

Exploring Smoking Cessation Efforts in the Homeless Population

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About Me

- B.S. in Behavioral
- Experience in emergency medicine
 - EMT - Fallon
 - Emergency Service Assistant - BWH
- Licensed TTS since 2022
 - Homelessness, Housing, and Health (3H) lab at MGH with Dr. Travis Baggett

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What's the problem?

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Big Picture: Smoking Among People Experiencing Homelessness

- Cost of smoking
- Smoking prevalence
- Smoking-attributable illnesses & mortality
- Targeting from tobacco industry

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Cost of Smoking



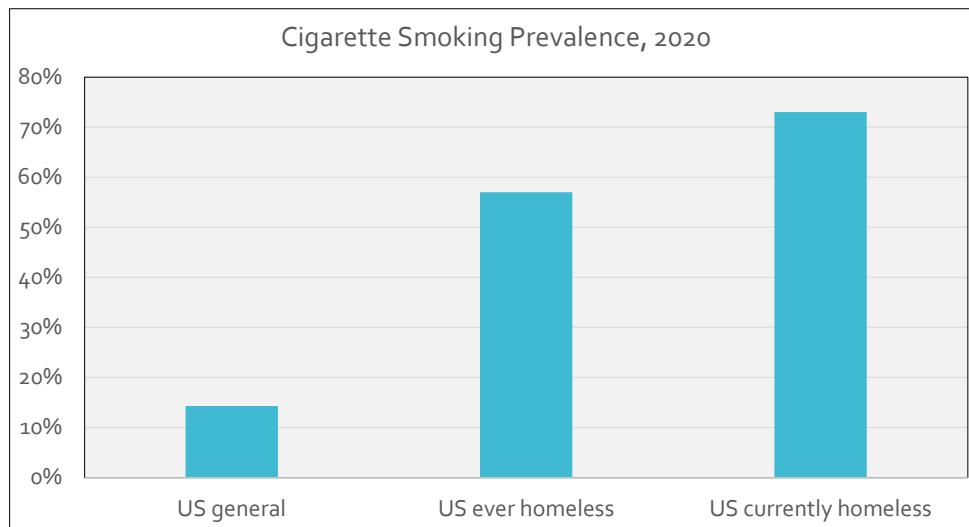
Unsplash Image

- Median past-week spending: \$40 USD
- Estimated 1/3 of monthly income spent on tobacco
- Higher nicotine dependence correlated with greater spending on tobacco
 - Greater difficulty meeting basic survival needs in this group

Baggett, *NEJM* 2016

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Smoking Prevalence



Steinberg, *NTR* 2020

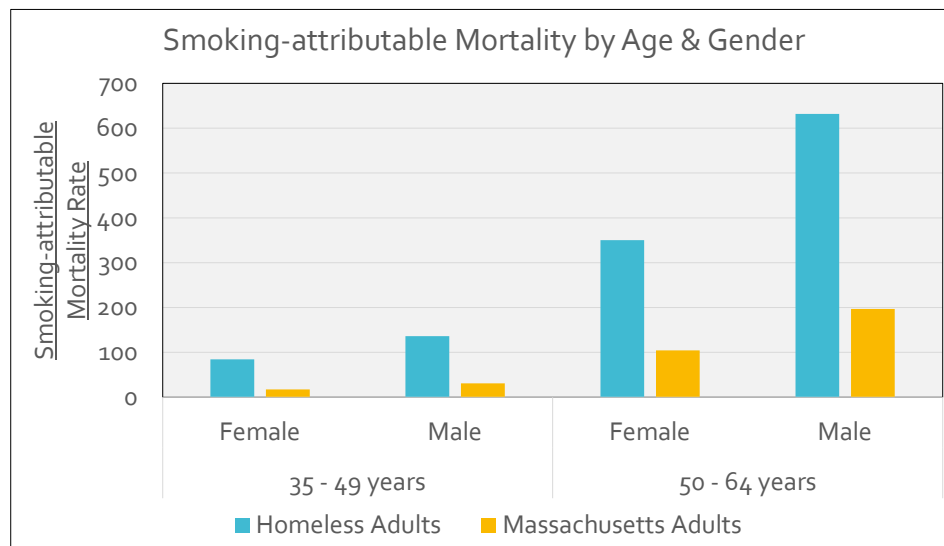
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Smoking-Related Illness

- Obstructive lung disease prevalence over 2x higher (Snyder, 2004)
- Invasive pneumococcal disease incidence 30x higher (Plevneshi, 2009)
- High reliance on healthcare for respiratory illness treatment (Salit, 1998; Sachs-Ericsson, 1999)
- Rates of lung and oropharyngeal cancer incidence more than 2x higher (Baggett, 2015)
 - Over 80% of these smoking-attributable

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Smoking-Attributable Mortality

Baggett, *AJPH* 2015

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Tobacco Industry Targeting

- Tobacco industry marketing exploits high rates of comorbid mental illness & substance use disorders
 - Critical subpopulation for tobacco sales identified as early as the 70s
- Larger marketing efforts towards “downscale customers” by the 90s
 - Recruited new homeless smokers by distributing free “sample” packs at shelters & soup kitchens
 - Project SCUM: major campaign from RJ Reynolds targeting homeless adults in SF in 1995

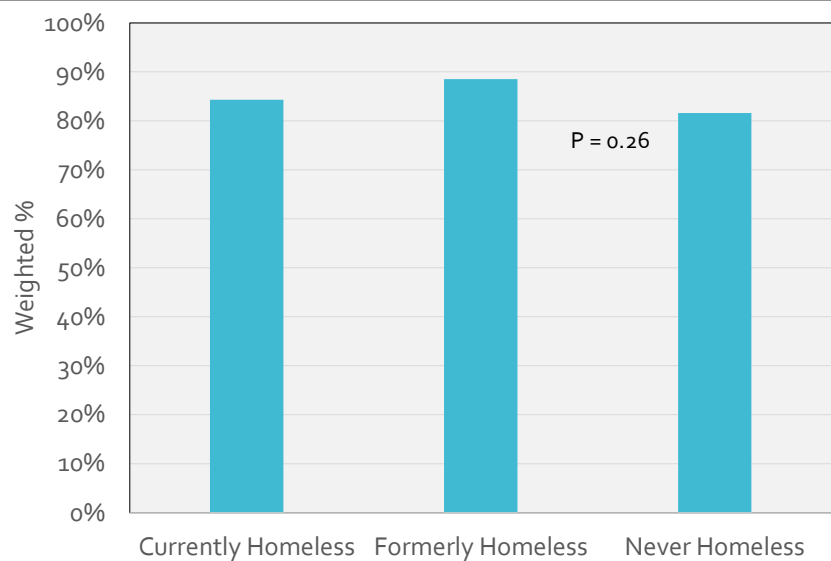


Elser, *Prev Med Rep* 2019

Adobe Stock Image

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Past-Year Desire to Quit Smoking



Baggett, *Addiction* 2013

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What are the challenges in smoking reduction?

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Challenges in Smoking Reduction

- Smoking as “homeless culture”
- Substance use & mental health issues
- Competing priorities
- Persisting facilitative attitudes from healthcare providers

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Smoking in Homeless Culture

- 70 - 80% of people experiencing homelessness use tobacco (Baggett, 2013)
- Social environment's impact on smoking (Pratt, 2019)
 - More pressure to smoke in & around shelters
 - "Drinking ain't hard to stay away from, it's the smoking because smoking, you see that everywhere."
 - "If I am around a bunch of people, and they are smoking. That will make me want to smoke."



AP Image, Pat Sullivan

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Comorbidities: Substance Use & Mental Health Disorders

Substance Use (past 30 d)	%
Heroin	12
Opiates/painkillers	24
Cocaine/crack	24
Cannabis	43
Drank alcohol to intoxication	44
Mental health symptoms (past 30 d)	%
Serious depression	64
Serious anxiety/tension	73
Serious thoughts of suicide	20
Positive screen for PTSD	68
Trauma experiences (lifetime)	%
Physical assault	81
Sexual assault	26
Head injury	65

Baggett, NTR 2016

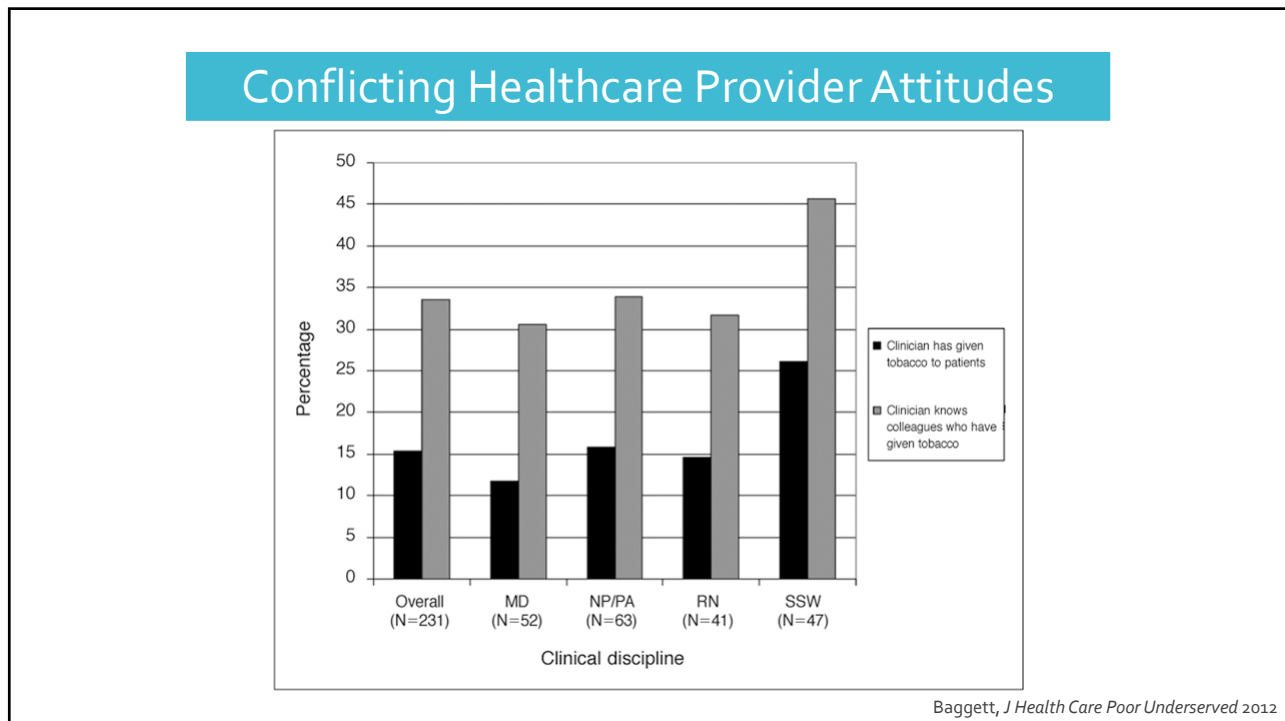
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Competing Priorities

- Difficulty meeting basic needs
 - Clothing: 50%
 - Shelter: 49%
 - Somewhere to go to the bathroom: 43%
 - Food: 41%
 - Somewhere to wash up: 35%
- Homeless smokers with difficulty meeting basic needs perceive more barriers to quitting
 - Less successful at quitting

Baggett, *SGIM Abstract* 2016

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What's being done to
address it?

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Smoking Cessation Interventions in the Homeless Population

- Modest benefit of more intensive behavioral smoking cessation interventions compared to less intensive ones
- Need future studies addressing additional ways to engage and support people experiencing homelessness
 - Greater need for support and follow-up in this population

Vijayaraghavan, *Cochrane Database Syst. Rev.* 2020

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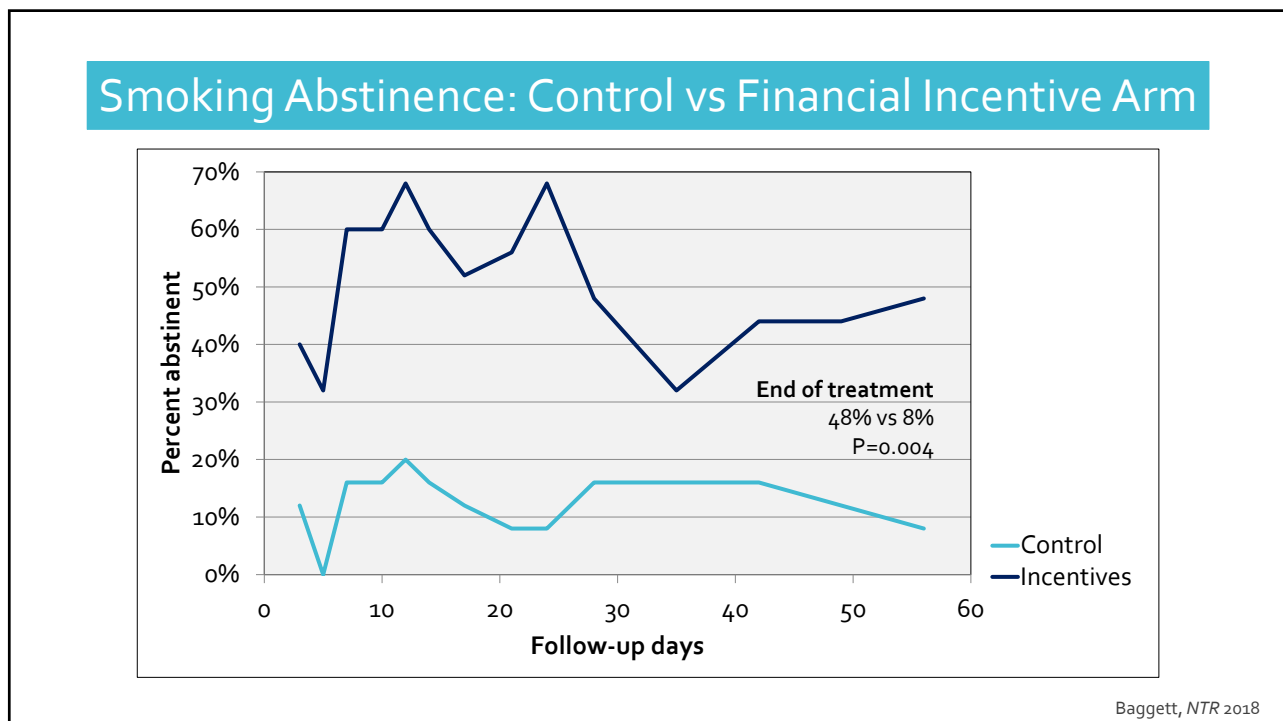
QUIT Smoking Pilot Study (Quitting with Usual Care, Incentives, & Technology)

<p style="text-align: center;"><u>Control arm</u> (n=25)</p> <ul style="list-style-type: none"> • Nicotine patches • Tobacco coaching • Prepaid mobile phone 	<p style="text-align: center;"><u>Financial incentives arm</u> (n=25)</p> <ul style="list-style-type: none"> • Control components • Escalating financial rewards 	<p style="text-align: center;"><u>Texting arm</u> (n=25)</p> <ul style="list-style-type: none"> • Control components • SmokefreeTXT
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- 8-week pilot RCT for homeless smokers ready to quit in the next month
- Abstinence verified by CO exhalation level < 8 ppm

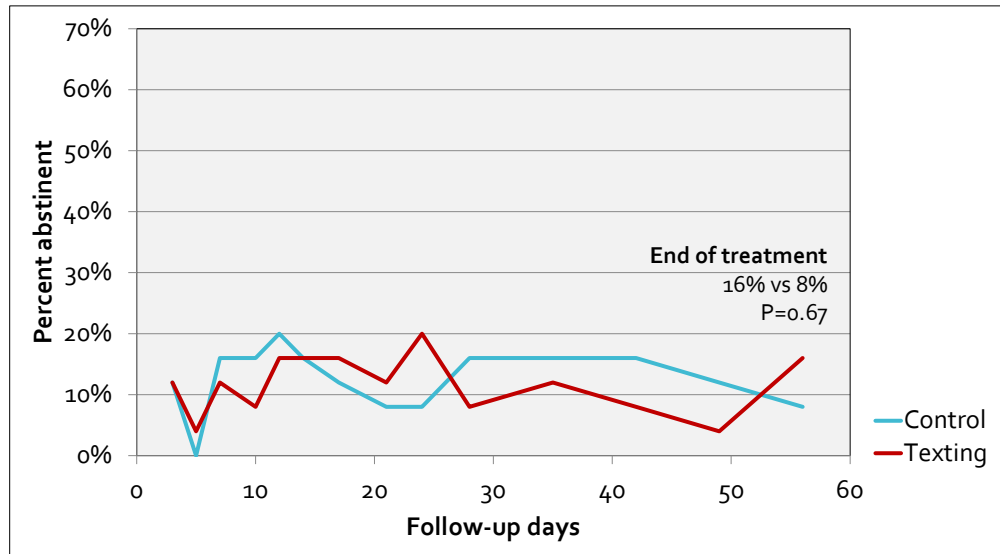
Baggett, NTR 2018

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Smoking Abstinence: Control vs Texting Arm



Baggett, *NTR* 2018

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INSPIRE Quitting (Investigating a Novel Smoking Program to Incentivize Reduction & Quitting)

Control arm

- Varenicline therapy (12 wks)
- Tobacco coaching (5 sessions over 12 wks)
- Cotinine monitoring (12 wks)

Financial incentives arm

- Control components
- Escalating payments for cotinine-verified abstinence (< 30 ng/mL)

- 6-month RCT for homeless smokers; current daily smoking ≥ 5 cigarettes
 - Participants ready to quit in next 3 months
- Original design included CO breath testing & NRT evidenced by pilot study
 - COVID-19 pandemic caused switch to POC saliva cotinine tests, varenicline

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INSPIRE Quitting: Successes

- About 2/3 attendance across tobacco coaching visits
 - Much higher uptake compared to pilot study
- Many pts consider cutting back, vaping as success
- Valuable info on real-world use of contingency management, varenicline, & tobacco coaching

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Participant Quotes

Pilot Study (re: SmokefreeTXT)

- "I'd rather come in and talk. ... I like to do things in person."
- "I'd rather just be, up in person. ...So that way you can see my expressions, x, y, z."
- "I'd love it in person so we can see eye to eye."

INSPIRE Quitting (re: tobacco coaching)

- "But she gave me some of the best tools that I use. For example, the craving only lasts about a minute. I never analyzed that or noticed it, but when she said and I applied it, I was like, 'Wow, it really does go away.' ... So yeah, she gave me some good tools."
- "I think the coaching and that you actually talk to the chick...she's pretty good talking, so it helps out. She gives you techniques and stuff, so it's pretty good."

Baggett, NTR 2018

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INSPIRE Quitting: Challenges

- Lower recruitment rates than expected
- Very low smoking abstinence rates
- Varenicline adverse events (AEs) common
 - Most common AEs: Abnormal dreams, nausea, headaches
 - None so far have been serious

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Takeaways

- High smoking rate, barriers to abstinence
- Promising short-term abstinence from financial incentives
- Long-term abstinence requires further interventions
 - Harm reduction vs complete abstinence
 - Interpersonal support through tobacco counseling essential

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