



Impact of Vaping Prevention Advertisements on US Adolescents

March 14th, 2023

Research into Action Webinar Series



**Geographic Health
Equity Alliance**

A  CADCA Initiative



cadca.org

Today's Presenter



Seth M. Noar, Ph.D.

James Howard and Hallie McLean Parker Distinguished Professor
Hussman School of Journalism and Media
University of North Carolina at Chapel Hill (UNC)

VAPING PREVENTION COMMUNICATION

Current research and evidence-based
recommendations

Seth M. Noar, PhD
Hussman School of Journalism and Media
University of North Carolina at Chapel Hill

OBJECTIVES



Introduce you to **Vaping Prevention Resource**



Current research about vaping prevention messages (2 studies)

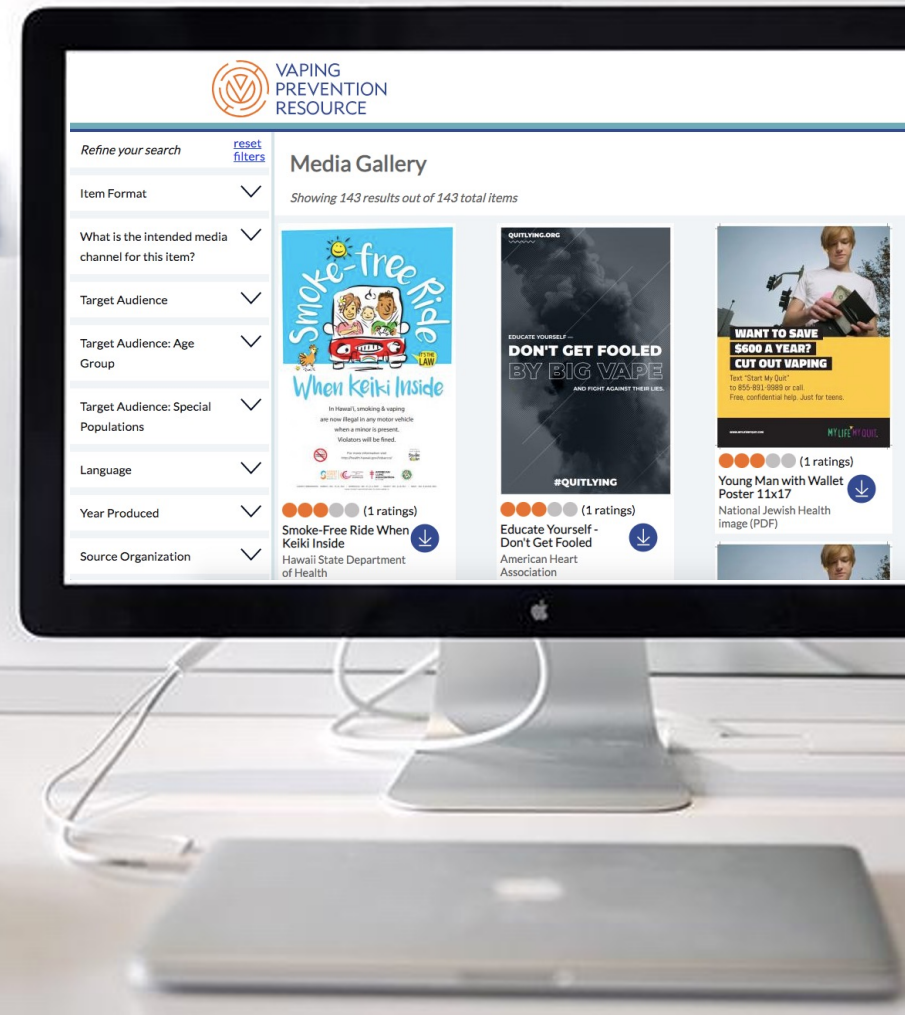


Best practices for vaping prevention communication

VAPING PREVENTION RESOURCE



Supporting health practitioners
and communities



FOUNDERS

Kurt Ribisl, PhD

Kurt M. Ribisl, PhD is Jo Anne Earp Distinguished Professor and Chair of Health Behavior at the UNC Gillings School of Global Public Health, Leader of the Cancer Prevention & Control Program at UNC's Lineberger Comprehensive Cancer Center, and Co-Founder of CounterTobacco.org and Counter Tools. He is a nationally recognized tobacco control and policy expert and served as a federally appointed member of the FDA Tobacco Products Scientific Advisory Committee from 2012-2016.

Dr. Ribisl's primary research focus is evaluation and improvement of the reach of population-level efforts to reduce tobacco use, with an emphasis on policy and information technology. Dr. Ribisl is a member of the Editorial Advisory Board for the journal Tobacco Control and is the author of over 185 scientific articles.

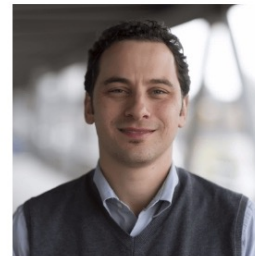


Seth Noar, PhD

Seth M. Noar, PhD is the James Howard and Hallie McLean Parker Distinguished Professor in the UNC Hussman School of Journalism and Media and a member of UNC's Lineberger Comprehensive Cancer Center.

Dr. Noar has conducted health communication research on the design, implementation, and evaluation of health messages and campaigns for more than 15 years. He has focused much of his research on anti-tobacco messages, including several studies on graphic warning labels for cigarette packs that were cited in FDA's final graphic warning label rule in 2020.

Dr. Noar served as Associate Director of the Communication Core for the UNC Center for Regulatory Research on Tobacco Communication and is author of more than 160 scientific articles on health communication.



Hannah Prentice-Dunn, MPH

Hannah Prentice-Dunn, MPH, is Program Manager at the UNC Lineberger Comprehensive Cancer Center. She has worked for ten years in clinical trial management, public health program delivery, and cancer prevention research.

Hannah has collaborated with over 100 hospital, school, and business employers across North Carolina to pass tobacco-free campus policies and to provide employees with tobacco cessation benefits, supported 10 healthcare systems in New York City in adopting comprehensive patient quit-tobacco systems, and contributed to numerous tobacco prevention and control research grants and publications.



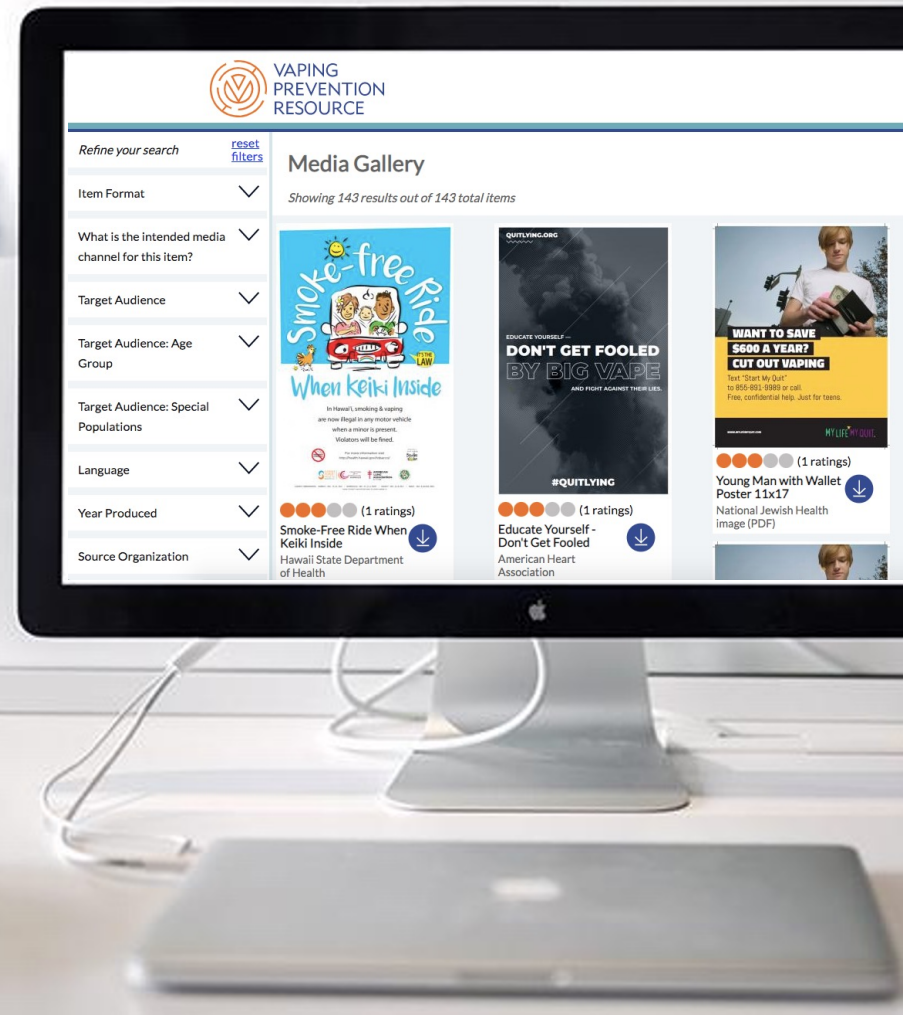
MEDIA GALLERY

950

ITEMS IN MEDIA GALLERY

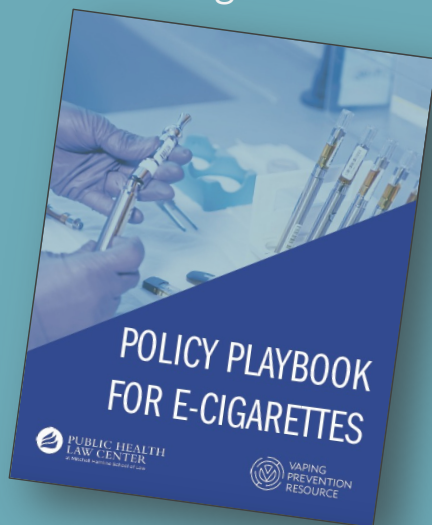
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ORGANIZATIONS




POLICY PLAYBOOK

- A framework to review and select policies that might work for your communities
- Policy options for state and local jurisdictions
- Additional advocacy resources for change makers

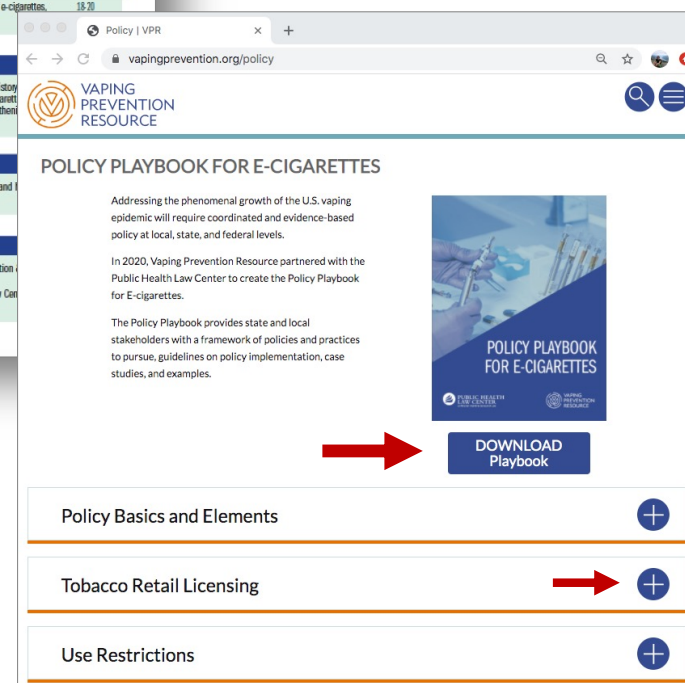


POLICY PLAYBOOK GUIDE



| | | |
|----------|--|-------|
| 1 | KNOW THE FACTS | |
| | Introduction: Review the current trends in e-cigarette use, harms related to vaping, e-cigarette products on the market, and federal government action to date. | 1-6 |
| | Policy basics & elements: Review the Public Health Law Center's basic tips for crafting and enacting a successful policy. | 7-9 |
| 2 | REVIEW THE FOUNDATIONAL POLICIES | |
| | Retail licensing: Tobacco retailer licensing is typically one of the first policies communities consider if licensing is not already in place. Jurisdictions that already have licensing can often strengthen and expand these policies to include e-cigarettes. | 10-13 |
| | Use restrictions: Policies that restrict the use of tobacco products are important initial ways to limit tobacco use and reduce exposure to second-hand smoke. Use restriction policies are common in the U.S. but can be strengthened to include e-cigarette use, and expanded to cover additional areas. | 14-17 |
| 3 | CONSIDER PRICING POLICIES | |
| | Pricing policies: Communities may also want to consider policies that regulate the price of e-cigarettes, such as restricting price-discounting or raising excise taxes on e-cigarettes. | 18-20 |
| 4 | REVIEW MORE ADVANCED LOCAL & STATE POLICY OPTIONS | |
| | Other policy options: Depending on their jurisdiction's needs, regulatory authority, policy history goals, status and local communities may want to consider other strategies to regulate e-cigarettes including general sales restrictions, restricting the sales of flavored e-cigarettes, and strengthening youth access policies. | |
| 5 | COVER YOUR BASES | |
| | E-cigarette policy considerations: Review possible legal challenges to e-cigarette policies and can anticipate these arguments. | |
| 6 | ACCESS ADDITIONAL RESOURCES | |
| | Organizations: Refer to partnering organizations who support a wide array of vaping prevention and control activities. | |
| | Resources: Review specific policy and advocacy resources curated by the Public Health Law Center Vaping Prevention Resource. | |

POLICY PLAYBOOK FOR E-CIGARETTES



Policy | VPR

vapingprevention.org/policy

VAPING PREVENTION RESOURCE

POLICY PLAYBOOK FOR E-CIGARETTES

Addressing the phenomenal growth of the U.S. vaping epidemic will require coordinated and evidence-based policy at local, state, and federal levels.

In 2020, Vaping Prevention Resource partnered with the Public Health Law Center to create the Policy Playbook for E-cigarettes.

The Policy Playbook provides state and local stakeholders with a framework of policies and practices to pursue, guidelines on policy implementation, case studies, and examples.

DOWNLOAD Playbook

- Policy Basics and Elements
- Tobacco Retail Licensing
- Use Restrictions

Vaping Prevention Resource is proud to present,
The Vaping Prevention Corner!

The Vaping Prevention Corner is our bi-monthly, e-newsletter that highlights the latest information on health communications, research, policy, and advocacy to help readers stay up-to-date on all things vaping prevention.

Join our audience of over 700+ vaping prevention practitioners, researchers, advocates, and change-makers!

2

CURRENT RESEARCH





STATE OF VAPING PREVENTION RESEARCH

- Communication campaigns are an evidence-based approach to preventing tobacco use

Currently, we know little about what kinds of messages are effective in discouraging vaping.



OUR RESEARCH: Study #1

Study Phases



Phase I: Content Analysis

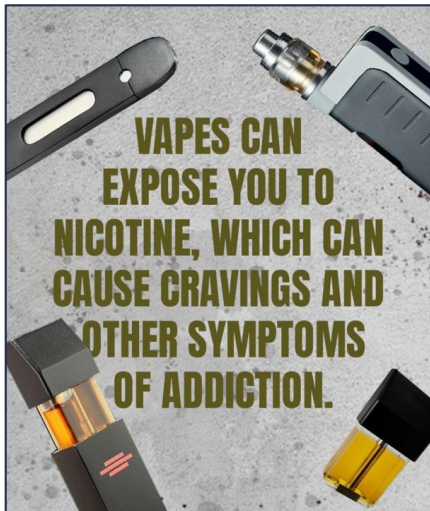
- Collect print/web vaping prevention messages (n=220)
- Code objective message features



Phase II: Experiment

- Conduct study on adolescent perceptions of the messages
- Examine associations between objective message features and adolescent perceptions

PHASE I: Message Coding



- Nicotine/addiction theme
- Vaping device images
- Vaping accessory image (pod)
- Health symptoms
- Second-person ("you")



- Industry targeting theme
- Use of #
- Bright/vivid color
- First-person ("we")

PHASE II: Survey Study

- Each participant rated 7 messages from the pool of 220 coded messages
- The 7 messages were presented in a **random order**
- Adolescents rated each message on **perceived message effectiveness**

Perceived Message Effectiveness (PME)

How much does this ad...

...make you worry about what vaping will do to you?

...make you think vaping is a bad idea?

...discourage you from vaping?

1=Not at all

2=Very little

3=Somewhat

4=Quite a bit

5=A great deal



Participants



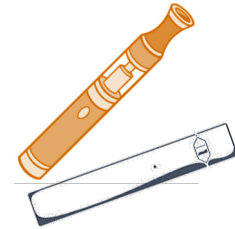
Online, national sample of
N=1,532 adolescents 13-
17 years old



70.7% White
22.5% Black/African American
20.3% Hispanic/Latino



51.6% female
48.4% male



30% Past 30-day users
44% Susceptible to use
26% Non-susceptible to use

Boynton et al. (2021)

ANALYSIS

- Computed multi-level model analyses
- Examined the presence of each individual feature on PME
 - **Positive effect:** presence of feature led to higher PME
 - **Negative effect:** presence of feature led to lower PME

RESULTS

FEATURE HAD POSITIVE EFFECT ON PME



Content

| | |
|-------------------------------------|-------|
| Water vapor | .17** |
| Unknown ingredients | .25** |
| Nicotine addiction | .25** |
| Death | .25** |
| Cigarette comparison | .31** |
| Health symptoms | .37** |
| Health effects on brain or lungs | .40** |
| Chemicals | .42** |
| Gateway to smoking | .55** |

Boynton et al (2022) ** $p < .01$

RESULTS

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Style

| | |
|------------------|-------|
| Poses a question | .09** |
| Source included | .09** |
| Second-person | .20** |
| language ("you") | |

Boynton et al (2022) ** $p < .01$

RESULTS

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Style

| | |
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| Poses a question | .09** |
| Source included | .09** |
| Second-person | .20** |
| language ("you") | |



Imagery

| | |
|-----------------|-------|
| Graphic image | .73** |
| Warning symbol | .36** |
| Nicotine symbol | .31** |
| Cigarette | .30** |

Boynton et al (2022) ** $p < .01$

RESULTS

FEATURES HAD **NEGATIVE** EFFECT ON PME



Content

| | |
|----------------------|--------|
| Industry Targeting | -.23** |
| Environmental Impact | -.32** |
| Flavors | -.25** |

Boynton et al (2022) ** $p < .01$

RESULTS

FEATURES HAD **NEGATIVE** EFFECT ON PME



Content

| | |
|----------------------|--------|
| Industry Targeting | -.23** |
| Environmental Impact | -.32** |
| Flavors | -.25** |



Style

| | |
|--|--------|
| Bright colors | -.12** |
| Uses hashtag (#) | -.20** |
| Meme format | -.34** |
| Uses word teen | -.21** |
| Uses first-person language ("I" or "we") | -.33** |
| Uses statistic | -.38** |

Boynton et al (2022) ** $p < .01$

RESULTS

FEATURES HAD **NEGATIVE** EFFECT ON PME



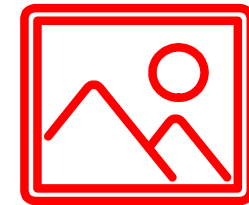
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Imagery

| | |
|------|--------|
| Face | -.20** |
| Food | -.38** |

Boynton et al (2022) ** $p < .01$



OUR RESEARCH: Study #2

Research Questions

- 1) Do FDA's *Real Cost* vaping prevention video ads reduce susceptibility to vaping?
- 2) Do health harms or nicotine addiction ads have greater impact?



Health harms



Addiction

Randomized Controlled Trial (RCT)

Participants

- Adolescents aged 13-17, screened susceptible to vaping

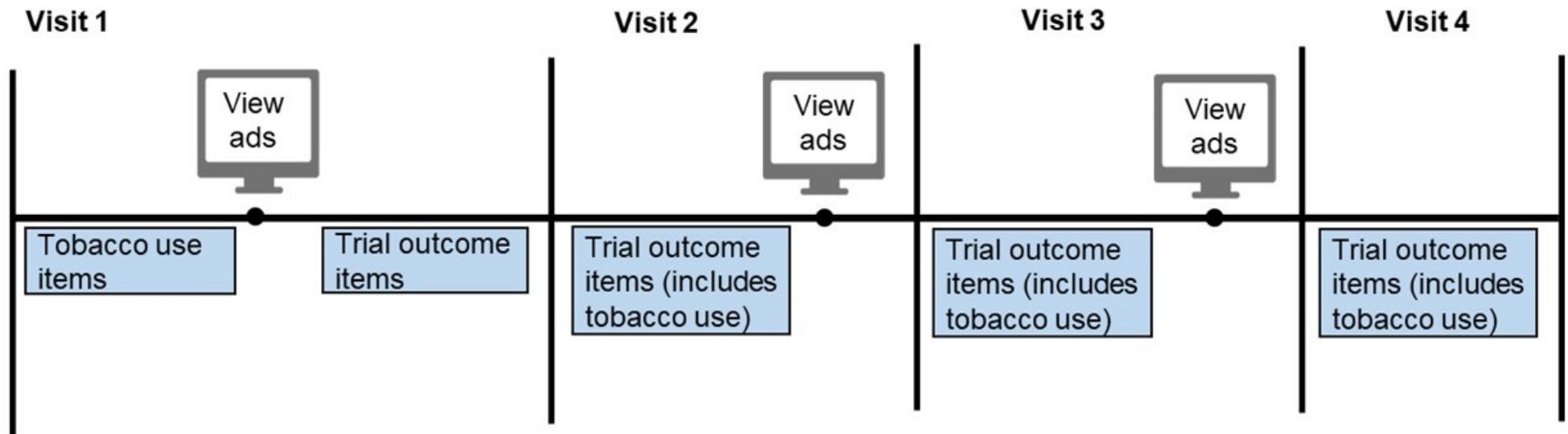
Design

- 3-week RCT with weekly ad exposures

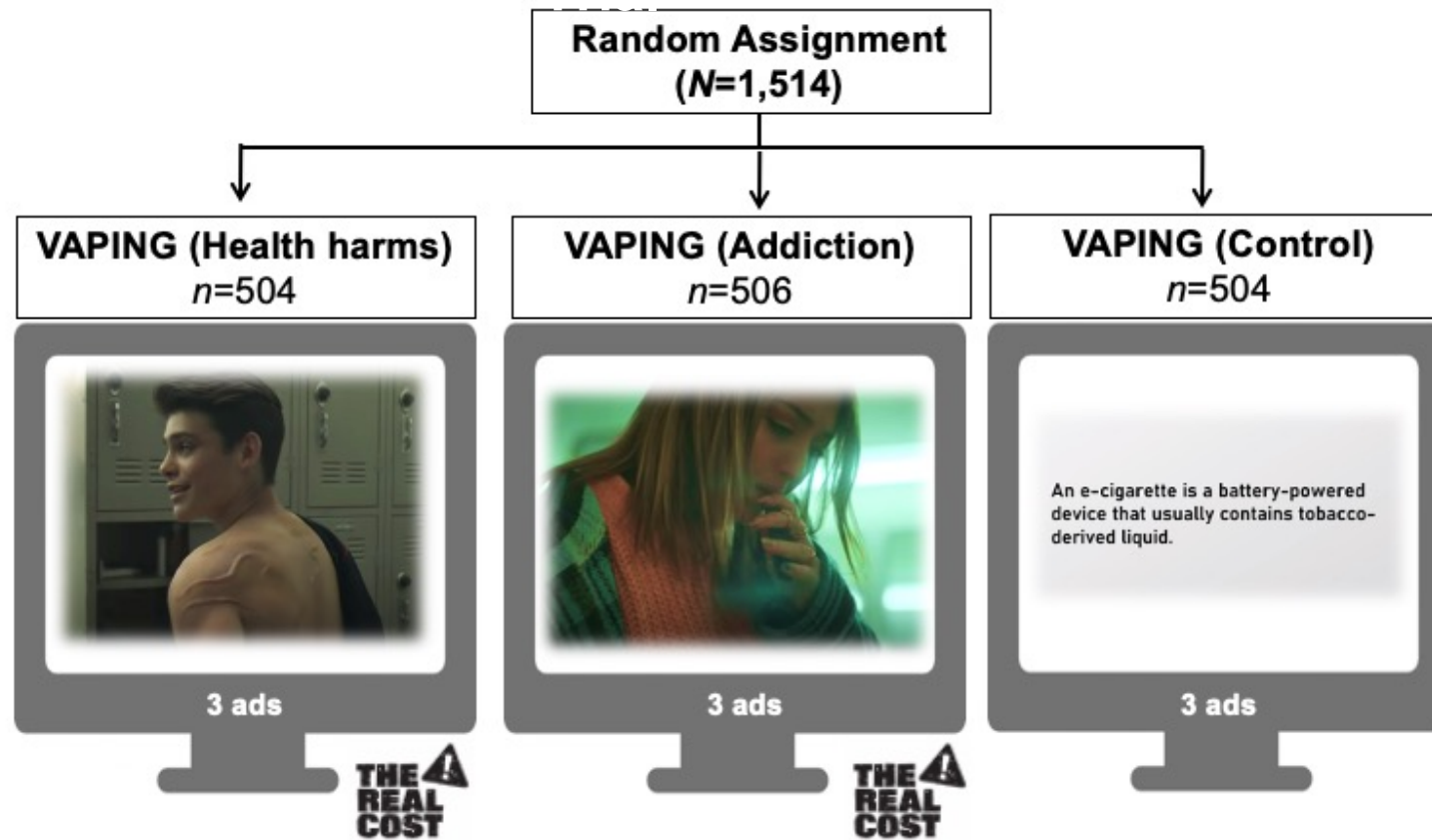
Primary Outcome

- Susceptibility to vaping (3-item scale) at Visit 4

RCT Design

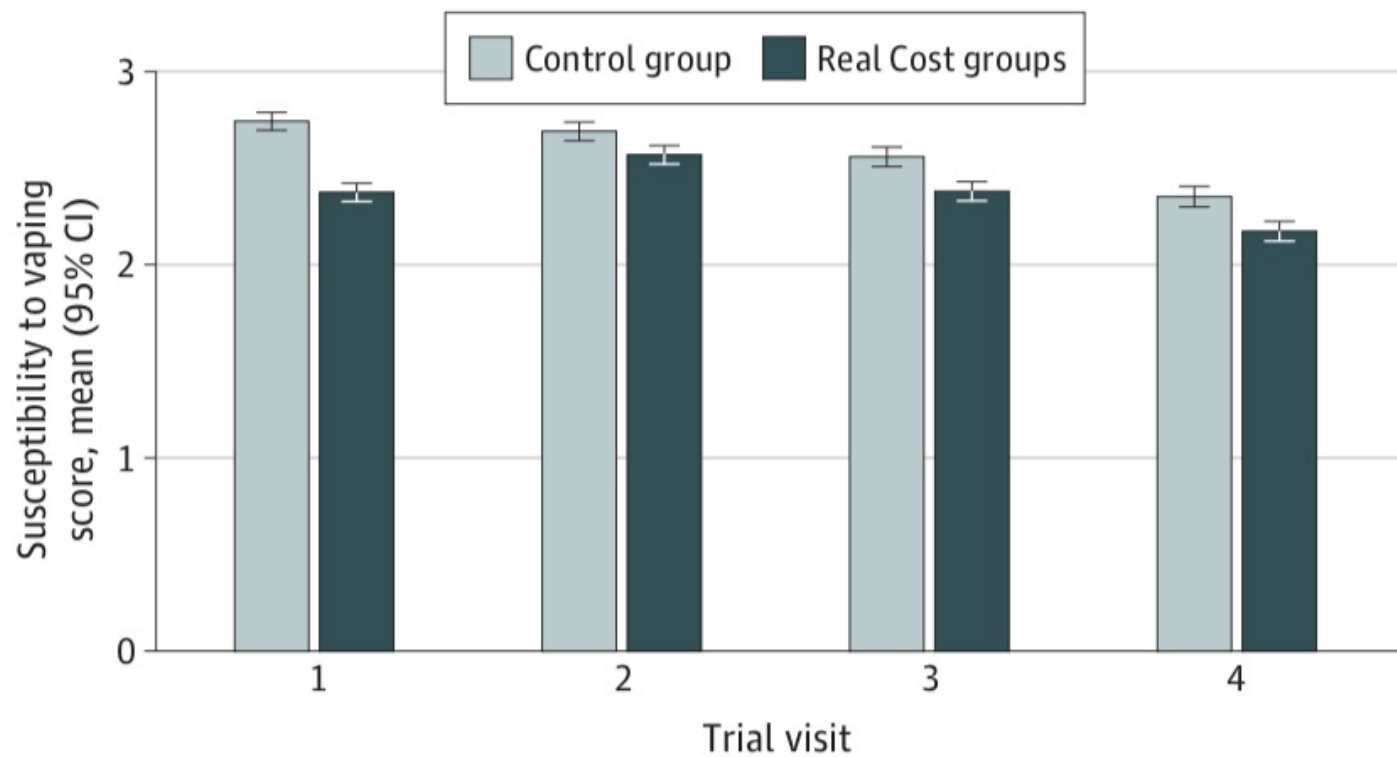


Noar et al. (2022)



Noar et al. (2022)

Results: Susceptibility to vaping



Noar et al. (2022)

At Visit 4, *Real Cost* trial arms (compared to control) also had:

- More negative attitudes towards vaping
- Higher health harm risk beliefs about vaping
- Higher addiction risk beliefs about vaping
- Reduced vaping behavior
- Lower susceptibility to smoking cigarettes
- More negative attitudes about smoking cigarettes

Health harms vs. Nicotine addiction

- No difference between the two *Real Cost* trial arms on the primary outcome (susceptibility to vaping at Visit 4)

3

EVIDENCE-BASED RECOMMENDATIONS





EVIDENCE-BASED



BEST PRACTICES



**PRACTICES TO AVOID
OR
USE WITH CAUTION**



BEST PRACTICES



Content

- Consequences of addiction
- Specific chemicals
- Vaping symptoms and health effects
- Comparing vaping to smoking



BEST PRACTICES



Content

- Consequences of addiction
- Specific chemicals
- Vaping symptoms and health effects
- Comparing vaping to smoking



Style

- Second-person language ("you")
- Credible information with sources



BEST PRACTICES



Content

- Consequences of addiction
- Specific chemicals
- Vaping symptoms and health effects
- Comparing vaping to smoking



Style

- Second-person language ("you")
- Credible information with sources



Imagery

- Graphic images
- Warning symbols
- Cigarette imagery

Promising messages



Rated highly on PME ($M = 3.92 - 4.33$)



PRACTICES TO AVOID OR USE WITH CAUTION



Content

- Flavor content
- Industry targeting
- Environmental impact



PRACTICES TO AVOID OR USE WITH CAUTION



Content

- Flavor content
- Industry targeting
- Environmental impact



Style

- Taking teens' perspective and voice (no first-person)
- Memes or hashtags
- General statistics



PRACTICES TO AVOID OR USE WITH CAUTION



Content

- Flavor content
- Industry targeting
- Environmental impact



Style

- Taking teens' perspective and voice (no first-person)
- Memes or hashtags
- General statistics



Imagery

- Food or animals



Not promising messages



Rated low on PME ($M = 2.07 - 2.39$)

BEST PRACTICES

Fact Sheet



VAPING
PREVENTION
RESOURCE



VAPING PREVENTION COMMUNICATION: EVIDENCE-BASED PRACTICES

To help federal, state, and local organizations effectively communicate with adolescents about vaping prevention, Vaping Prevention Resource has collected and synthesized emerging evidence about vaping prevention communication. This fact sheet provides an overview of the best practices, practices to avoid, and practices to use with caution when creating messages for adolescents.

BEST PRACTICES

Use these evidence-based best practices when creating vaping prevention messages for adolescents. The information below covers tips for the most promising content to include, style to use, and images to show in your messages.

Content

What should you talk about?

- ▶ Specific chemicals found in e-liquid or vapor
- ▶ Health effects of vaping on the brain and lungs
- ▶ Specific symptoms of vaping, including: cough, headache, nausea
- ▶ Consequences of nicotine addiction
- ▶ Similarities between vaping and smoking

Style

How should you communicate?

- ▶ Simple, clear, and understandable
- ▶ Information backed up by credible sources
- ▶ Second-person language ("you")

Imagery

What imagery should you include?

- ▶ Graphic images about chemicals or health effects
- ▶ Warning imagery, such as an exclamation point or skull and crossbones



CREDIT: XXX

GET THE FACTS



CREDIT: XXX



CREDIT: XXX

See nearly one thousand real-world examples!

Check out Vaping Prevention Resource's [Media Gallery!](#)

Vaping Prevention Resource is a non-commercial, education resource that provides practitioners, researchers, and communities with vaping prevention media content from around the U.S. and the world.

The VPR media gallery puts hundreds of vaping prevention media items at your fingertips.



ENGAGE WITH US

- Visit us at VapingPrevention.org
- Submit your ads to the media gallery
- Newsletter sign up here: <https://vapingprevention.us9.list-manage.com/subscribe?u=1b53ac3d2b6cb03c30355d085&id=3423327f5e>



vapingprevention.org



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Thank you!

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Disclosures: Seth Noar has served as a paid expert witness in litigation against tobacco and e-cigarette companies.

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REFERENCES



Boynton, M., Sanzo, N., Brothers, W., Kresovich, A., Sutfin, E. L., Sheeran, P., & Noar, S. M. (2022). Perceived effectiveness of objective elements of vaping prevention messages among adolescents. *Tobacco Control*, doi:10.1136/tobaccocontrol-2021-057151.

Noar, S. M., Gottfredson, N. C., Vereen, R. N., Kurtzman, R., Sheldon, J. M., Adams, E., Hall, M. G., & Brewer, N. T. (2021). Development of the UNC perceived message effectiveness scale for youth. *Tobacco Control*, doi: 10.1136/tobaccocontrol-2021-056929.

Noar, S. M., Gottfredson, N. C., Kieu, T., Rohde, J. A., Hall, M. G., Ma, H., Fendinger, N. J., & Brewer, N. T. (2022). Impact of vaping prevention advertisements on US adolescents: A randomized clinical trial. *JAMA Network Open*, 5(10), e2236370.

Questions from CADCA

- When considering the evidence-based recommendations for vaping prevention advertisements, how can coalitions and substance misuse preventionists best utilize personal anecdotes?
- In prior Research Into Action webinars, there has been discussion on the use of “scare tactics” as legitimate forms of prevention advertising. Some proponents have argued that it is effective in grabbing attention, while others argue their emotional appeal (and sometimes extreme nature) hinder further discussion-what has your research shown about them?
- What other resources do you recommend for local communities to utilize?

Thank You!

CADCA wishes to thank
Dr. Seth Noar for his
timely and insightful
presentation.

For help with any evaluation or
research related issue, or
questions about this webinar,
please send an email to
jhong@cadca.org.