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

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Shadi Nahvi, MD, MS

4/9/19
Moderator

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Smoking Cessation Leadership Center  
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Disclosures

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Shadi Nahvi, MD, MS –

Pfizer – Grant/Research Support
Thank you to our funders

Robert Wood Johnson Foundation

truth initiative
Inspiring Tobacco-Free Lives

National Behavioral Health Network
For Tobacco & Cancer Control

SAMHSA
Substance Abuse and Mental Health Services Administration
CME/CEU Statement

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The University of California, San Francisco (UCSF) School of Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

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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
New Behavioral Health Accreditation

California Association of Marriage and Family Therapists (CAMFT)

This webinar is accredited through the CAMFT for up to 1.0 CEU for the following eligible California providers:

- Licensed Marriage and Family Therapists (LMFTs)
- Licensed Clinical Social Workers (LCSWs)
- Licensed Professional Clinical Counselors (LPCCs)
- Licensed Educational Psychologists (LEPs)

Instructions to claim credit for these CEU opportunities will be included in the post-webinar email and posted to our website.
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](http://CABHWI.ucsf.edu) for more information.
Tips® Campaign Overview

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

KU SCHOOL OF MEDICINE
The University of Kansas

ATTUD
Association for the Treatment of Tobacco Use and Dependence
Presenter

Shadi Nahvi, MD, MS

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

Albert Einstein College of Medicine / Montefiore Health System
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.

Sum of all these causes of death < tobacco alone

Source: CDC
Declining Tobacco Use

In 1963 Americans smoked enough cigarettes for every adult to have more than half a pack a day.

IOM, 2007
Declining Tobacco Use

In 1963 Americans Smoked Enough Cigarettes for Every Adult to Have More than Half a Pack a Day

Per Capita Consumption of Cigarettes

Year

IOM, 2007
Disproportionate Prevalence

Guydish et al., 2011
Disproportionate Prevalence

Guydish et al., 2011

4 Bronx, NY OTPs
83% current smokers
Smoking threatens recovery; cessation promotes it

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

67% Current smokers
22% Former Smokers
10% Never Smokers
1% No smoking status documented

Nahvi et al., JSAT 2014
Smoking cessation treatment

Nahvi et al., JSAT 2014
If not us, who provides cessation information?

- Provider
- Community
- Industry
- Newspapers, Magazines
- TV, Radio
- Internet
- Family
- Co-workers
- Friends
- Public Health Policy
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

Etter 2001; Fu 2007; Mooney 2006
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
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

- Precontemplation
- Contemplation
- Preparation
- Action
- Maintenance

Progress

Relapse
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

(Fiore et al., 2008)
Evidence base is limited

Pilot Study of a Tailored Smoking Cessation Intervention for Individuals in Treatment for Opioid Dependence
Nina A. Cooperman PsyD¹, Shou-En Lu PhD², Kimber P. Richter PhD³
Steven L. Bernstein MD⁴, Jill M. Wittenberg MD⁴

A smoking cessation intervention for the methadone-maintained
Michael D. Stein, Marjorie C. Weinstock, Debra S. Herman, Bradley J. Anderson,
Jennifer L. Anthony, & Raymond Bizumic⁵

Cigarette Smoking Cessation Intervention for Buprenorphine Treatment Patients
Sharon M. Hall PhD¹, Gary L. Humfleet PhD¹, James J. Gasper Pharm D²,
Kevin L. Delucchi PhD³, David F. Hersh MD³, Joseph R. Guydish PhD⁴
Smoking reduction

• Enhance cessation
  – ≥ 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
No cessation with low intensity counseling
mHEALTH?
Modest effects of motivational counseling

n=383 methadone maintenance patients

Tobacco Abstinence

At 6 Months

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Maximum Counseling</th>
<th>Minimum Counseling</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2%</td>
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<tr>
<td>3%</td>
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<tr>
<td>4%</td>
<td></td>
<td></td>
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<tr>
<td>5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6%</td>
<td></td>
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</tr>
</tbody>
</table>

Stein, Addiction, 2006
Modest effects of motivational counseling

Pilot Study of a Tailored Smoking Cessation Intervention for Individuals in Treatment for Opioid Dependence
Nina A. Cooperman PsyD¹, Shou-En Lu PhD², Kimber P. Richter PhD³, Steven L. Bernstein MD⁴, Jill M. Williams MD¹

Cigarette Smoking Cessation Intervention for Buprenorphine Treatment Patients
Sharon M. Hall PhD¹, Gary L. Humfleet PhD¹, James J. Gasper Pharm D², Kevin L. Delucchi PhD¹, David F. Hersh MD³, Joseph R. Guydish PhD⁴
Contingency management

Smoking cessation in methadone maintenance

Steve Shoptaw¹,², Erin Rotheram-Fuller¹, Xiaowei Yang⁴, Dominick Frosch¹,³, Debbie Nahom¹,
Murray E. Jarvik¹,², Richard A. Rawson¹,² & Walter Ling¹,²

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

Stacey C. Sigmon¹,²,³, Mollie E. Miller¹,³, Andrew C. Meyer¹,², Kathryn Saulsgiver⁵, Gary J. Badger⁴,
Sarah H. Heil¹,²,³ & Stephen T. Higgins¹,²,³

➢ 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

* Available OTC

**Oral agents**
- Bupropion SR (Zyban)
- Varenicline (Chantix)
“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

Hughes, Addiction 2004
Tobacco Abstinence Rates

Six month abstinence

- Cold Turkey: 3%
- Gum: 19%
- Patch: 23%
- Bupropion SR: 24%
- Inhaler: 25%
- Nasal Spray: 27%
- Varenicline: 33%

Hughes 2004; Fiore 2008
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.”
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

Rigotti, NEJM, 2002
# Nicotine Replacement Therapy

<table>
<thead>
<tr>
<th>Product</th>
<th>Dosage</th>
<th>Duration</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patch</strong></td>
<td>21 mg / 24 hours</td>
<td>4 weeks</td>
<td>OTC, Medicaid, Medicare</td>
</tr>
<tr>
<td></td>
<td>14 mg / 24 hours</td>
<td>2 weeks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7 mg / 24 hours</td>
<td>2 weeks</td>
<td></td>
</tr>
<tr>
<td><strong>Gum</strong></td>
<td>≥25 cigs/d: 4 mg</td>
<td>Up to 12 weeks</td>
<td>OTC, Medicaid</td>
</tr>
<tr>
<td></td>
<td>1-24 cigs/d: 2 mg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-2 pieces/hr (max 24/d)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lozenge</strong></td>
<td>1st daily cig &lt; 30 min: 4 mg</td>
<td>Up to 12 weeks</td>
<td>OTC</td>
</tr>
<tr>
<td></td>
<td>1st daily cig &gt; 30 min: 2 mg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-2 pieces/hr (max 20/d)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Oral inhaler</strong></td>
<td>10 mg (delivers 4 mg) 6-16 cartridges/d</td>
<td>Up to 6 months</td>
<td>Medicaid, Medicare</td>
</tr>
<tr>
<td><strong>Nasal spray</strong></td>
<td>0.5 mg/spray 8-40 doses/d</td>
<td>3-6 months</td>
<td>Medicaid, Medicare</td>
</tr>
</tbody>
</table>
Comparison of Nicotine Replacement Therapies

No differences in
- withdrawal discomfort
- urges to smoke
- abstinence

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

Hajek et al, 1999; Fiore et al, 2008
**Combination NRT**

<table>
<thead>
<tr>
<th></th>
<th>OR cessation</th>
<th>95% confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>High vs. standard patch dose</td>
<td>1.21</td>
<td>1.03 - 1.42</td>
</tr>
<tr>
<td>Combination NRT (patch ± other agents)</td>
<td>1.42</td>
<td>1.14 - 1.76</td>
</tr>
</tbody>
</table>

Clinically modest but statistically significant benefit over standard dose NRT alone

Silagy et al., Cochrane Library, 2006
"It took 279 nicotine patches, but I no longer have the urge to smoke."
<table>
<thead>
<tr>
<th>Medication</th>
<th>Mechanism of Action</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bupropion</td>
<td>Multiple potential mechanisms of action</td>
<td>Reduction of withdrawal symptoms, craving</td>
</tr>
<tr>
<td>Varenicline</td>
<td>Partial agonist of alpha-4 beta-2 nicotinic receptors</td>
<td>Partial agonism → decreased craving and withdrawal sx’s</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Blocks nicotine binding → prevents reinforcing effects</td>
</tr>
<tr>
<td></td>
<td>Dosage</td>
<td>Duration</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------------------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td><strong>Bupropion SR</strong></td>
<td>1-2 weeks prior to quit date: 150 mg qAM x 3d, then 150 mg BID</td>
<td>7-12 weeks, up to 6 months</td>
</tr>
<tr>
<td><strong>Varenicline</strong></td>
<td>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</td>
<td>3-6 months</td>
</tr>
</tbody>
</table>
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

% cessation at 6 months

- Patch: 6.2%
- Varenicline: 4.1%
- NRT+bupropion: 12.2%
- >12w comb. NRT: 15.4%

Clinical trial populations
Individuals with SUD
Commentary

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

Mollie E. Miller PhD,1 Stacey C. Sigmon PhD2,3,4
Treatments help
No cessation without treatment

8 weeks nicotine patch, group counseling + SUD treatment

Abstinence
End of Treatment
10%

TAU: SUD treatment as usual

0%

n=225 in outpatient SUD treatment

Reid, JSAT, 2008
No cessation without treatment

Abstinence
End of Treatment
10.5%

n=112 in methadone maintenance treatment

12 weeks varenicline, in-person and telephone counseling

12 weeks placebo, in-person and telephone counseling

0%

Nahvi et al, Addiction, 2014
Treatments help, but effects are modest
Cessation effects are modest

n=225 in outpatient SUD treatment

- 8 weeks nicotine patch, group counseling + SUD treatment
  - Abstinence: End of Treatment
    - 10%

- TAU: SUD treatment as usual
  - 0%

Reid, JSAT, 2008
Cessation effects are modest

n=112 in methadone maintenance treatment

12 weeks varenicline, in-person and telephone counseling
12 weeks placebo, in-person and telephone counseling

Abstinence
End of Treatment
10.5%
0%

Nahvi et al, Addiction, 2014
## Treatment emergent adverse effects, n (%)

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

* p ≥ .05 except as indicated
Psychiatric outcomes, n (%)*

<table>
<thead>
<tr>
<th></th>
<th>Varenicline n = 57</th>
<th>Placebo n = 55</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incident major depressive episode</td>
<td>2 (4)</td>
<td>1 (2)</td>
</tr>
<tr>
<td>Incident manic episode</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Incident psychotic disorder</td>
<td>1 (2)</td>
<td>3 (6)</td>
</tr>
<tr>
<td>Suicidal ideation</td>
<td>3 (5)</td>
<td>4 (8)</td>
</tr>
</tbody>
</table>

* p ≥ .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)

Anthenelli et al, Lancet, 2016
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?

Limited treatment provision
Limited social support
Short-term treatment
Poor adherence
Opioid nicotine interactions
Why are cessation rates so low?

Limited treatment provision
Limited social support
Short-term treatment
Poor adherence
Opioid nicotine interactions
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

de Dios et al., NTR, 2014
Limited initial abstinence

CO verified abstinence, %

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Varenicline</th>
<th>Placebo</th>
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</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

Intervention period

p = .03
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:

<table>
<thead>
<tr>
<th></th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 weeks</td>
<td>1.96</td>
<td>1.31–2.93</td>
</tr>
<tr>
<td>6 months</td>
<td>2.17</td>
<td>1.46–3.22</td>
</tr>
</tbody>
</table>

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

Hajek et al, Arch Int Med 2011
“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
Week 26

0% 0%

10% 5.7%

Reid, JSAT, 2008
Effects are not sustained

n=112 in methadone maintenance treatment

12 weeks varenicline, in-person and telephone counseling

10.5%

End of Treatment Week 24

12 weeks placebo, in-person and telephone counseling

0%

Abstinence
## Extended treatment

<table>
<thead>
<tr>
<th>Study</th>
<th>n</th>
<th>Intervention</th>
<th>Findings</th>
</tr>
</thead>
</table>
| 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

CO verified abstinence, %

Weeks

Intervention period

p = .03

Varenicline

Placebo

Montefiore

The University Hospital
Extended treatment

Extended intervention (MI, CBT, combination NRT x 6 mo)

Cessation information

n=175 in outpatient buprenorphine treatment

Abstinence

3 months 6 months

13.4% 11%

3.7% 11.3%

Hall et al., NTR, 2018
Extended treatment

- Extended intervention (MI, CBT, combination NRT x 6 mo)
- Cessation information

Increased motivation:
- Quit attempts
- Goal of complete abstinence
- Advanced stage of change

n=175 in outpatient buprenorphine treatment

Hall et al., NTR, 2018
Extended treatment

n=175 in outpatient buprenorphine treatment

Extended intervention (MI, CBT, combination NRT x 6 mo)

Cessation information

54% received extended intervention

Hall et al., NTR, 2018
Why are cessation rates so low?

- Limited treatment provision
- Limited social support
- Short-term treatment
- Poor adherence
- Opioid nicotine interactions
Low adherence, low cessation

Tobacco Abstinence

Adherence at 6 months: 34.2% 48.8% 34.4%

Stein, Drug Alc Dep, 2013
Adherence improves outcomes
Adherence improves outcomes

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

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

![Graph showing median adherence over weeks for DOT and SAT methods.](image-url)
Abstinence at 12 weeks

\[ p = .39 \]
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

<table>
<thead>
<tr>
<th>Long-term varenicline</th>
<th>Directly observed therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>DOT/ST</td>
</tr>
<tr>
<td></td>
<td>SAT/ST</td>
</tr>
<tr>
<td>-</td>
<td>DOT/LT</td>
</tr>
<tr>
<td></td>
<td>SAT/LT</td>
</tr>
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</table>

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

Griffin et al., Nic & Tob Rsch, 2016
Telephone quitline barriers

n=112 methadone maintained smokers enrolled in a clinical trial

<table>
<thead>
<tr>
<th>Baseline telephone access</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does not own a cellphone</td>
<td>15 (14%)</td>
</tr>
<tr>
<td>Cellphone service lapse</td>
<td>31 (32%)</td>
</tr>
<tr>
<td>Problems charging cellphone</td>
<td>15 (15%)</td>
</tr>
<tr>
<td>Running out of cellphone service minutes</td>
<td>28 (27%)</td>
</tr>
<tr>
<td>Does not have a landline</td>
<td>57 (51%)</td>
</tr>
</tbody>
</table>
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.”

Griffin et al., NTR, 2016
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...”

- Electronic health record forms
- Counselor supervision
Identification of tobacco use

- Time 1: 17.7%
- Time 2: 81.3%

$p < .001$
Tobacco counseling

% counseling encounters

- Time 1: 1.7%
- Time 2: 24.8%

p < .001
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

Guydish et al., DAD, 2012
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
Electronic Cigarettes

- 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

National Academies Science Engineering Medicine, 2018
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]

Bullen et al, Lancet 2013
Q&A

• Submit questions via the chat box
Accreditation:

The University of California, San Francisco (UCSF) School of Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

UCSF designates this live activity for a maximum of 1.0 AMA PRA Category 1 Credit™. Physicians should claim only the credit commensurate with the extent of their participation in the webinar activity.

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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.

Respiratory Therapists: This program has been approved for a maximum of 1.0 contact hour Continuing Respiratory Care Education (CRCE) credit by the American Association for Respiratory Care, 9425 N. MacArthur Blvd. Suite 100 Irving TX 75063, Course # 181054000.
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 for more information.
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
New Behavioral Health Accreditation

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This webinar is accredited through the CAMFT for up to 1.0 CEU for the following eligible California providers:

- Licensed Marriage and Family Therapists (LMFTs)
- Licensed Clinical Social Workers (LCSWs)
- Licensed Professional Clinical Counselors (LPCCs)
- Licensed Educational Psychologists (LEPs)

Instructions to claim credit for these CEU opportunities will be included in the post-webinar email and posted to our website.
Post Webinar Information

• You will receive the webinar recording, presentation slides, information on certificates of attendance, and other resources, in our follow-up email. All of this information will be posted to our website.

• 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!
SCLC Recorded Webinar Promotion

SCLC is offering CME/CEUs for our 2016 and 2017 recorded webinar collections for FREE. Each collection includes up to 14 CEUs and up to 10 webinars!

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Contact us for technical assistance

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• Call us toll-free at 877-509-3786
• Please complete the post-webinar survey