- Best strategies to reduce tobacco use?
- Can reductions be sustained?
- Compensatory smoking?
- Can we reduce toxicant exposure and harm?

*Maria has been hospitalized multiple times for pneumonia. She comes in with a productive cough x 3 days. She is sick of smoking and wants to stop.*

# Provide evidence-based cessation treatment

1. Provide behavioral treatment
2. Provide pharmacotherapy

# Brief Counseling Intervention: The 5As

**Ask** about tobacco use

**Advise** to quit

**Assess** willingness to quit

**Assist** in quit attempt

**Arrange** follow up

Brief (3 minute) counseling increases cessation success by 30%

(Fiore et al., 2008)

# Brief Counseling Intervention: The 5As

**Ask** about tobacco use

**Advise** to quit

**Assess** willingness to quit

**Assist** in quit attempt

**Arrange** follow up

Dose response between number of clinician types offering counseling and cessation success (Fiore et al., 2008)

# Counselors



- Frequent patient contact
- Skills to address substance use disorders



# Patient Referral Services: Telephone Counseling

- **Quitline efficacy** (Stead et al., Cochrane Library, 2007)
  - Multiple calls: OR 1.41 (1.27-1.57) increase in successful quit attempts
  - Efficacy for long term cessation
  - Effective at reaching racial/ethnic minority smokers
- **Services:**
  - Free telephone counseling in English, Spanish & other languages
  - Free Nicotine Replacement Therapy (NRT)
  - Referrals to local counseling & cessation programs
  - Free educational materials

**1-800-QUIT-NOW**

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# No cessation with low intensity counseling

## **Pilot Study of a Tailored Smoking Cessation Intervention for Individuals in Treatment for Opioid Dependence**

Nina A. Cooperman PsyD<sup>1</sup>, Shou  
Steven L. Bernstein MD<sup>4</sup>, Jill M.

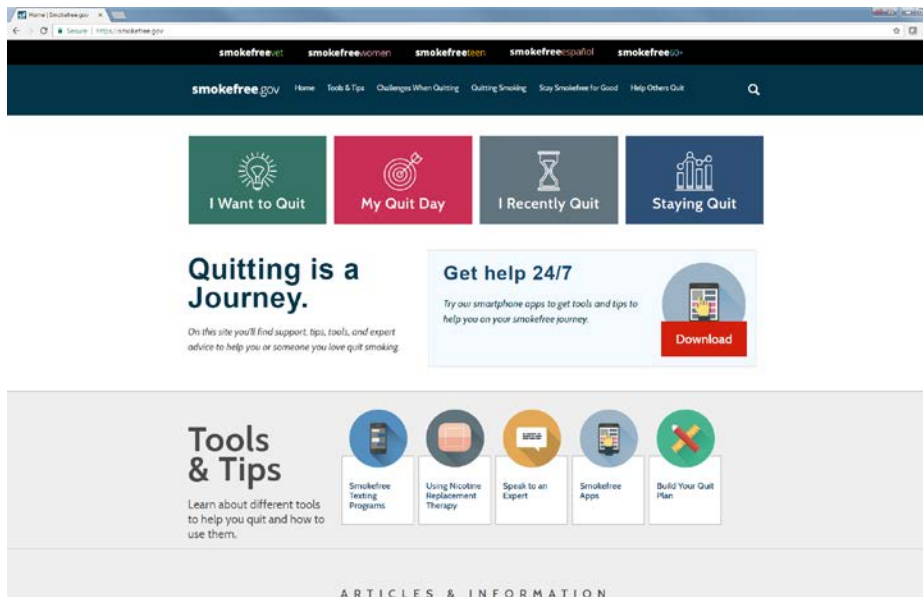
## **Varenicline efficacy and safety among methadone maintained smokers: a randomized placebo-controlled trial**

Shadi Nahvi<sup>1,2</sup>, Yuming Ning<sup>1</sup>, Kate S. Segal<sup>1</sup>, Kimber P. Richter<sup>3</sup> & Julia H. Arnsten<sup>1,2,4</sup>

## **Cigarette Smoking Cessation Intervention for Buprenorphine Treatment Patients**

Sharon M. Hall PhD<sup>1</sup>, Gary L. Humfleet PhD<sup>1</sup>, James J. Gasper Pharm D<sup>2</sup>,  
Kevin L. Delucchi PhD<sup>1</sup>, David F. Hersh MD<sup>3</sup>, Joseph R. Goydish PhD<sup>4</sup>

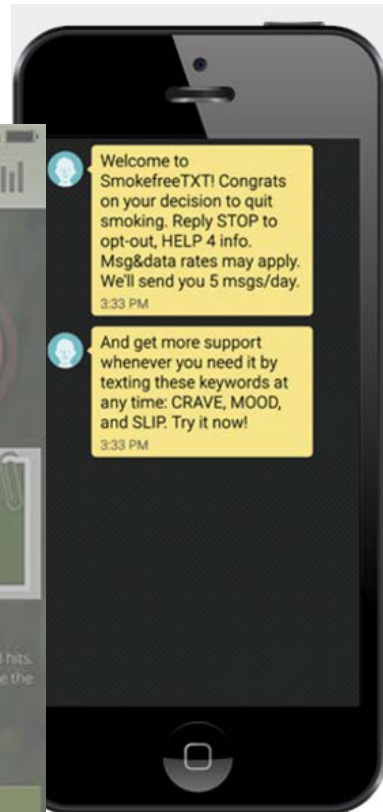
# mHEALTH?



The screenshot shows the smokefree.gov website. At the top, there are navigation links for smokefree.gov, smokefree.women, smokefree teen, smokefree español, and smokefree. Below this is a search bar and a navigation menu with links for Home, Tools & Tips, Challenges When Quitting, Quitting Smoking, Stay Smokefree for Good, and Help Others Quit. The main content area features four colored buttons: 'I Want to Quit' (green), 'My Quit Day' (red), 'I Recently Quit' (grey), and 'Staying Quit' (blue). Below these is a section titled 'Quitting is a Journey.' with a sub-heading 'Get help 24/7' and a 'Download' button. A 'Tools & Tips' section follows, with a sub-heading 'Learn about different tools to help you quit and how to use them.' and five icons representing different resources: Smokefree Texting Programs, Using Nicotine Replacement Therapy, Speak to an Expert, Smokefree Apps, and Build Your Quit Plan. At the bottom, there is a section for 'ARTICLES & INFORMATION'.

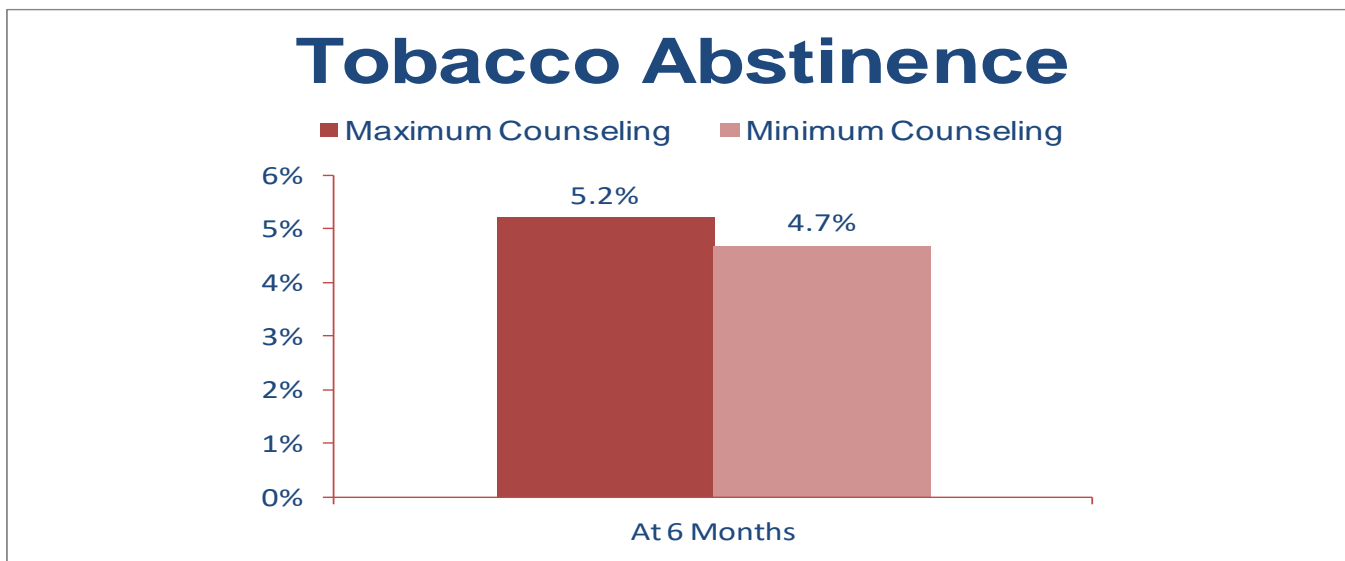


The screenshot shows the 'Quit Guide' app interface. At the top, it displays '23 DAYS SMOKEFREE'. Below this are two circular buttons: 'I WAS Smokefree TODAY!' (blue) and 'I Slipped.' (red). The 'MY REASON FOR QUITTING' section has a text input field with the placeholder 'Write a message here that will remind you what your reason is for quitting'. Below this is a 'Quitism' section with the text 'Love your phone? Pick it up when a craving or bad mood hits. Talking or texting a friend for advice or just to vent can be the release you need.' At the bottom, there are two buttons: 'Track My Craving' (orange) and 'Manage My Mood' (green).



# Modest effects of motivational counseling

n=383 methadone maintenance patients



# Modest effects of motivational counseling

## **Pilot Study of a Tailored Smoking Cessation Intervention for Individuals in Treatment for Opioid Dependence**

Nina A. Cooperman PsyD<sup>1</sup>, Shou-En Lu PhD<sup>2</sup>, Kimber P. Richter PhD<sup>3</sup>,  
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Kevin L. Delucchi PhD<sup>1</sup>, David F. Hersh MD<sup>3</sup>, Joseph R. Guydish PhD<sup>4</sup>

# Contingency management

## Smoking cessation in methadone maintenance

Steve Shoptaw<sup>1,2</sup>, Erin Rotheram-Fuller<sup>1</sup>, Xiaowei Yang<sup>4</sup>, Dominick Frosch<sup>1,3</sup>, Debbie Nahom<sup>1</sup>, Murray E. Jarvik<sup>1,2</sup>, Richard A. Rawson<sup>1,2</sup> & Walter Ling<sup>1,2</sup>

## Financial incentives to promote extended smoking abstinence in opioid-maintained patients: a randomized trial

Stacey C. Sigmon<sup>1,2,3</sup>, Mollie E. Miller<sup>1,3</sup>, Andrew C. Meyer<sup>1,2</sup>, Kathryn Saulsgiver<sup>5</sup>, Gary J. Badger<sup>4</sup>, Sarah H. Heil<sup>1,2,3</sup> & Stephen T. Higgins<sup>1,2,3</sup>

- Potent short-term effects
- Effects not maintained

# Remaining questions

- Potency
- Adherence
- Scaling

# Provide evidence-based cessation treatment

1. Provide behavioral treatment
2. Provide pharmacotherapy



# Tobacco Cessation Medications: first line

## Nicotine Replacement

- Patch\*
- Gum\*
- Lozenge\*
- Nasal Spray
- Inhaler

## Oral agents

- Bupropion SR (Zyban)
- Varenicline (Chantix)

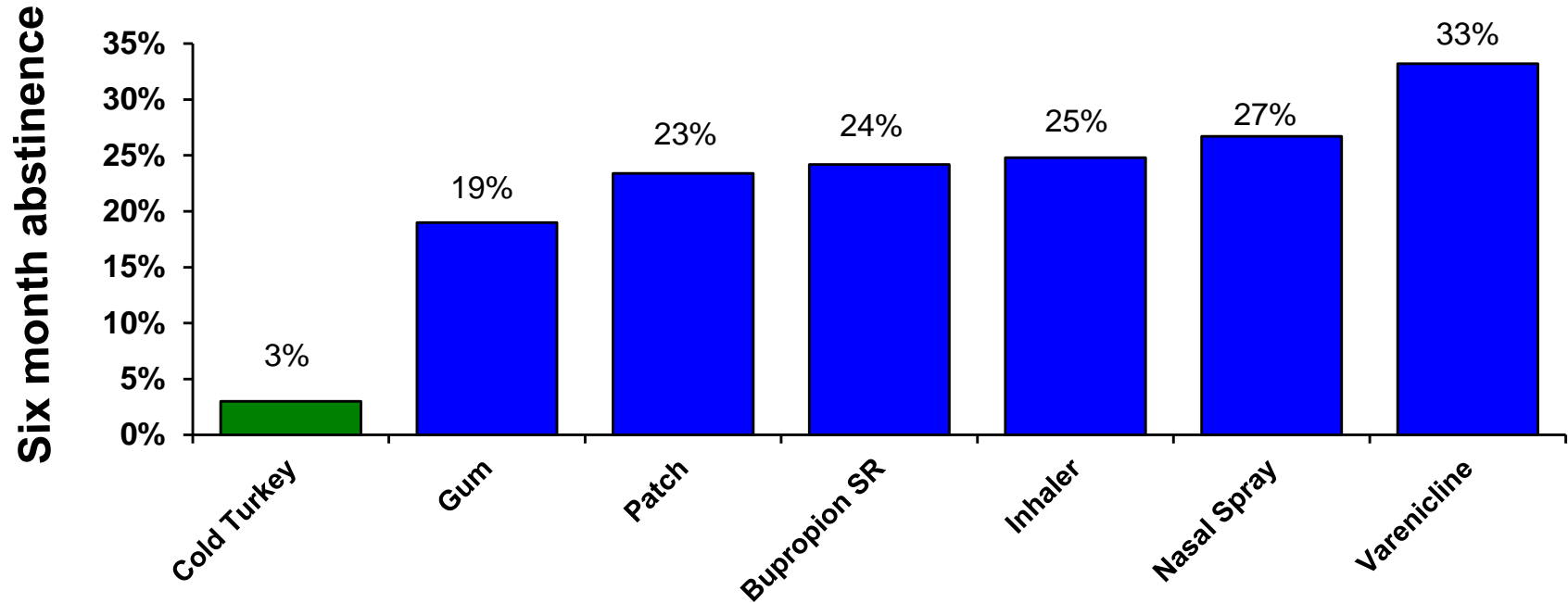
\* Available OTC

*“I don’t want to try medications.  
I know I can do this on my own.”*

# Cold Turkey

- 72% of quit attempts are without treatment
- 3-5% of self quitters achieve prolonged abstinence
- Most relapse within 8 days

# Tobacco Abstinence Rates



Cigarettes are the most  
addictive drugs of abuse

*“The experience of smoking for me, when I’m jonesing and I take in that first hit, it’s like scratching an itch. It’s like taking a drink on a really thirsty day. It’s like taking a breath of air when you’ve had your head under water and you pop back up.”*

Richter et al, 2002

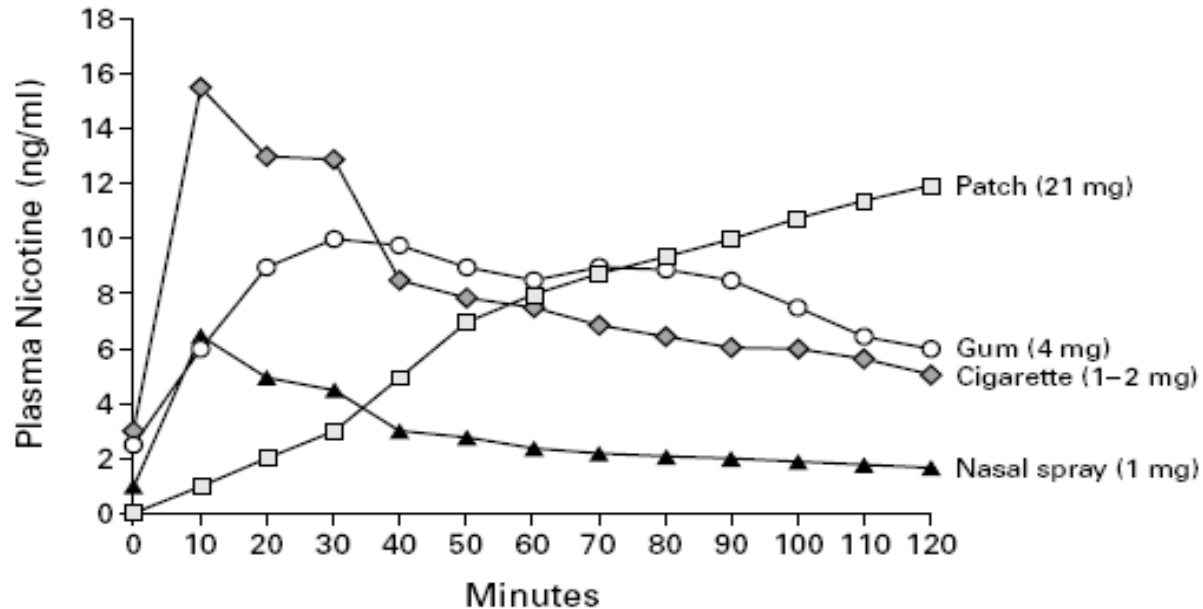
# Withdrawal Symptoms

- Headaches
- Drowsiness
- Depression
- Hunger
- Anxiety
- Irritability
- Poor concentration
- Restlessness
- Craving






*“I’ve tried patches and nicotine gum before. They didn’t work for me.”*



# Plasma Nicotine Levels



# Nicotine Replacement Therapy

		Dosage	Duration	Coverage
Patch		21 mg / 24 hours 14 mg / 24 hours 7 mg / 24 hours	4 weeks 2 weeks 2 weeks	OTC Medicaid Medicare
Gum		≥25 cigs/d: 4 mg 1-24 cigs/d: 2 mg <i>1-2 pieces/hr (max 24/d)</i>	Up to 12 weeks	OTC Medicaid
Lozenge		1 <sup>st</sup> daily cig < 30 min: 4 mg 1 <sup>st</sup> daily cig > 30 min: 2 mg <i>1-2 pieces/hr (max 20/d)</i>	Up to 12 weeks	OTC
Oral inhaler		10 mg (delivers 4 mg) <i>6-16 cartridges/d</i>	Up to 6 months	Medicaid Medicare
Nasal spray		0.5 mg/spray <i>8-40 doses/d</i>	3-6 months	Medicaid Medicare

# Comparison of Nicotine Replacement Therapies



No differences in

- withdrawal discomfort
- urges to smoke
- abstinence

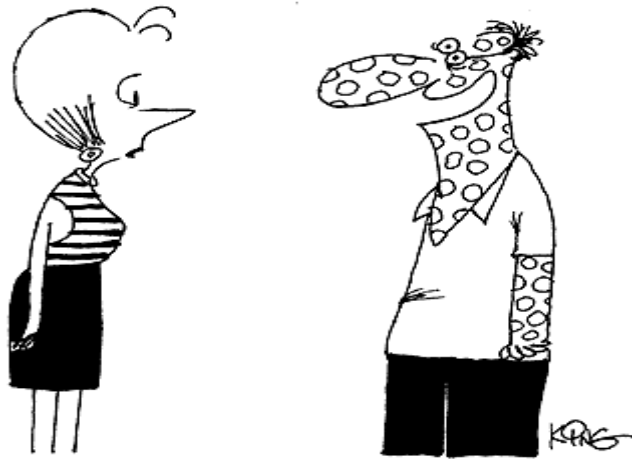
Adherence:

- High: patch
- Low: gum
- Very low: nasal spray, inhaler

# Combination NRT

	OR cessation	95% confidence interval
High vs. standard patch dose	1.21	1.03 - 1.42
Combination NRT (patch ± other agents)	1.42	1.14 - 1.76

Clinically modest but statistically significant benefit over standard dose NRT alone



**"It took 279 nicotine patches, but I  
no longer have the urge to smoke."**

Bupropion	Multiple potential mechanisms of action	Reduction of withdrawal symptoms, craving
Varenicline	Partial agonist of alpha-4 beta-2 nicotinic receptors	Partial agonism → decreased craving and withdrawal sx's Blocks nicotine binding → prevents reinforcing effects

	Dosage	Duration	Coverage
Bupropion SR	1-2 weeks prior to quit date: 150 mg qAM x 3d, then 150 mg BID	7-12 weeks, up to 6 months	Medicaid Medicare
Varenicline	1 week prior to quit date: 0.5 mg daily x 3 d, then 0.5 mg BID x 4 d, then 1 mg BID	3-6 months	Medicaid Medicare



Contents lists available at ScienceDirect

## Drug and Alcohol Dependence

journal homepage: [www.elsevier.com/locate/drugalcdep](http://www.elsevier.com/locate/drugalcdep)



### Review

Selection criteria limit generalizability of smoking pharmacotherapy studies differentially across clinical trials and laboratory studies: A systematic review on varenicline

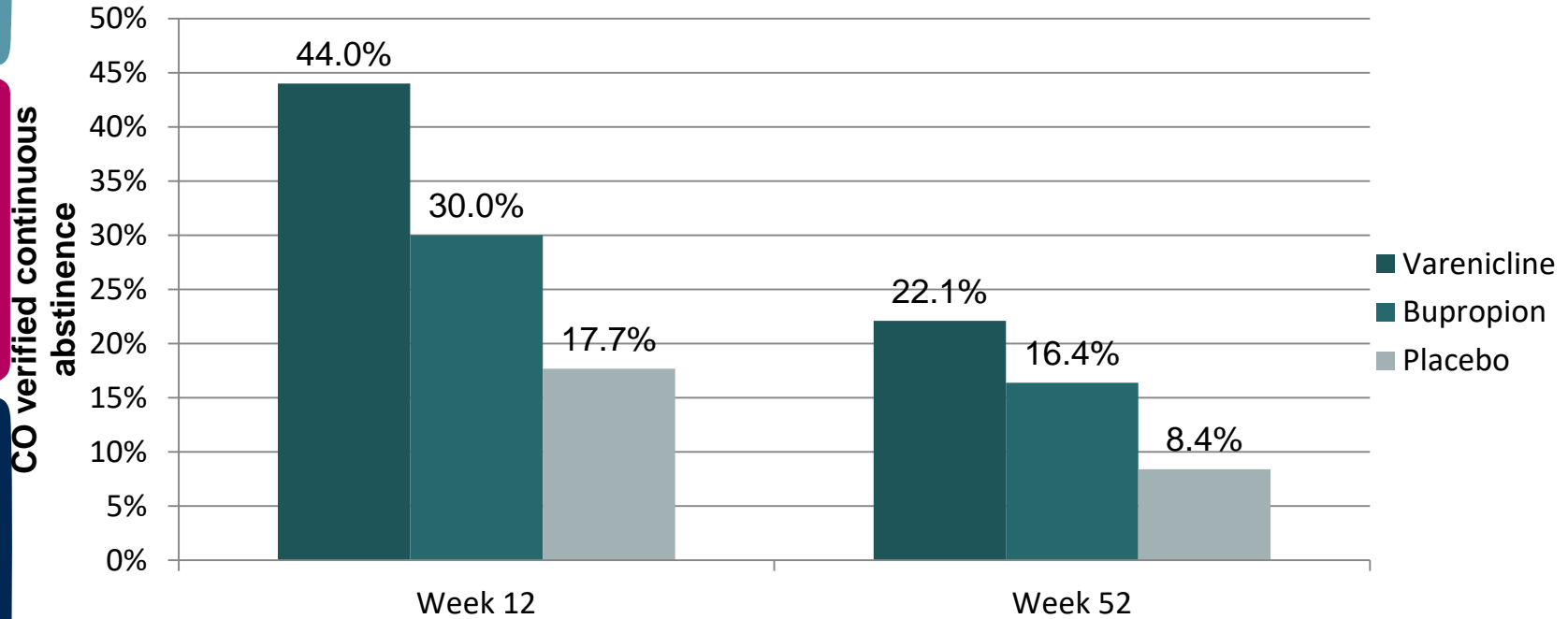


Courtney A. Motschman<sup>a</sup>, Julie C. Gass<sup>a</sup>, Jennifer M. Wray<sup>a,b</sup>, Lisa J. Germeroth<sup>a</sup>, Nicolas J. Schlienz<sup>a,c</sup>, Diana A. Munoz<sup>a</sup>, Faith E. Moore<sup>a,d</sup>, Jessica D. Rhodes<sup>a,e</sup>, Larry W. Hawk<sup>a</sup>, Stephen T. Tiffany<sup>a,\*</sup>

Common eligibility criteria  
eliminate ~50% of daily smokers

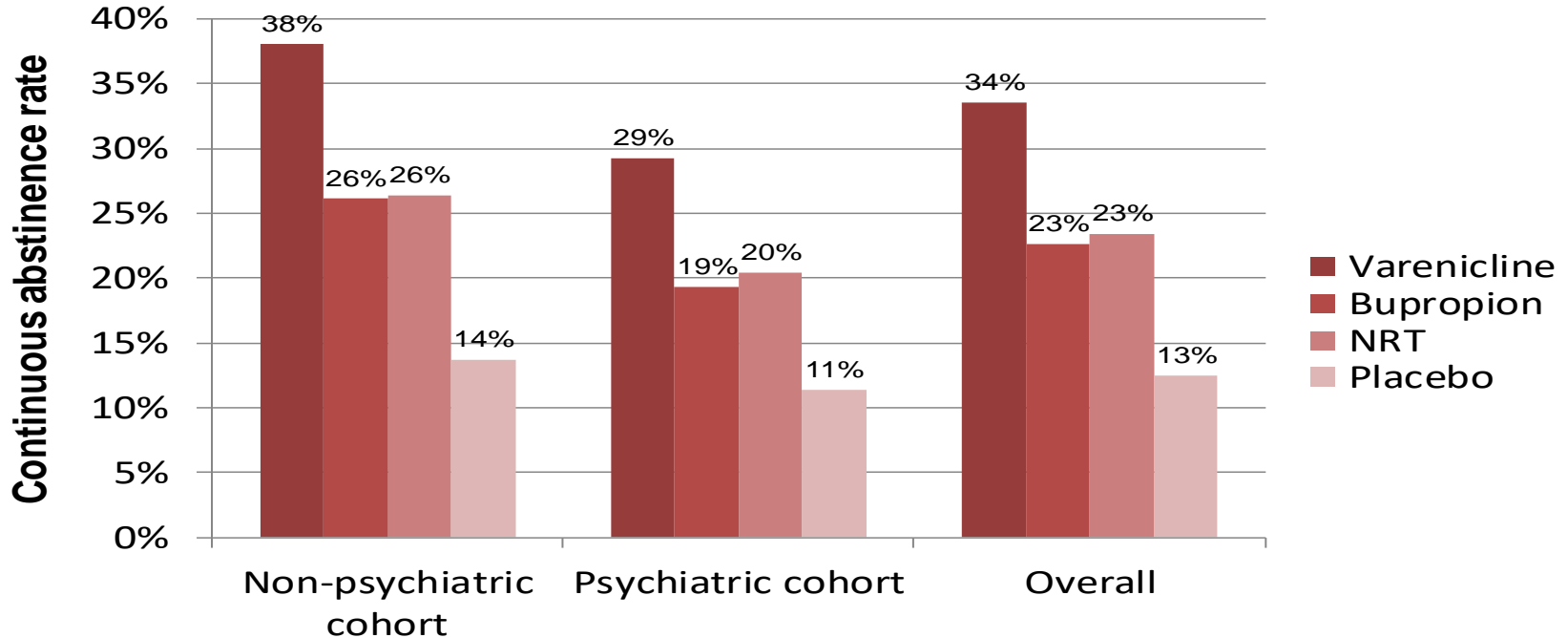


# Efficacy of Varenicline v. Bupropion v. Placebo



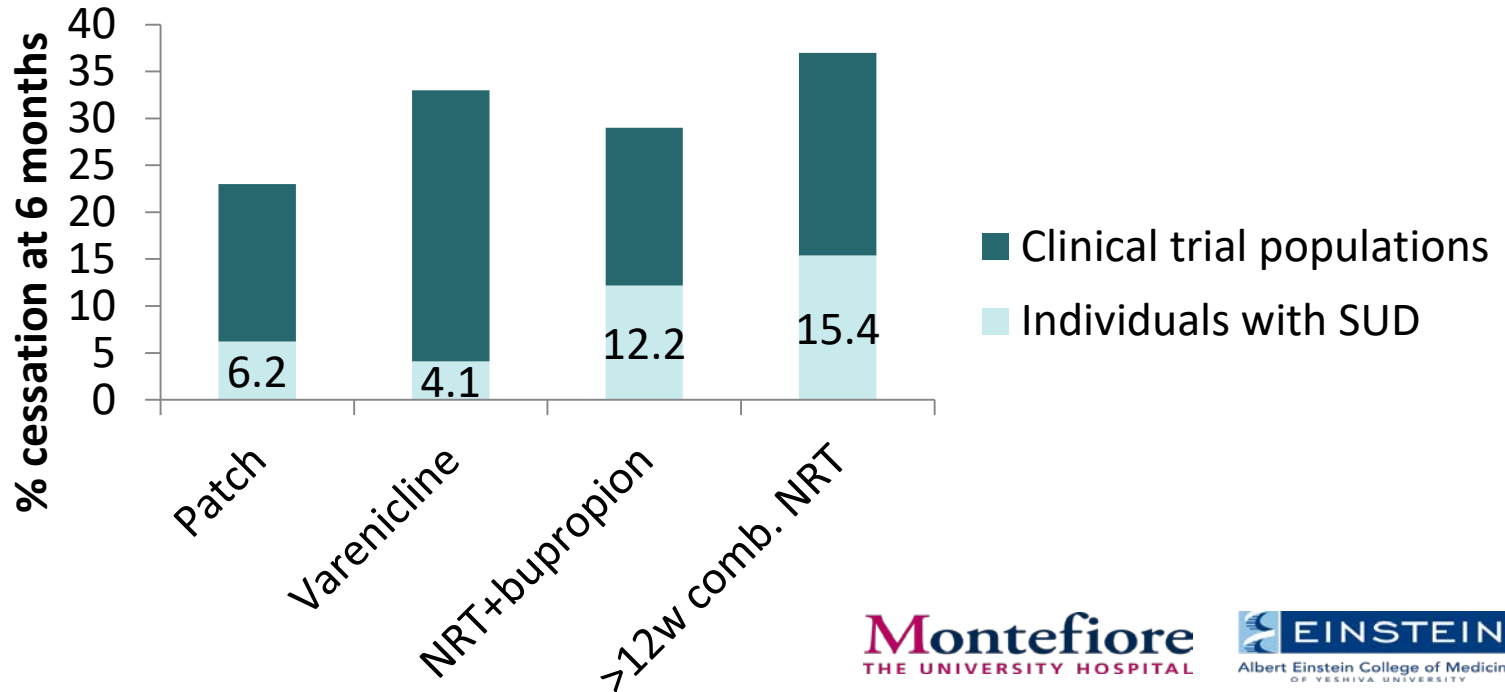
(Jorenby et al, 2006; Gonzalez et al, 2006)

# Pharmacotherapy efficacy, EAGLES trial



Anthenelli et al., Lancet, 2016

# Tobacco abstinence rates



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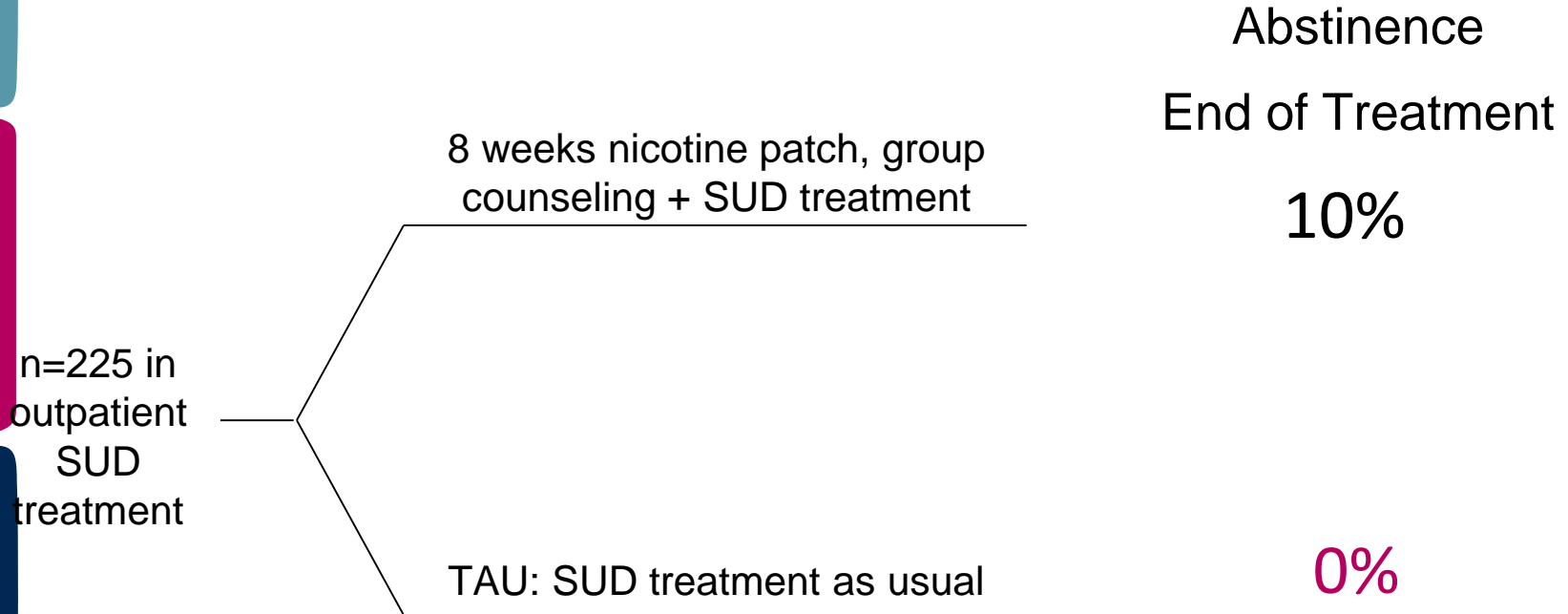
Commentary

## **Are Pharmacotherapies Ineffective in Opioid-Dependent Smokers? Reflections on the Scientific Literature and Future Directions**

Mollie E. Miller PhD,<sup>1</sup> Stacey C. Sigmon PhD<sup>2,3,4</sup>

Treatments help

# No cessation without treatment



Reid, JSAT, 2008

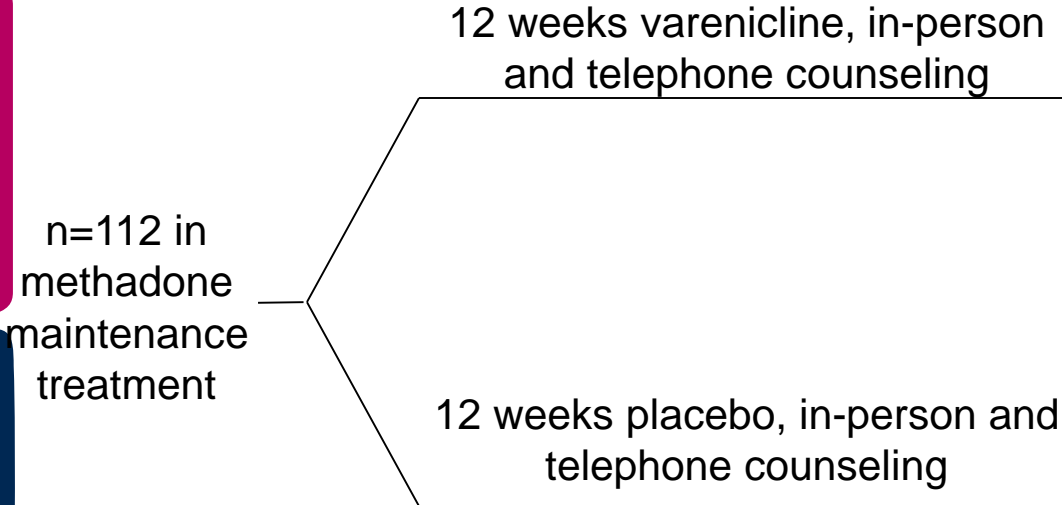
# No cessation without treatment

Abstinence

End of Treatment

10.5%

0%



Treatments help,  
but effects are modest



# Cessation effects are modest

Abstinence

End of Treatment

10%

0%

n=225 in  
outpatient  
SUD  
treatment

8 weeks nicotine patch, group  
counseling + SUD treatment

TAU: SUD treatment as usual

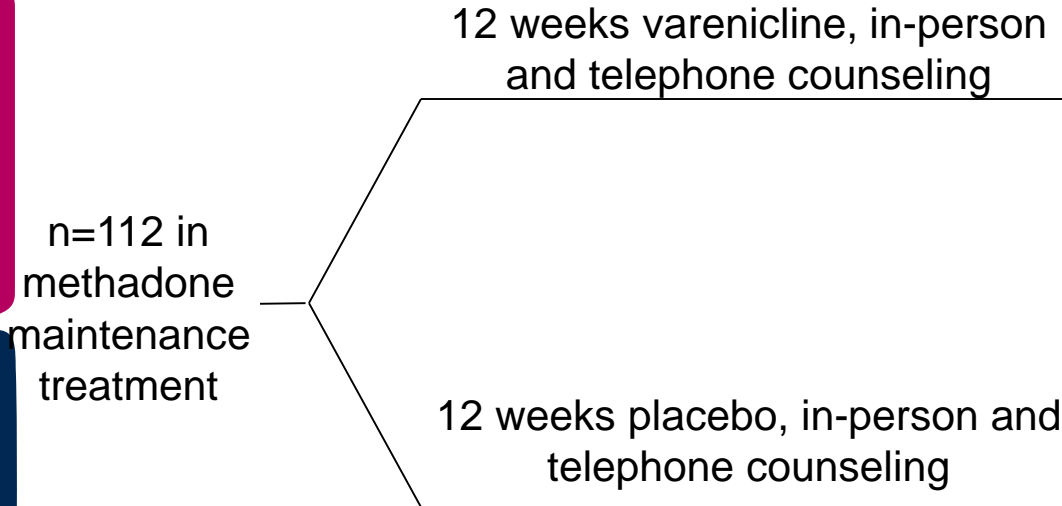
# Cessation effects are modest

Abstinence

End of Treatment

10.5%

0%



# Treatment emergent adverse effects, n (%)

	Varenicline n = 57	Placebo n = 55	p value*
Change in taste	18 (32)	14 (25)	
Dry mouth	27 (47)	23 (45)	
Change in appetite	29 (51)	18 (35)	
Nausea	29 (51)	14 (27)	.01
Vomiting	11 (19)	8 (16)	
Gas	19 (33)	15 (29)	
Constipation	23 (40)	9 (18)	.01
Headache	11 (19)	18 (35)	
Insomnia	15 (26)	13 (24)	
Vivid/frequent dreams	18 (32)	22 (43)	

\* p ≥ .05 except as indicated

# Psychiatric outcomes, n (%)\*

	Varenicline n = 57	Placebo n = 55
Incident major depressive episode	2 (4)	1 (2)
Incident manic episode	0	0
Incident psychotic disorder	1 (2)	3 (6)
Suicidal ideation	3 (5)	4 (8)

\*  $p \geq .05$  for comparison between groups

# EAGLES trial neuropsychiatric outcomes

RCT, n=8144 (4116 psychiatric cohort, 4028 non-psychiatric cohort)

**Moderate - severe neuropsychiatric adverse events (psychiatric cohort)**

- Varenicline 6.5%
- Bupropion 6.7%
- Nicotine patch 5.2%
- Placebo 4.9%

Varenicline – placebo risk difference 1.59 (95% CI -0.42 to 3.59)

Varenicline – nicotine patch risk difference 1.22 (95% CI -0.81 to 3.25)

# Outline

- Health burden of tobacco use
- Evidence-based cessation treatments
- **Optimizing efficacy**
- Optimizing implementation

Why are cessation rates so low?

# Why are cessation rates so low?

Systems  
↑  
↓  
Patients

Limited treatment provision

Limited social support

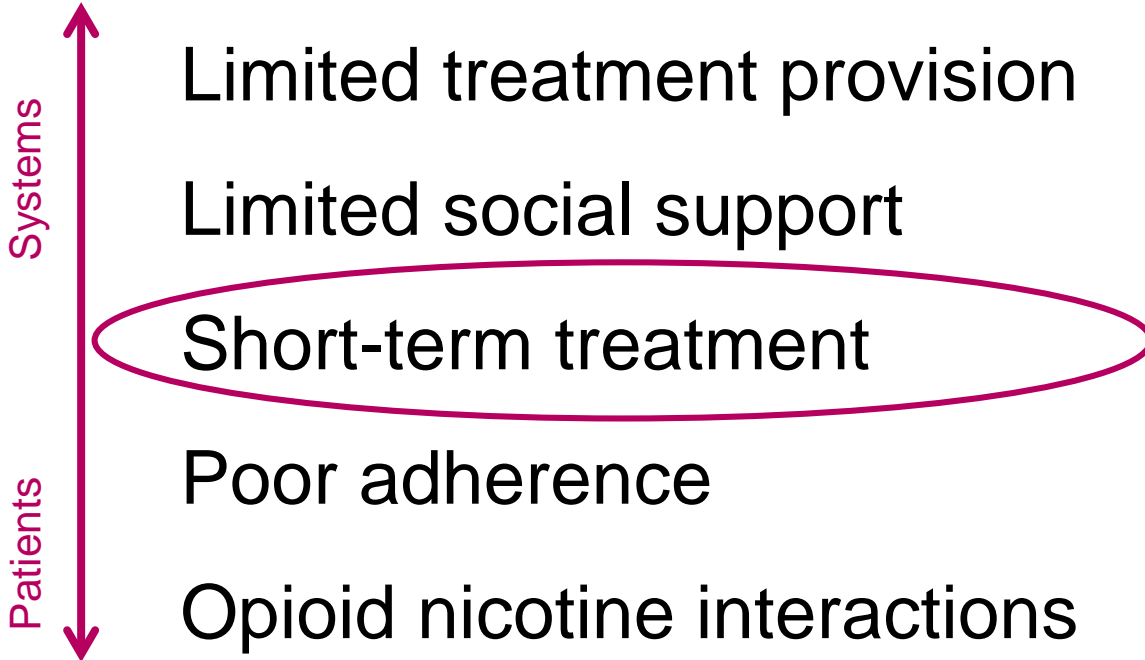
Short-term treatment

Poor adherence

Opioid nicotine interactions



# Why are cessation rates so low?

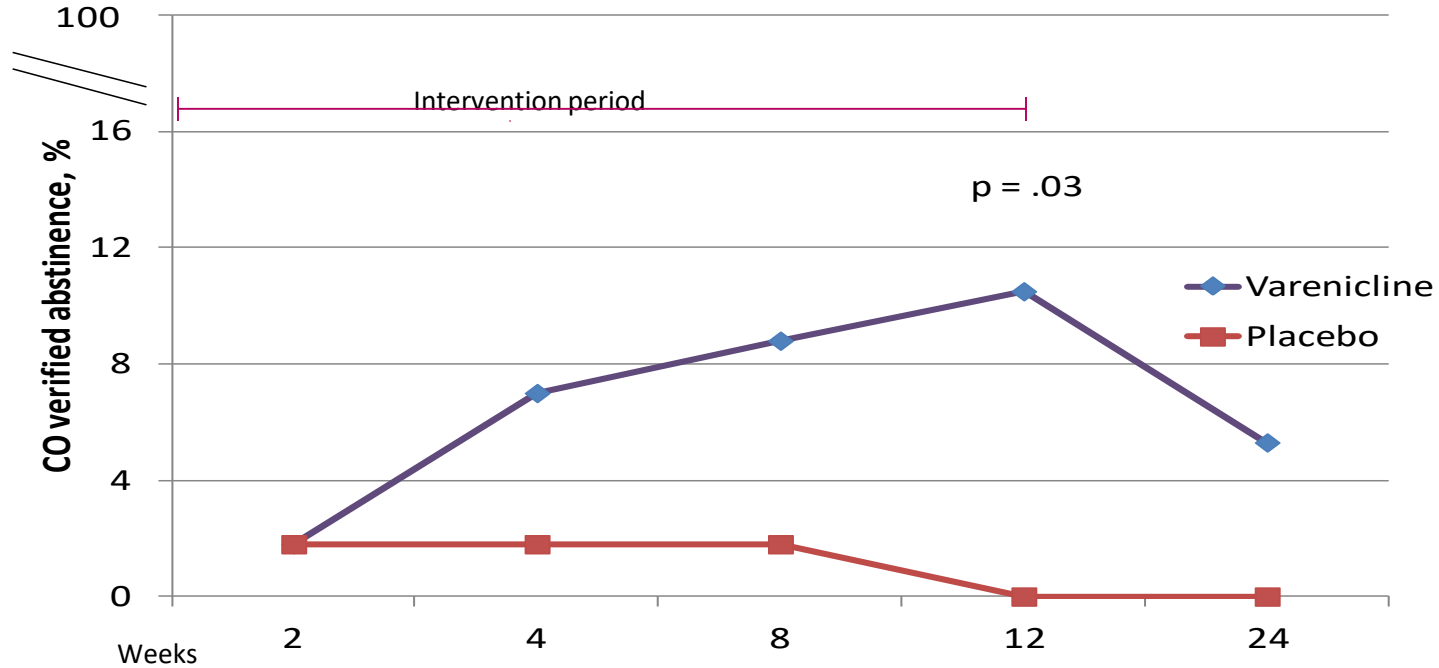


Short-term treatments may be  
inadequate

# Limited initial abstinence

- Establishing initial abstinence is a critical prerequisite of long-term cessation
- 35% made initial quit attempt

# Limited initial abstinence



# Pre-cessation patch treatment

- Meta-analysis of 4 studies comparing patch prior to target quit date v patch on quit date
- Pre-cessation patch doubled odds of quitting:

	OR	95% CI
6 weeks	1.96	1.31–2.93
6 months	2.17	1.46–3.22

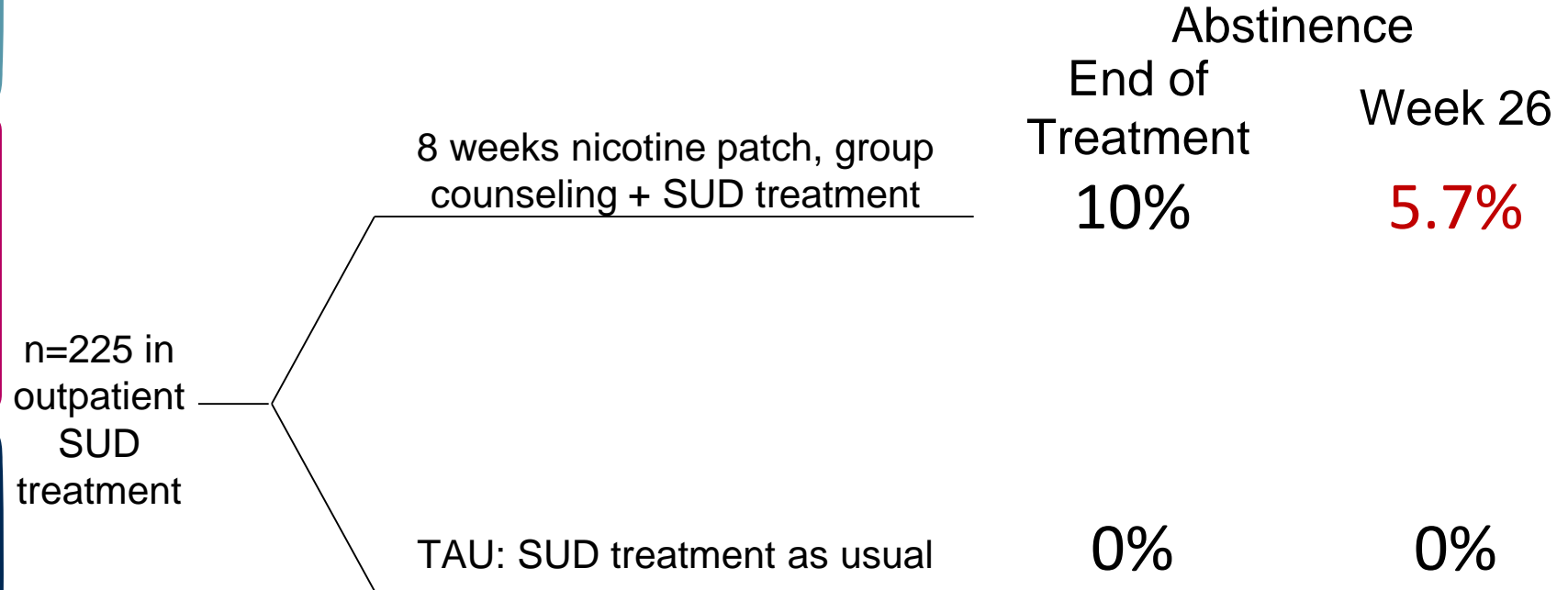
Shiffman and Ferguson, 2008

# Varenicline “preloading”

- RCT, n=101 smokers, randomized to:
  - Varenicline x 4 weeks pre quit date
  - Placebo x 3 wks, Varenicline x 1 wk pre quit date
  - Varenicline x 3 mo (after quit date, both groups)
- Varenicline preloading
  - Reduced prequit smoking enjoyment
  - Increased 12 wk abstinence rates
    - 47.2% varenicline v 20.8% placebo, p=.005

*“But you know, even when I’ve quit before, I’ve gone back to smoking a month later.”*

# Effects are not sustained



n=225 in  
outpatient  
SUD  
treatment

8 weeks nicotine patch, group  
counseling + SUD treatment

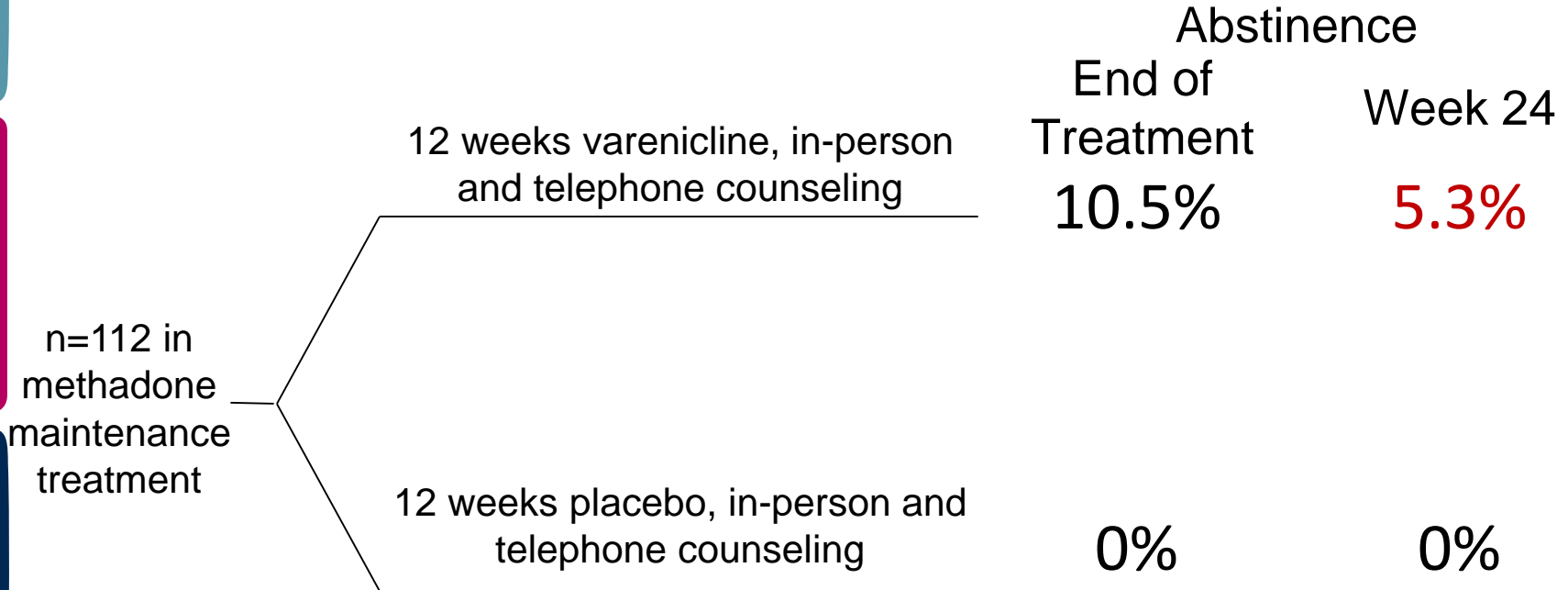
TAU: SUD treatment as usual

Abstinence  
End of  
Treatment  
10%  
Week 26  
5.7%

0%  
0%



# Effects are not sustained

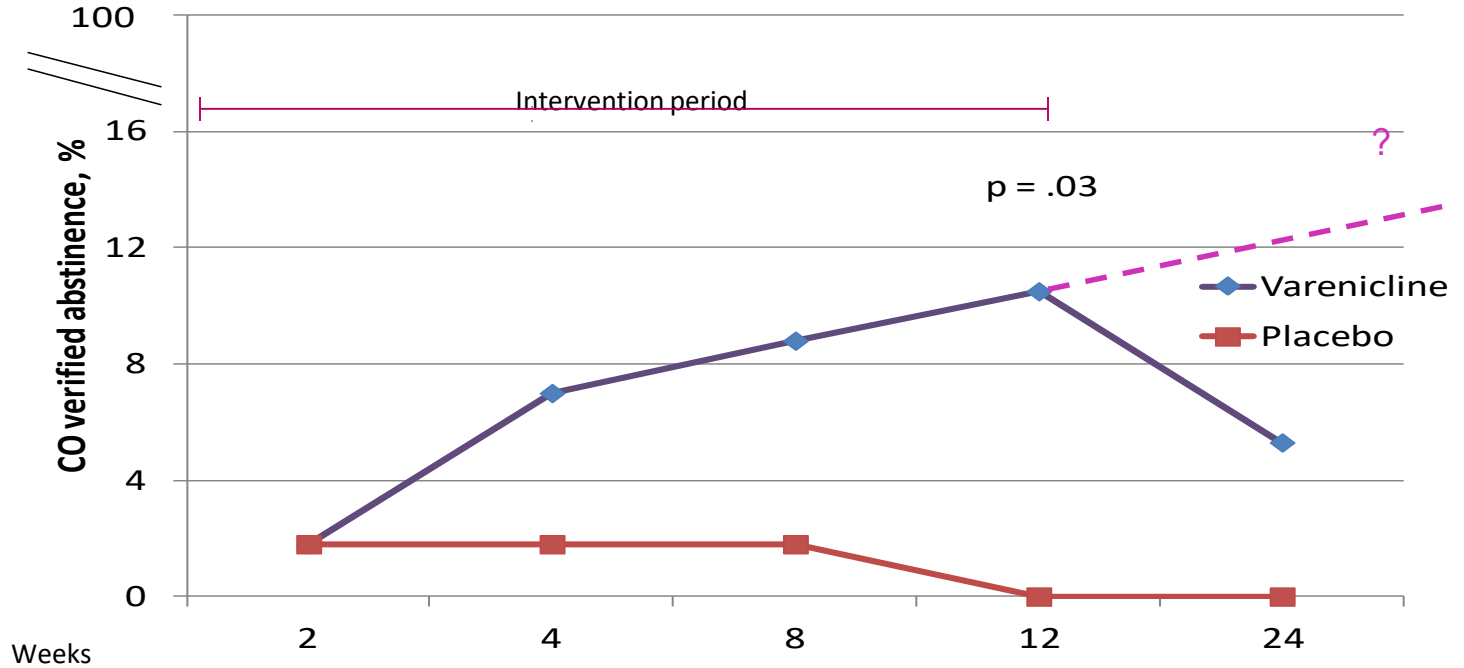


Nahvi et al, Addiction, 2014

# Extended treatment

Study	n	Intervention	Findings
Schnoll et al, 2010	568	Nicotine patch 2 v 6 months	Extended treatment significantly •Increases abstinence •Increases time to relapse
Hays et al, 2001	784	Bupropion 7 v 52 wks	
Tonstad et al, 2006	1210	Varenicline 3 v 6 months	
Schnoll et al, 2015	525	Nicotine patch 2 v 6 v 12 months	

# Extended treatment

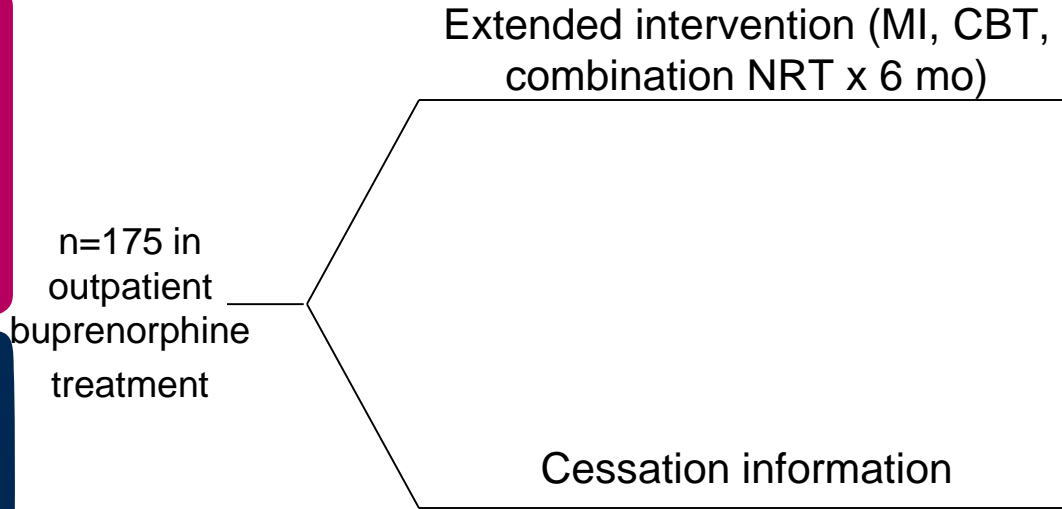


# Extended treatment

		Abstinence	
		3 months	6 months
n=175 in outpatient buprenorphine treatment	Extended intervention (MI, CBT, combination NRT x 6 mo)	13.4%	11%
	Cessation information	3.7%	11.3%

Hall et al., NTR, 2018

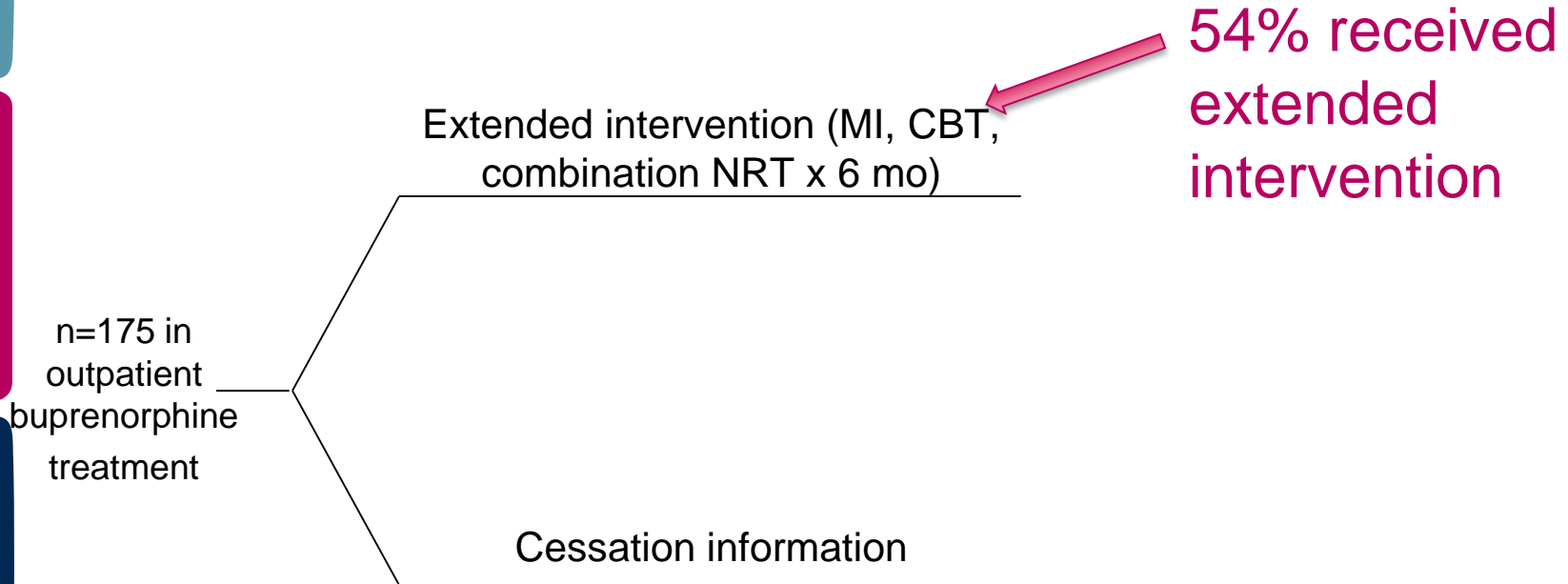
# Extended treatment



Increased motivation:

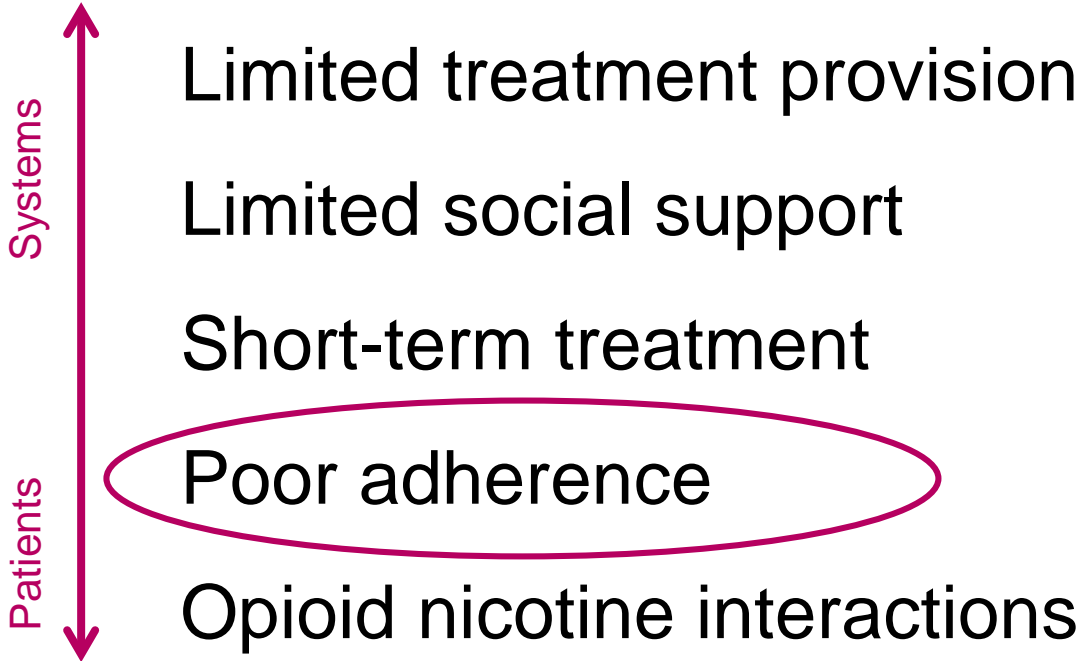
- Quit attempts
- Goal of complete abstinence
- Advanced stage of change

# Extended treatment



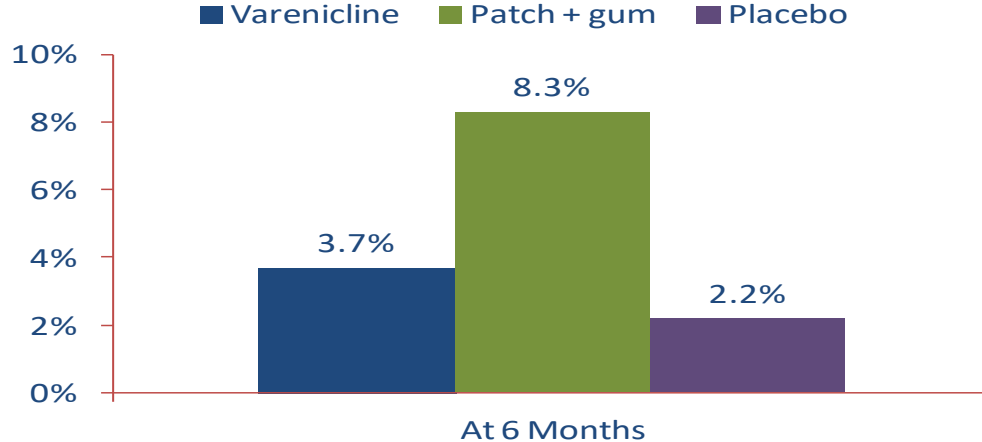
Hall et al., NTR, 2018

# Why are cessation rates so low?



# Low adherence, low cessation

## Tobacco Abstinence



Adherence at 6 months: 34.2 % 48.8 % 34.4 %



Adherence improves outcomes

# Adherence improves outcomes

Participants	Findings
n= 225 smokers with SUD	# weeks abstinent correlated with: Counseling adherence (r=.31, p<.001) Nicotine patch adherence (r=.15, p<.05)
n= 383 smokers with OUD	44.1% nicotine patches used On days nicotine patches were used: 7.1x higher smoking abstinence (p<.001) Fewer cigs/d (15 v 5, p<.001)

1. Reid et al, JSAT, 2008; 2. Stein et al, JGIM, 2006

# Adherence matters

- Few studies have evaluated adherence interventions
- Directly observed therapy (DOT) improves adherence and clinical outcomes

# Objectives

- To evaluate, in a randomized trial, whether methadone clinic-based varenicline directly observed therapy is efficacious at improving adherence and smoking cessation among MM smokers

# Setting



# Interventions

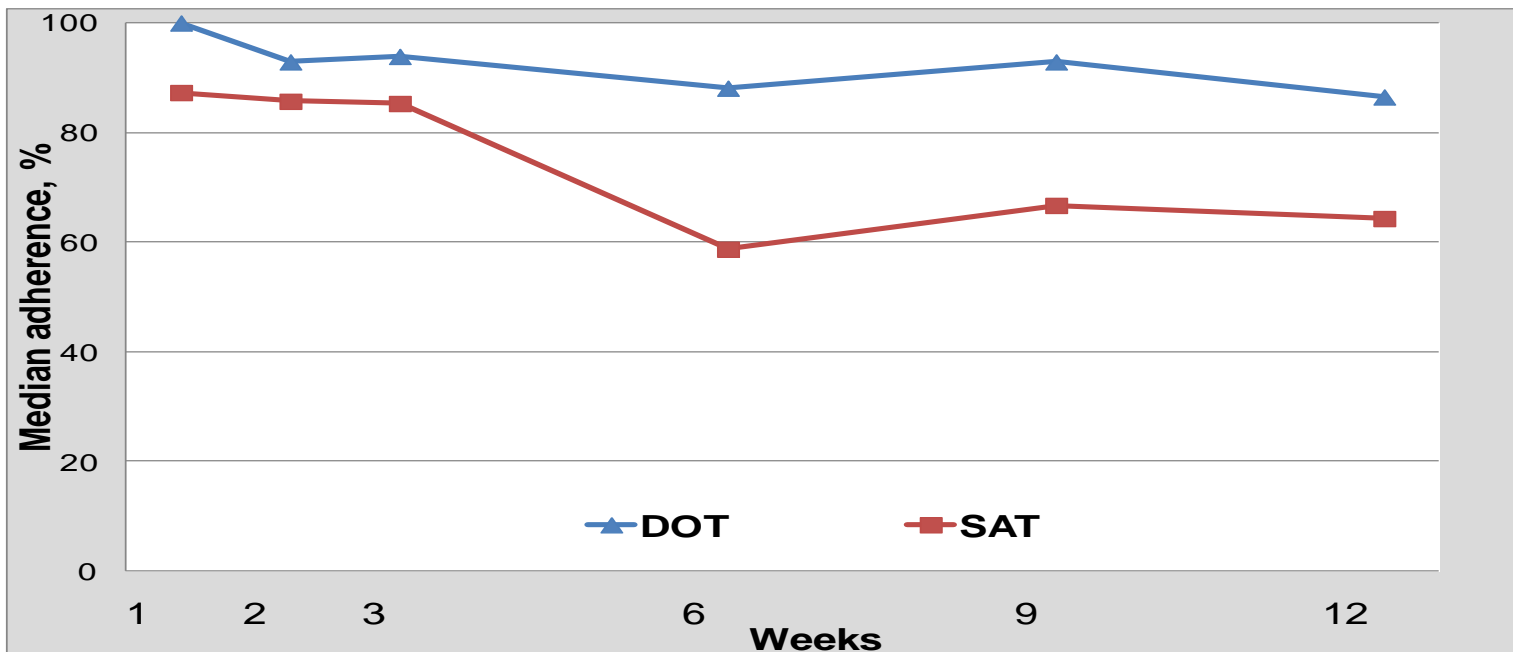
Methadone  
maintained  
smokers

Directly observed (DOT)  
varenicline x 12 w

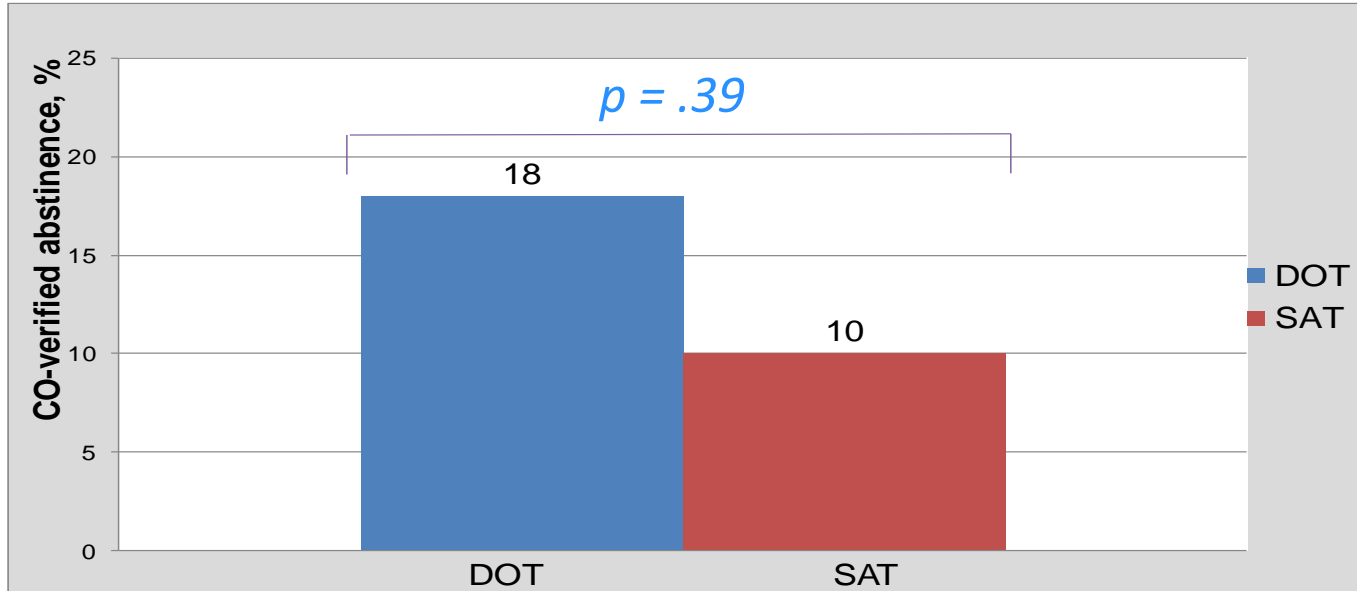
Self-administered (SAT)  
varenicline x 12 w



# Varenicline adherence



# Abstinence at 12 weeks





# DOT is promising

- DOT varenicline was associated with significantly higher overall adherence than self-administered treatment
- Cessation rates with DOT were nearly double that of SAT, and higher than that seen in prior trials among methadone maintained smokers

# DOT implementation



# Intervention effects

- Unassisted cessation rates 0%
- Tobacco cessation rates are modest (5-14%)
- Short-term treatments are insufficient
- Adherence improves outcomes

# Next Steps

	Directly observed therapy	
	+	-
Long-term varenicline	-	SAT/LT
	+	SAT/ST

NIDA R01 DA042813

# Outline

- Health burden of tobacco use
- Evidence-based cessation treatments
- Optimizing efficacy
- Optimizing implementation

# Telephone quitline referral

- n=112 methadone maintained smokers enrolled in a clinical trial
- All offered telephone quitline referral
- 22% utilized telephone quitline counseling
  - Comparable to quitline referral in primary care
  - Much higher than population-based utilization

# Telephone quitline barriers

n=112 methadone maintained smokers enrolled in a clinical trial

<b>Baseline telephone access</b>	<b>n (%)</b>
<b>Does not own a cellphone</b>	15 (14%)
<b>Cellphone service lapse</b>	31 (32%)
<b>Problems charging cellphone</b>	15 (15%)
<b>Running out of cellphone service minutes</b>	28 (27%)
<b>Does not have a landline</b>	57 (51%)

# Telephone quitline barriers

- Competing life demands:
  - “I’m hardly home. I’m in the meth program...”*
  - “Shelter is too hectic.”*
- Skeptical of quitline efficacy:
  - “I just don’t believe in it. I want to do it on my own.”*
  - “I really don’t need any encouragement to quit.”*



# Counselors



- Frequent patient contact
- Skills to address substance use disorders

# Interventions

**Category:** Biomedical Conditions

**Problem:**

Patient reports current conditions of asthma, diabetes, and high cholesterol

**Diagnosis:** Tobacco use disorder, moderate

**Long Term Goal:** "I know I should quit smoking but I'm not ready".

**Short Term Goal:** "I want to cut down on my smoking".

**Progress Since Last Plan:**

LTG: "I know I  
STG: "I want to

Patient Form Screen

Report Name

Form Type

Enter Report Body Text

1: How many cigarettes does the patient smoke each day?  
N/A 31 plus (1.5 pack plus) = 3 Points  
[X] 21-30 plus (1 - 1.5 packs) = 2 Points  
N/A 11-20 plus (1/2 - 1 pack) = 1 Point  
N/A 1-10 plus (1/2 pack or less) = 0 Point

2 How soon after waking does the patient smoke the first cigarette?  
N/A Within 5 minutes = 3 points  
N/A From 6 -30 minutes = 2 points  
[X] From 30 minutes ? 1 hour = 1 point  
N/A More than one (1) hour = 0 point

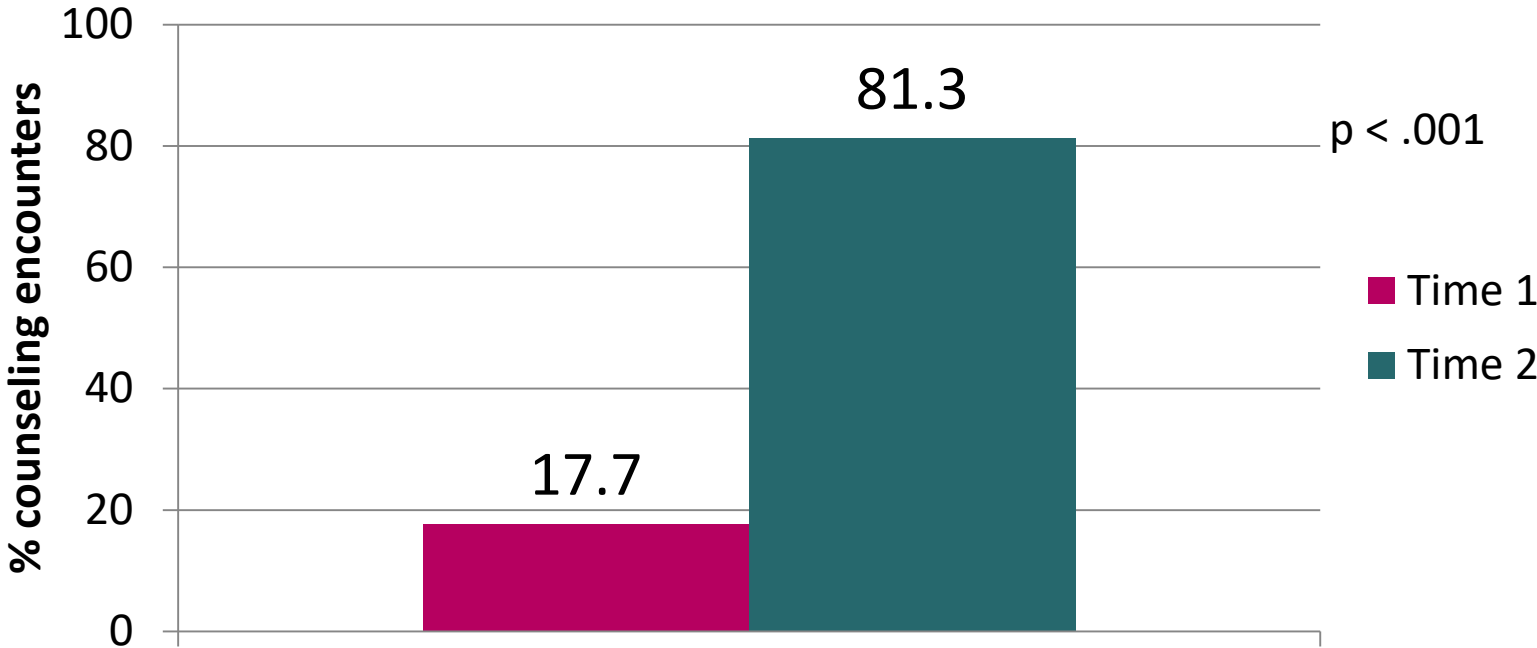
Heavy Smoking Index Score (add points 1 & 2 above):  
N/A 0 - 1 = Light Smoker  
[X] 2 - 3 = Moderate Smoker  
N/A 4 - 6 = Heavy Smoker

Heavy Smoking Index Score =3.0

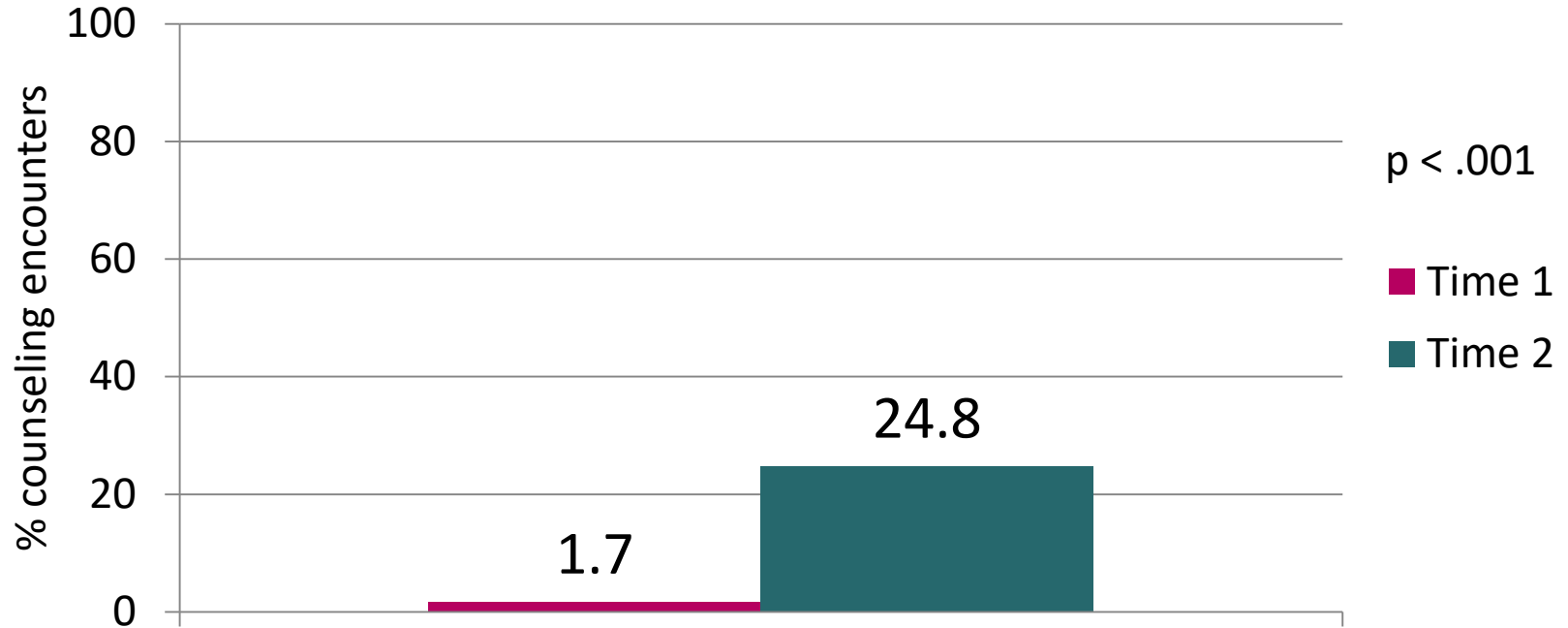


- Electronic health record forms
- Counselor supervision

# Identification of tobacco use



# Tobacco counseling



# Conclusions

- Low intensity health system level intervention, including electronic health record forms and provider training
  - Increased documentation of tobacco use
  - Increased counseling for tobacco use



# Organizational change intervention

- Staff training, policy development, leadership support, access to NRT
  - More favorable staff beliefs
  - More NRT provision
  - More tobacco-related services

# Multiple intervention targets



Limited treatment provision

Limited social support

Short-term treatment

Poor adherence

Nicotine opioid interactions

# Conclusions

- Significant burden of tobacco use
- Identify tobacco use
- Provide evidence-based treatment
- Optimize interventions to enhance efficacy
- Scale interventions to reach this high risk population of smokers



# QUESTIONS?

[snahvi@montefiore.org](mailto:snahvi@montefiore.org)



# Electronic Cigarettes

- <http://nationalacademies.org/hmd/Reports/2018/public-health-consequences-of-e-cigarettes.aspx>
- Fewer, lower level of toxicants
- Variable nicotine exposure
- May result in dependence (but less than combustibles)
- May cause youth to transition to combustibles
- May increase adult cessation

# Electronic Cigarettes

- n=657 RCT x 13 weeks
- 6 mo abstinence
  - 16 mg e cig: 7.3% (21 of 289)
  - placebo e cig: 4.1% (three of 73)
  - 21 mg patch: 5.8% (17 of 295) with patches
  - Nicotine e-cigs v patches 1.51 [95% CI -2.49 to 5.51]
  - Nicotine e-cigs v placebo e-cigs 3.16 [95% CI -2.29 to 8.61])



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# Q&A

- Submit questions via the **chat box**



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# California Behavioral Health & Wellness Initiative

For our CA residents, we are starting a new venture in CA helping behavioral health organizations go tobacco free and integrating cessation services into existing services thanks to the support of the CTCP.

Free CME/CEUs will be available for all eligible California providers, who joined this live activity. You will receive a separate post-webinar email with instructions to claim credit.

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- FREE CME/CEUs of up to 1.0 credit are available to all attendees who participate in this live session. Instructions will be emailed after the webinar.

# Save the Date

- SCLC's next live webinar, co-hosted with NBHN
- May 23, 2019 at 2:00 pm EDT
- Older Adults and Smoking
- Registration coming soon!

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