

# Novel Smoking and Vaping Cessation Approaches

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Hollings Cancer Center  
An NCI-Designated Cancer Center

# Conflicts of Interest

- Testify (since 2015) on behalf of plaintiffs who have filed litigation against the tobacco industry
- Funded by the MUSC Hollings Cancer Center from the NCI (P30 CA138313) and startup funds
- Multiple other NCI/NIDA/NHLBI/NIAAA grants over the past 20 years – all publicly available on reporter.nih.gov
- ***The content of this presentation are not the official views of the Society for Research on Nicotine & Tobacco (SRNT)***

# Our Larger Team at MUSC Hollings Cancer Center

## Robust Tobacco Research Group



**Biostatistics & Bioinformatics**

**Dissemination & Implementation**

**Outstanding Leadership**

# A Randomized Trial for Hazardous Drinking and Smoking Cessation for Callers to a Quitline

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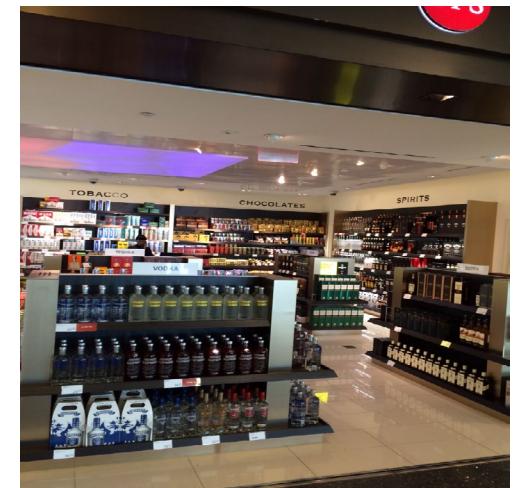
K. Michael Cummings

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You can quit.  
We can help.

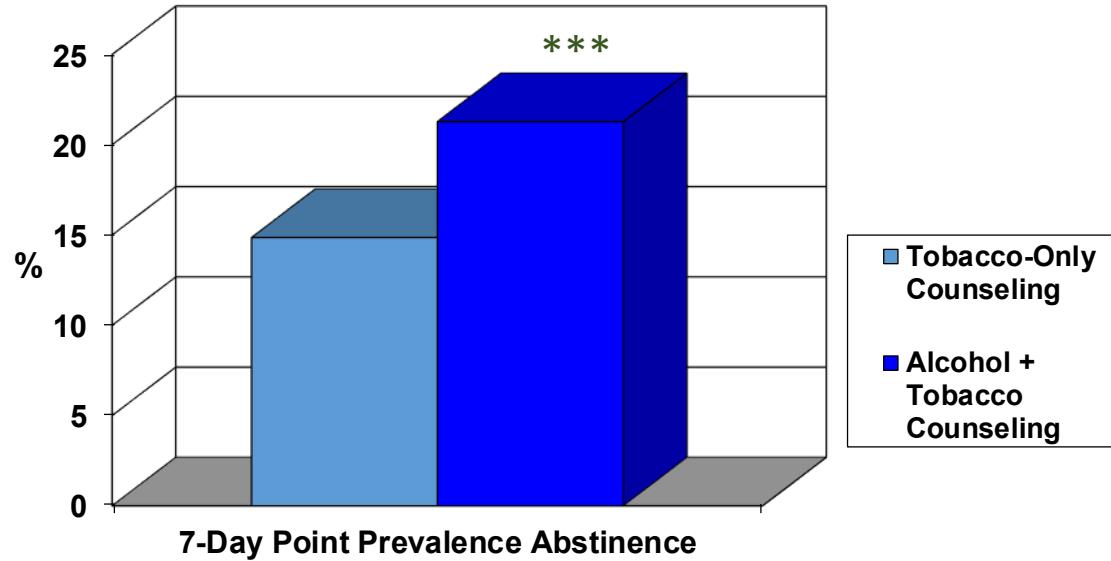


[www.nysmokefree.com](http://www.nysmokefree.com)

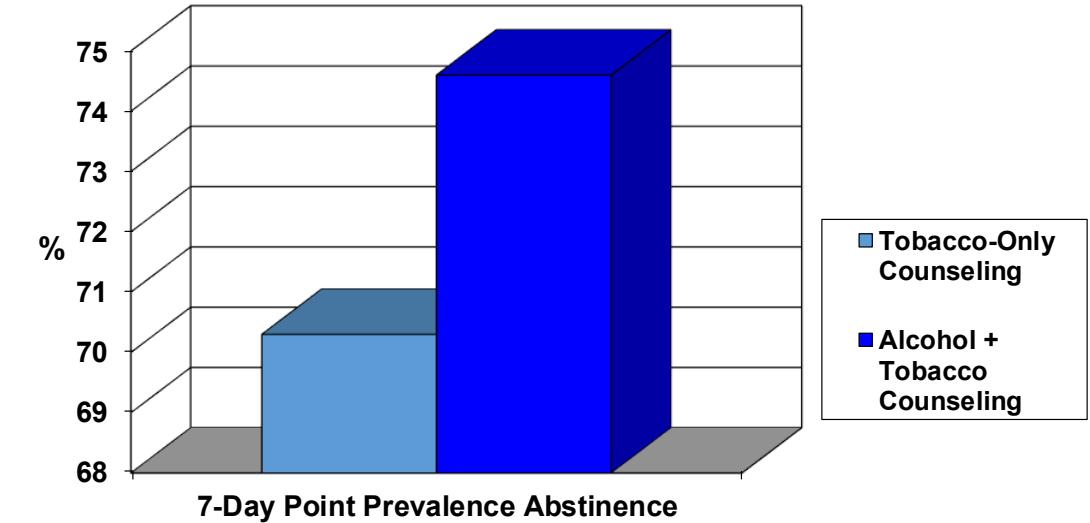


- Randomized to standard counseling or motivational interviewing to reduce alcohol use

# Smoking Cessation & Heavy Drinking Abstinence 7-Mo Follow-up



\*\*\* p = .03; 20.4% (100/490) vs 26.2% (132/503)



p = .07; 70.3% (331/471) vs 74.6% (361/484)

**Americas Tobacco**

# Deep dive on US nicotine market - Who's best positioned to win over the next decade+



smokeless/snus and oral nicotine pouches). The US nicotine category is very

**Mike Cummings, Ph.D.**

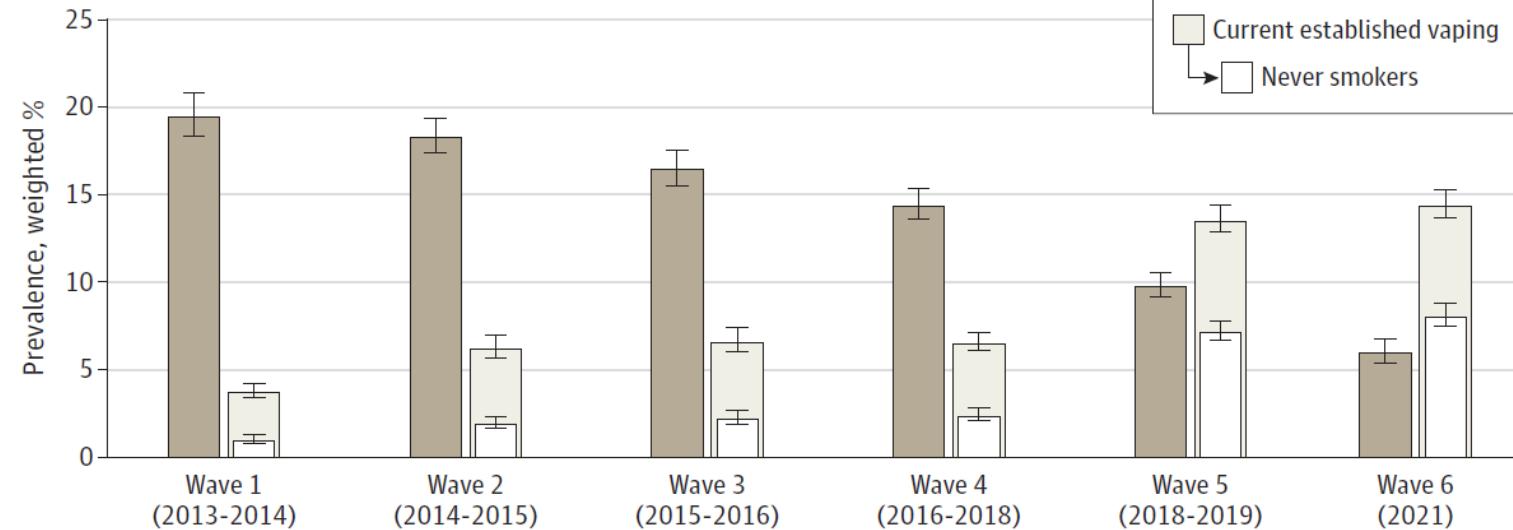


years and the US is the world's most profitable nicotine market (\$25B profit pool today), and we expect the total profit pool to compound at a healthy 3.2% to ~\$40B by 2035. Importantly, we forecast consumption of smoke-free nicotine products will surpass consumption of combustible products in volume this year and approach it in revenues & profits by 2035 as smokers continue to convert to reduced-risk alternatives. We predict the biggest winner over the next decade will be PM, with the greatest share gains of the nicotine revenue and profit pools. We forecast PM's US nicotine profits will increase by a 19.0% CAGR reaching a 20.0% share of total US market nicotine profits (vs a 4.2% share today) over the next decade. While we

# Vaping Is The New Smoking

Figure. Prevalence of Current Established Smoking and Vaping Among US Young Adults Aged 18 to 24 Years

A Smoking or vaping



JAMA Internal Medicine

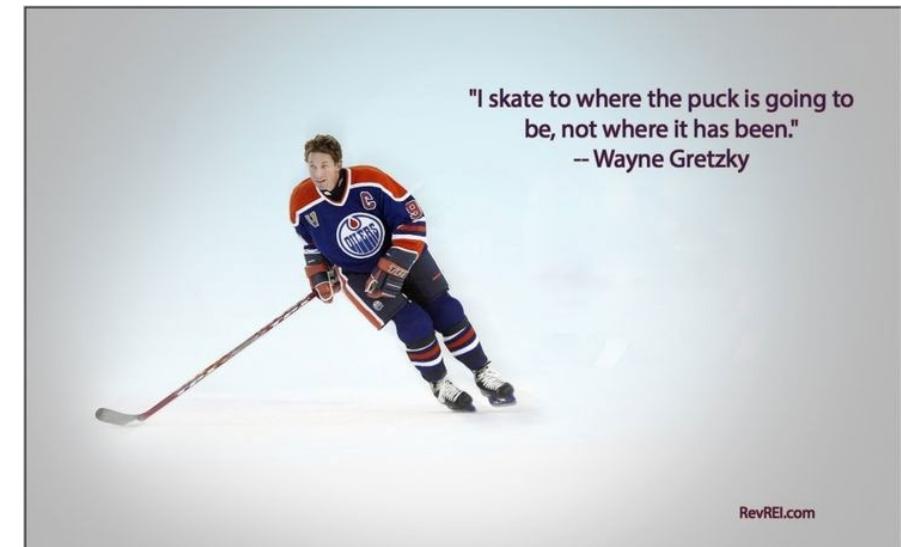
JAMA IM, 184, 106-108.

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## Interest in Quitting e-Cigarettes Among Adult e-Cigarette Users With and Without Cigarette Smoking History

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## Introduction

Approximately 2.8% to 3.2% of US adults are current e-cigarette users, with a majority being current cigarette smokers or former cigarette smokers.<sup>1</sup> The most common use for e-cigarettes is to quit smoking, but e-cigarette use may continue even after discontinuation of combustible cigarettes.<sup>2</sup>

Furthermore, those who initiate e-cigarettes to quit smoking may not be successful, leading to dual use of both tobacco cigarettes and e-cigarettes, which increases potential health harms.<sup>3</sup>

Previous studies have shown that people who use e-cigarettes, also called vaping, are interested in quitting.<sup>4,5</sup> No published randomized clinical trials for e-cigarette discontinuation exist, and evidence on how to aid e-cigarette users in stopping is limited. It is important to understand interest in quitting among e-cigarette users, including dual users. The purpose of this study was to provide the most up-to-date estimate of interest in e-cigarette discontinuation among US adults.

Author affiliations and article information are listed at the end of this article.

► Additional supplemental material is published online only. To view, please visit the journal online (<http://dx.doi.org/10.1136/med-2022-057710>).

## Interest in quitting e-cigarette use by device type and smoking history in US adults

Amanda M Palmer,<sup>1</sup> Alana M Rojewski,<sup>1,2</sup> Matthew J Carpenter,<sup>1,2,3</sup> Elias M Klemperer,<sup>4</sup> Nathaniel L Baker,<sup>1,2,3</sup> Brandon T Sanford,<sup>1,5</sup> Benjamin A Toll<sup>1,2,4</sup>

## ABSTRACT

**Background** The use of e-cigarettes has been increasing, especially since the introduction of 'pod' devices to the marketplace since 2018. Most adults who vape report interest in quitting. The present study examined level of interest in e-cigarette cessation between users with varying cigarette smoking histories and device types.

**Methods** Data obtained from wave 5 (2018–2019) of the Population Assessment of Tobacco and Health study (n=34 309). Analyses were conducted on adult current established e-cigarette users, categorised on cigarette smoking history (current, former or never) and device type (disposable, cartridge/pod, tank or mod). Participants reported if they planned to ever quit e-cigarettes, attempted to quit in the past year and attempted to quit by cutting back in the past year.

**Results** Of the 2922 established e-cigarette users, 68.21% reported plans to quit vaping; 17.27% reported attempting to quit e-cigarettes in the past year; and 29.28% reported attempting to quit by cutting back in the past year. Cartridge users had higher odds of interest in quitting than tank and mod users. Disposable

## WHAT IS ALREADY KNOWN ON THE TOPIC

► E-cigarette use prevalence is constantly shifting as new devices are introduced into the marketplace. Adults may use e-cigarettes for a variety of reasons, such as to quit smoking, as an alternative to smoking or as a result of experimentation. Prior research has shown that many adult e-cigarette users report symptoms of dependence and a desire to quit vaping.

## WHAT THIS STUDY ADDS

► Less is known about the role of device type in e-cigarette cessation intentions and actions. Findings from the US Food and Drug Administration's Population Assessment of Tobacco and Health wave 5 adult data suggest that individuals who use cartridge and disposable devices have higher intentions to quit and were more likely to report past quit attempts than individuals who use tank or mod devices. Individuals with history of smoking were less likely to report past quit attempts.



Amanda Palmer, Ph.D.



## Wave 7: January 2022–April 2023

## Prevalence of exclusive EC use, Dual Use, and interest in quitting (PATH Wave 7)

US Adults Age 18+ Who Use ECs	National Weighted Percentage	Percentage by Type of User	Percentage Who Plan to Quit
Exclusive EC use <sup>a</sup>	3.44%	58.44%	77.4%
Dual Use of EC and CC <sup>b</sup>	2.44%	41.53%	58.9%

<sup>a</sup>Regular use in past 30 days; <sup>b</sup>Regular EC use and any CC smoking in past 30 days; <sup>c</sup>Plan to quit both EC and CC





## Nicotine replacement therapy for vaping cessation among mono and dual users: A mixed methods preliminary study

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### ARTICLE INFO

**Keywords:**

E-cigarette  
Vaping  
Cessation  
Nicotine replacement therapy  
Qualitative  
Pilot study

### ABSTRACT

Many adults express interest in e-cigarette cessation; however, there are few empirically tested interventions for quitting vaping. This study seeks to (1) evaluate reasons for quitting e-cigarettes in treatment-seeking adults, and (2) assess the feasibility and acceptability of nicotine replacement therapy (NRT) for e-cigarette cessation. Adult daily e-cigarette users completed qualitative interviews about quitting e-cigarettes, then were randomized to either 28-day supply of combination NRT (21 mg patches, 4 mg lozenges) + supportive booklet or Quitline referral. Primary aims were feasibility (number who enrolled) and acceptability (NRT use, adverse side effects). Exploratory aims evaluated abstinence (7-day point-prevalence) at end of treatment. Of the 30 participants who were enrolled, 50 % (n = 15) were dual users, and 50 % (n = 15) were mono-vapers, 26.6 % (n = 8) of whom were former smokers. Participants reported seeking treatment due to health concerns, dependence, stigma, and cost. Anticipated challenges of quitting vaping were withdrawal, negative mood, sensorimotor habits, and convenience. Most completed the end of treatment survey (n = 24; 80 %). Participants who received NRT reported using the patch M = 10.89 days and lozenges M = 6.39 days, with few days of adverse effects (M = 2.67). At end of treatment, 6/18 (33.3 %; 6 mono and 0 dual users) in the intervention group reported abstinence from vaping, compared to 0 in the control group (Fisher = 5.00, p = .057). In conclusion, adults are interested in quitting e-cigarettes due to negative consequences of use and are willing to use pharmacotherapy. Future research should confirm these results in a larger trial, address cigarette smoking in dual users, and aim to disseminate treatments.



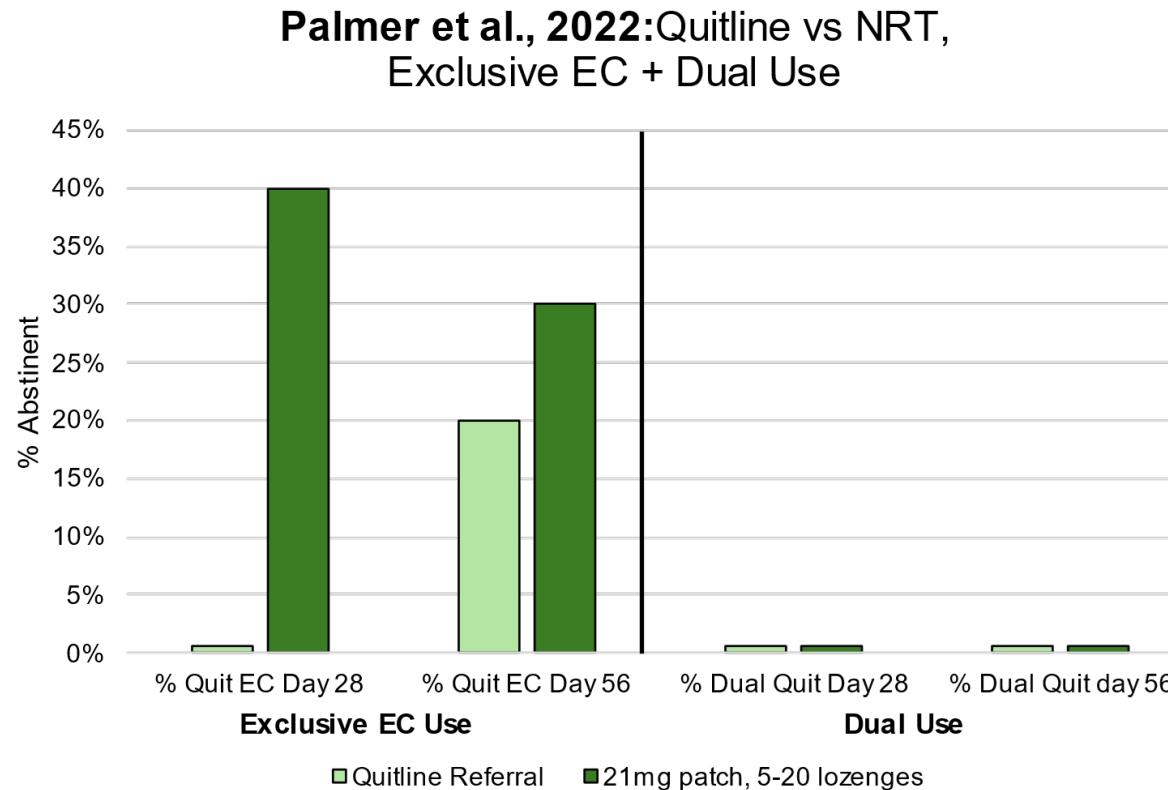
**Amanda Palmer, Ph.D.**



[hollingscancercenter.musc.edu](http://hollingscancercenter.musc.edu)

# Dual Nicotine Replacement Therapy for EC Use

- Palmer et al. (2022) pilot data suggest that standard treatments for CC cessation (Quitline referral, or NRT [21mg patch + 4mg lozenge, 5-20/day]) may fall short in treating dual use

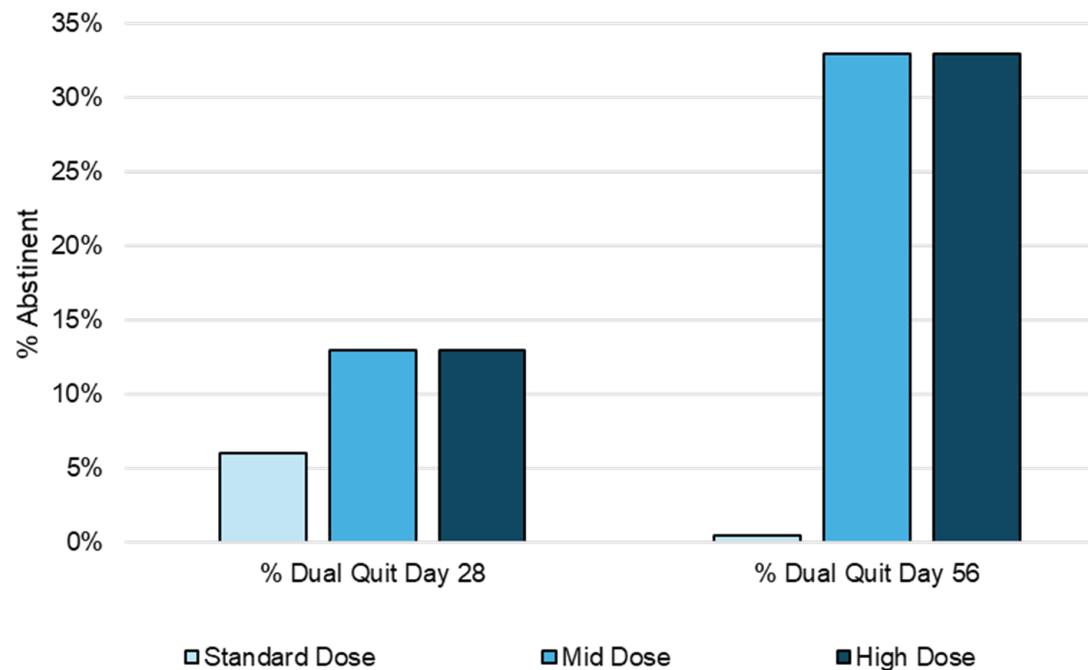


Amanda Palmer, Ph.D.



# Dual Nicotine Replacement Therapy for EC Use

- Extended pilot study (N=46) participants randomized to 1 of 3 groups:
  - Standard dose (21mg patch + 5-20 4mg lozenges/day)
  - Mid dose (21mg + 14mg patch + 5-30 4mg lozenges/day)
  - High dose (2x21mg patches + 5-40 4mg lozenges/day)



**Paper is under revision  
at a peer reviewed  
medical journal and R01  
A1 (resubmission)  
submitted this month  
(March 2025)**

# Varenicline Vs Placebo Pilot Trial

American Journal of  
Preventive Medicine

RESEARCH LETTER

Varenicline for E-Cigarette Cessation in Adults: A Preliminary Placebo-Controlled Randomized Trial

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Suchitra Krishnan-Sarin, PhD,<sup>1</sup> Kevin M. Gray, MD,<sup>5</sup> Benjamin A. Toll, PhD<sup>1,4,5</sup>

Am J Prev Med 2024;67(2):296–298

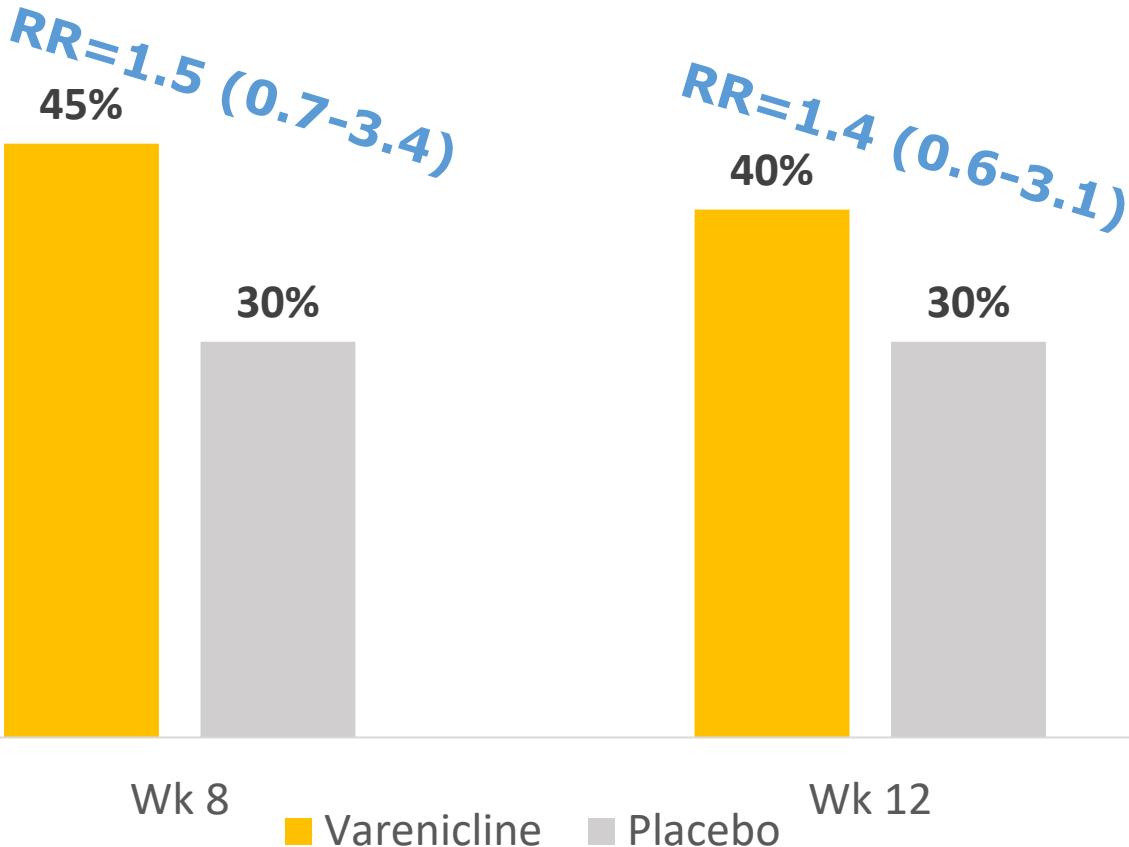


Lisa Fucito, Ph.D.



# Results – Preliminary Efficacy

Self-Reported 7-Day Point Prevalence Quit Rates by Group



## Other Outcomes

### Smoking Behavior

- Two participants (1 VAR, 1 PLA)
- VRN participant eventually quit both products
- PLA participant stopped cigarette smoking but not e-cigarette use

Dr. Fucito and I have a MPI R01 funded by the NCI examining varenicline vs placebo for mono-vapers (N=326)

# Summary & How Data Relate To Alcohol Use?

- Non-combusted products will overtake combusted products in the US very soon
- We have an urgent need to develop new treatments for mono-e-cigarette use and dual use of cigarettes and e-cigarettes
- There is a robust literature showing Motivational Interviewing/behavioral counseling helps with reduction of alcohol
- ***Varenicline is known to assist with reductions in alcohol use***

# Thank You!

@bentollphd



Holling

An NCI

Everything  
negative -  
pressure,  
challenges  
- is all an  
opportunity  
for me to  
rise.

KOBE BRYANT

yourtango

