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P: 802.391.4147
W: crowdproof.com
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Research Review Narrative

VDH Tobacco Control Program FY19

CONTENTS

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OVERVIEW

Background

Past 802Quits research and messaging primarily served low socioeconomic (SES) Vermonters (<$30k)/Medicaid members and skewed towards males. In FY19/20 we had re-evaluated the target audience as we aim to achieve ~5,000 successful Vermont adult quitters per year through a focus on two primary goals:

1. Reducing the Vermont adult smoking prevalence rate; and
2. Addressing smoking prevalence disparities among at-risk smoking populations in Vermont.

To do so we will hone in on messages that resonate with four key Vermont Target Audience Quit Groups, identified through secondary research as segments that will help achieve both a higher volume of quits and address disparities:

- **Low Income** (18-65 Female/Male, No Mental Health Condition, Income Below $50k).
- **Mental Health** (18-65 Female/Male, Any Mental Health Condition, Income Below $50k).
- **LGBTQ** (18-65 LGBTQ, Yes/No Mental Health, All Income Levels).
- **Pregnant Vermonters** (Pregnant, Income Below $50k).

To-date, Vermont has not tested or otherwise gathered information on what messaging framework most effectively drives quitting behavior among the four Quit Groups. In the absence of such in-state data, this Research Review was designed to gather, synthesize and distill existing data from other state and national message platforms and campaigns that have targeted similar populations, in order to inform what **messages** will:

- Increase the percentage of people attempting to quit with help; and
- Improve the success rate of people attempting to quit on their own.

Through reviewing findings from existing research specifically relevant to measuring the success of messages that **motivate** Low Income, Mental Health, LGBTQ and Pregnant Vermonters segments, we have gleaned insights to help identify initial directions for Vermont messages, which we will further explore in Concept Testing (focus groups and in-depth interviews) in early 2019.

Method

This document represents the review and aggregation of findings from existing research about:

- **Primary needs of the four Vermont Target Audience Quit Groups**. Understanding psychological and environmental characteristics and motivators help build context around what messages successfully spur action with the four Quit Groups.
- **Desired and effective cessation messaging** for each of the four Vermont Target Audience Quit Groups. Articulating what works to drive intent, particularly variances among the four Quit Groups, illuminates directions for both universal messages and highly tailored messages.

We focused initially on secondary sources identified together with the Tobacco Control Program:

Initial Research Resources
Evaluation and testing results from existing creative campaigns targeted to the four Vermont Quit Groups with a focus on CA, FL, NY, MN, WI
Dr. Michael Fiore, University of Wisconsin Hilldale Professor of Medicine and founder/Director of the University of Wisconsin Center for Tobacco Research and Intervention
Dr. Erik Augustson, Behavioral Scientist and Program Director in the Tobacco Control Research Branch (TCRB) within the Division of Cancer Control and Population Sciences (DCCPS) at NCI
Office on Smoking and Health (OSH), CDC
Health Promotion Research Center at Dartmouth
National Behavioral Health Network
LGBT HealthLink (Dr. Scout)
Self Made Network

We added additional sources as relevant throughout the review, listed in the References section.

HIGH LEVEL FINDINGS

Universal

No one message effectively reaches every member of an audience or includes comprehensive information to fill all needs and cultivate intent. Some types of tobacco cessation messages, though, have been found to be more universal than others across populations. Understanding and leveraging these messages can allow efficiency in communications, while keeping in mind that such messages cannot and should not stand completely alone in a communications strategy, which we explore in more details in this section.

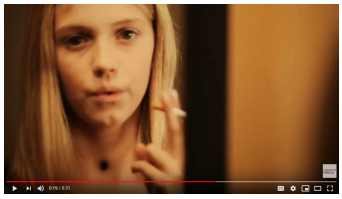
Highly emotional, graphic ads are more universally effective.

Multiples studies referenced in this review found that negative health effects (NHE) messages tend to perform well in head-to-head comparisons with non-NHE messages, indicating that strong emotion activation may be important in achieving desired results.[1] [2] [3] [4] [5] [6] This finding has been experienced across many states, including New York, California, Florida, Massachusetts and Minnesota and national organizations including Legacy and the Centers for Disease Control and Prevention.[2] In fact, some data show that exposure to advertisements without strong negative emotions or graphic images have little to no effect.[4] [7] One study showed that the higher an ad scored on positive emotions (funny and entertaining), the lower the mean effectiveness rating among all smoking status groups.[8]

Messages that elicit this type of strong emotional response have been found to produce stronger and more consistent effects on audiences for knowledge, beliefs and quitting behaviors.[2] For example, researchers found that in New York graphic television ads were strongly associated with higher call

volume to a quitline from 2001 to 2009,[3] affirmed in an additional study showing NHE messages promote more frequent use of quit lines.[5]

Likewise, emotional messages have been found to aid recall, even when aired at lower volumes. In one study focused on California messaging, an ad called Stages (emotional narrative) was recalled more frequently than an ad called The Emerging Man (depicting a man popping out of a pizza oven and fish tank while talking about California laws), which was the ad least likely to be recalled even though it had the most rating points.[5] This speaks to possible efficiencies with universal ads not only in connecting with multiple populations, but in fewer media dollars necessary for successful impact.

NHE Ad vs. Non-NHE Ad	
 Debi Austin "Stages" Tobacco Free CA	 Emerging Man Tobacco Free CA

Exposure to emotional and/or graphic advertisements has shown positive association with making quit attempts among smokers overall, but also consistently across varying levels of desire to quit, income and education.[7] One study found that data on information processing supports the hypothesis that "advertisements that evoke high arousal will receive greater viewer attention and will be remembered more readily than those that do not. Further, negative content tends to produce higher levels of arousal than does positive content."[9] Individual viewer differences, such as personality traits or demographic characteristics (e.g., gender), do not generally appear to influence processing of these emotional/fear appeal messages.[10] Therefore, choosing NHE messages may maximize efficiency,[1] as evidence has confirmed that graphically or emotionally strong ads that portray the serious consequences of smoking resonate well with a wide variety of audiences, across a broad spectrum of geographies and populations without requiring significant tailoring,[2] including equitably among socioeconomic groups.[5]

Some research also indicates that state and national counter-marketing NHE campaigns that confront the tobacco industry's marketing tactics have been effective,[2 5 11] with the caution that this type of campaign has historically at times become targets for budget cuts due to political influence from the tobacco industry.[2]

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Sample NHE Ads		
		
Body Bags Truth Campaign	Reverse the Damage: Heart Attack New York (Florida)	Ghost Minnesota (NY, Canada and California)

Emotional NHE ads tend to take one of two forms.

1. **Fear and/or disgust.**
   By incorporating a "fear appeal" into messaging, advertisements are intended to promote behavior change by evoking visceral reactions of sadness, fear, disgust or anger.[5]

   Some data show that the greater the response of fear and/or disgust the greater the ratings of perceived effectiveness.[12] Less clear, though, is whether particular audience factors may influence the effectiveness of NHE messages. For example, one study found that for 'quitters' and 'non-smokers,' effectiveness ratings were significantly higher the more strongly the ad evoked negative emotions, but strength of negative emotions was unrelated to effectiveness ratings assigned by 'continuing smokers' respondents.[8] The same study similarly found that readiness to quit at baseline was a predictor of the perceived effectiveness of ads evoking high levels of negative emotion, with respondents who planned to quit within 30 days rating these ads as more effective than those not planning to quit within six months.[8] However, another study found that people who are less ready to quit or have lower confidence that they will quit are prompted by graphic ads, suggesting that such ads influence smokers to take action and start the process of quitting.[13]

   Likewise, some indicators show that ads that elicit both fear and disgust are more effective when unambiguously graphic, such as in Terrie's Tip. "If fear and disgust are together, the ad should be unambiguously graphic. The relationship between the combination of fear and disgust and perceived effectiveness is mediated by the presence or absence of unambiguous, graphic imagery... The presence of unambiguous, graphic imagery that elicits responses of fear and disgust appears to be critical for the fear–disgust interaction to predict greater perceived effectiveness."[12]

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Sample NHE Fear/Disgust Ad
 Terrie's Tip Centers for Disease Control and Prevention

2. **Testimonials eliciting negative emotions.**
   Research has found that smokers who are exposed to highly emotional and personal testimonial ads—narratives, rather than ads featuring experts or scientific demonstrations—were more likely to quit smoking, while potential exposure to comparison ads was not associated with quitting.[4] Data show that emotional testimonials promote discussion and engagement,[14] may be recalled by a larger percentage of smokers and have a greater impact on smoking cessation[5] by:[4]
   a. Reducing the tendency toward counterargument.
   b. Increasing viewers' insight into what it would be like to have a specific illness.
   c. Increasing perceptions of group and personal vulnerability through identification with characters in the ads.

   Recent research indicates that self-relevant emotional reactions (such as emotional reflections about one's life, body, or behavior that are triggered by the ad) may be especially persuasive, because they "affect perceptions of future risk of becoming ill, which in turn have been linked with reduced cigarette consumption, increased intentions to quit, and quit attempts."[4]

   Of note is a research finding that even personal testimonials that are less emotional may still be more effective than other types of less emotional ads because:[4]
   - There is no explicit persuasive intent against which smokers may react.
   - Health information is presented in a story-based format, which people learn to process naturally from an early age.

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Sample Emotional Testimonial Ad

Rick Stoddard. Massachusetts Department of Health.

NHE ads are strengthened with efficacy messages.
A collection of research agrees that NHE/fear appeals can motivate, and some data find this is especially true when such appeals are accompanied by high-efficacy messages,[10] [15] [16] even going as far as saying that strong fear appeals "work only when accompanied by equally strong efficacy messages."[10] The intent of such an approach is to make target populations believe (a) they are able to perform the desired response and (b) that this desired response works to prevent or minimize the threat. Without an efficacy component to the message, a fear appeal could backfire, as the audience may not believe that they are able to effectively avert a threat.[10]

One reason efficacy may work as a key partner to emotional appeal is based in the fact that motivation to quit is transitory—one study reported that they heard from smokers that "they wanted help overcoming ambivalence to change. They knew that they should quit but this is really hard and scary."[16] In other words, being motivated alone may not be enough to drive change in behavior, but knowing how to apply that motivation may make all the difference.

The importance of efficacy in messages may also relate to level of readiness to quit and stage of change. For example, one study reports that "a three-way interaction effect was found between message threat, perceived level of message efficacy, and readiness to quit… for those with low readiness to quit, both high message threat and high levels of message efficacy were necessary to motivate intentions to quit. Alternatively, for smokers with a high readiness to quit, either high message threat or high levels of message efficacy was sufficient to motivate intentions to quit."[15] Thus, smokers who are not ready to quit require both motivation and confidence to quit.

To incorporate efficacy into a message, research findings suggest first identifying significant barriers to the desired behavior and then directly addressing these in the message, such as skills, costs, beliefs, emotions, etc. "To increase perceptions of response efficacy, practitioners should clearly outline how,

why, and when a recommended response eliminates or decreases the chances of experiencing the health threat."[10]

Media for universal messages must still be tailored.
While NHE fear/emotional ads tend to have widespread appeal and effectiveness, particularly when combined with efficacy messages, where these ads are placed and the extent to which they reach the audience both influence success with sub-populations.

Tailored media buys reach specific audience segments within general-population campaigns through specific media channels, ensuring that each key audience notices and internalizes the messages. For example, one study found that television advertisements generated more calls to quitlines than radio or print ads, attributed to TV's ability to deliver high impact messages through the combination of audio and visual images, to a large audience.[17] Another example cited in research was North Carolina's attempt to reach low-SES male audiences by placing ads in a NASCAR publication and distributing earplugs with the state's quitline number at the race. Similarly, New York ran baseball-themed ads from Florida and Massachusetts on a sports cable network to reach a specific audience. Finally, the CDC has run radio and regional print to specifically reach American Indians and Alaska Natives.[2]

Likewise, data show that general population campaigns can be effective for driving quitting in low-SES smokers "if the campaigns have sufficient reach, frequency and duration."[2] Indicators point to greater benefits for low-SES population subgroups with higher mass media campaign exposure.[1] The benefit of robust reach is likely linked to better recall of the ad—for example, in one study respondents whose income was less than $30,000 per year who had confirmed recall of graphic and/or emotional advertising were more likely to make a quit attempt than their counterparts who could not recall any advertising or were only aware of comparison advertising.[18]

Thus, SES disparities can in part be addressed by ensuring that enough members of the Low Income population see the emotionally evocative or personal testimonial message enough times. "Greater potential exposure to these types of ads was associated with a greater likelihood of quitting among low-SES, mid-SES, and undetermined-SES groups but not in the high-SES group... Thus, the pattern of greater effect among low-SES than high-SES groups indicates that wide distribution of these highly emotional and story-based ads may contribute to the reduction of socioeconomic disparities in smoking."[4]

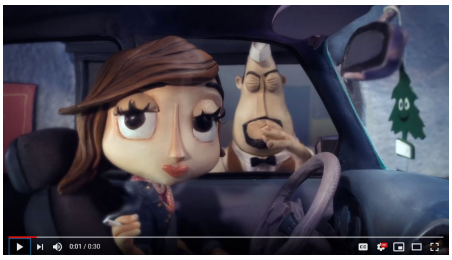
Universality of a message also depends on measures.
When assessing the success of universally-appealing emotional messages, it's important to first define what success means. Data show that differing key performance indicators (KPIs) may lend themselves to different message approaches.

For example, while some studies show that emotional ads drive quitline calls,[3 5] some other data suggest that strong negative emotion ads may **not** influence quitline calls but may be effective in promoting cessation in the population.[19] If quitline calls are a KPI, this uncertainty around NHE messages should be considered. Similarly, one study cautions that while quitline call volume data may

provide timely feedback, there is potential for widened SES disparities among those who do **not** call quitlines.[14]

Two examples illustrate different message approaches for specific outcomes:

- Clearway Minnesota took a non-judgmental, empathic approach with main characters in Angie and Wendell spots with an "everyman/woman" appeal, with the key goal of promoting utilization of new services.[20] This is a different intended outcome than campaigns measuring success based on high-level smoking prevalence numbers.
- The FDA gain-based “Every Try Counts” point-of-sale campaign targets smokers ages 25-54 who have attempted to quit smoking in the last year but were unsuccessful through messages focused on the health benefits of quitting. The message works to define each attempt as a success, regardless of the outcome, and the intended result is behavior change in the moment of purchase, with campaign materials displayed at gas stations, convenience stores and other retail locations where smokers face many triggers from cigarette ads. This approach, too, is a different intended outcome than campaigns measuring success based on prevalence rate. Results have shown that this non-NHE approach left participants feeling “more ready to make a quit attempt, a high level of trust in the information presented, and feeling highly motivated, empowered, determined, inspired, understood, and hopeful.[21]

Goal: Utilize Services	Goal: Change Purchase Behavior
	
No Judgments - Angie ClearWay Minnesota	Every Try Counts FDA

Message content is only as strong as other interventions.
Research also demonstrates that a comprehensive approach works best for successful cessation: a combination of policy change, prevention messaging campaigns and tobacco cessation services.[22] [23] The influence of media campaigns likely depends on other interventions already in place before the campaign began. Similarly, already-existing policies, such as clean indoor air laws, may be the drivers of increased cessation attempts. One study suggests that “those still smoking may be less likely to change their behavior in response to a media campaign,” while recognizing that media campaigns may, though, reinforce the effect of existing laws by creating stronger norms against smoking.[22]

As an example, one study indicated that some of the association between California’s program and success in reducing smoking prevalence may have been due to the higher cigarette prices induced by a tax increase.[22]

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P: 802.391.4147
W: crowdproof.com
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Low Income

NHE ads are particularly impactful with the Low Income audience.
The universal appeal of strongly emotional and/or graphic ads has been documented among widespread audiences, and additional data show that these kinds of messages may be especially beneficial for low- and mid-SES populations.[1] [8] Findings out of Massachusetts show that less educated smokers tend to rate this category of advertisements even more highly than more educated smokers.[8] Interestingly, there is no consistent evidence that these messages perform differently in various age and gender groups.[1]

Emotional or personal antismoking messages may be particularly successful in conveying health information to Low Income populations because the message is:[4]

- Difficult to discount.
- Natural and easy to process.
- Likely to arouse emotions that lead to increased perceptions of susceptibility to smoking-related diseases and motivation to quit.

Another hypothesis for why emotionally-driven mass media campaign exposure may be of particular benefit for Low Income audiences comes from a study that found that the healthcare system may **not** be an "ideal" channel for widespread benefit among low-SES populations, since "people living in poverty are less likely to access preventive health services and are less likely to receive treatment for tobacco dependence from primary care providers."[24] This study likewise suggested interventions provided by community agencies, since such organizations already serve as venues for low-SES populations. Thus, the success of media messages may in large part lie simply in access—these messages are reaching into the home through channels that the population is already using.

Low health literacy may relate to message type effectiveness.
The smoking prevalence rate among low-SES smokers is higher than the general population, and disparities are evident across many different measures for this population:

- Living in poverty is related to poor health, potentially from risk factors including exposure to air pollution (including smoke as an indoor toxicant), poor housing quality and safety, among other factors.[25]
- Low-SES smokers make fewer quit attempts and are less likely to use evidence-based treatment, including nicotine replacement treatment.[26]
- Less-educated populations (assuming education as a proxy for income—some data indicate disparities in smoking rates and quit attempts are often larger by education than by income[14]) face more barriers in turning a quit attempt into smoking abstinence, including greater nicotine dependence and less access to evidence-based treatments.[14]
- Low-SES populations face fewer smoking restrictions at work and therefore higher occupational exposure.[14] [27]

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Also, low-SES smokers are especially likely to maintain potentially maladaptive beliefs about smoking and quitting and hold less knowledge about the harms of smoking compared to smokers in the general population.[24] [25] Examples of common maladaptive beliefs among the low-SES smoking population:

- Smoking is normative and acceptable. This belief may reduce the motivation to quit in individuals who hold this view.[25] Much research supports changing social norms to affect behavior change at the individual level.[28] Flipping the perceived norm may be influential on smoking behaviors—one study explained that, "Successful quitters have attributed their motivation to quit to being pressured by others, wanting to set a good example, and feeling isolated as a smoker."[29]
- Willpower is sufficient for successful quitting. In reality, study results show that contextual and demographic variables that reflect exposure to smoking in the home, life stress and low levels of social support seem particularly detrimental for individuals trying to achieve initial abstinence and avoid lapsing, rather than internal drive.[30] Similarly, access to cigarettes alone (even without direct exposure) impacts lapse in cessation. One study reports that "spending a greater proportion of time where cigarettes were easily available following at least one day of abstinence predicted shorter latency to a first lapse, even after controlling for baseline risk factors such as gender, nicotine dependence, depressive symptoms and living with a smoker."[31]
- Evidence-based treatments are no more effective than other quitting methods. In one report assessing a sample of Medicaid enrollees, the authors found that "the proportion of enrollees who thought self-help was effective (34%) rivaled the proportion who thought bupropion (Wellbutrin and others; 33%) and nicotine gum (32%) were effective."[25] One study posits that this belief may be rooted in personal experience and illustrates why "Keep Trying to Quit" (KTQ) messages may not be effective with socioeconomically disadvantaged audiences: "KTQ ads featured two prominent messages: (1) quitting is difficult, but (2) with help it is possible. The experience of less-educated populations in trying to quit may have reinforced the former and undermined the latter."[1] [14]
- Quitting medicines are ineffective, dangerous, addicting and/or too expensive. Some research has found that these beliefs are more prevalent among those living in poverty and correlate negatively with intention to quit and quit attempts.[24] [25]
- Cessation treatments are unavailable and hard to access. Typical cessation treatments go unused by the majority of smokers who are unwilling to quit smoking, and data show that the vast majority (70–90%) are not willing to commit to quitting smoking at a given clinic visit.[32] Not only do low-SES populations generally have less access to evidence-based treatments,[14] but of those who do visit a healthcare provider only about 5–20% of smokers initiate cessation treatment during a healthcare visit.[32]

Messages that focus on these topics without countering/correcting perceptions may be discounted by the Low Income segment. For example, in one study about half of interested quitters who held misperceptions about the safety of nicotine replacement products said they would be more likely to use such medications if they were shown evidence that their misperceptions were false, and the alteration of such beliefs does yield promising effects.[24] Similarly, studies have found that that addressing a single maladaptive belief (such as that evidence-based cessation treatments are not more effective than other

methods) led to stronger intentions to make a quit attempt.[26]

Perceptions of willpower in particular hinder Low Income smokers.
Particularly among audiences with lower education, research indicates that some smokers believe that willpower is a crucial element in successful quitting. Such audiences believe that quitting is just a matter of willpower and if you really want to quit then you will be able to do it by yourself—using willpower is the most effective way to quit.[25] These beliefs are suspected to interfere with asking for assistance and using evidence-based treatment, illustrated by the finding that some smokers perceive using quitting aids a sign of weakness. In one study, this belief was confirmed by 35% of participants (and related to stage of change).[33] In contrast, other beliefs (e.g., that counseling is effective) "were positively related to more past quit attempts and greater intention to quit in the future."[25]

Similarly, data show that not only do socioeconomically disadvantaged audiences think willpower is effective, but also that evoking willpower is required for quitting successfully. In fact, in one study 70% of smokers believed that 'wanting to quit' was "both a necessary and sufficient condition for being able to quit."[33]

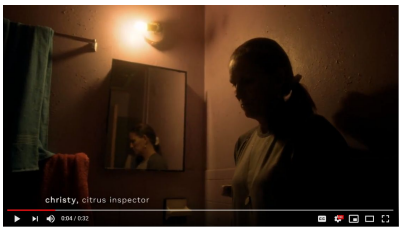
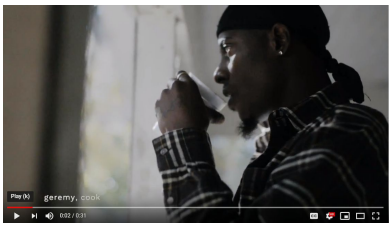
Exploring the role of empathy.
Some recent adult tobacco cessation campaigns have been designed to appeal to tobacco user's aspirations and hopes for a better future, as opposed to NHE emotions and testimonials. For example, Florida identified inequalities in smoking prevalence in rural counties across the state and conducted research to understand why. The data they collected through ethnographic research showed that "the journey to quitting is driven by the hopes smokers have for themselves and their children," and that cessation is about the bigger picture more so than about being scared or lectured.[34] Some of these findings stem from observations that these rural, low-income tobacco users do have knowledge that smoking is dangerous, expensive and a bad influence on their kids, and that they should quit, but they struggle to make that choice.

To address these findings, Tobacco Free Florida developed documentary-style PSAs to "take a refreshingly respectful approach to encouraging smokers to quit" by sharing real-life vignettes with current smokers who are tired of the physical and financial toll of smoking.[34] The ads direct viewers to free quit tools for help.[35]

According to the campaign's strategist, Angela Rodriguez from the Alma Agency, "We also learned that those same scare tactic approaches don't always connect. So we shifted our strategy to a more empathetic one driven by the target's introspection versus preaching from the brand and the result is very emotive creative that is respectful of the smokers we are trying to reach while also communicating that Tobacco Free Florida is here as a partner."[34]

ClearWay Minnesota took a similar approach with the No Judgements Angie and Wendell spots, with the intention of broadening their target audience from "quit seekers" (those actively seeking help to quit) to all tobacco users, no matter where they were in the quitting Process.[20] Minnesota reported that initial results from the re-launch of their Quitplan Services and the No Judgements marketing campaign were

most evident in the volume of people engaging with Services. “In the first three months of the new services, more than 5,400 Minnesotans signed up to receive tools or support from Quitplan Services. In comparison, just over 5,500 Minnesotans enrolled in Quitplan Services during all of 2013. We also noticed that our television ads produced a big impact on the volumes for Quitplan Services. During the weeks our television spots were running, we saw a 90 percent increase in the average number of weekly Quitplan Services enrollments, versus the weeks when no television was running.”[20]

Empathy Campaign Examples		
		
The Reasons - Christy - :30 Tobacco Free Florida	The Reasons - Geremy - :30 Tobacco Free Florida	No Judgments – Wendell ClearWay MN

Additional findings directly attributed to these campaigns are not available to the best of our knowledge.

Mental Health

Emotional, graphic ads may NOT be as effective with Mental Health audiences.
Research questions the association between graphic/negative advertising exposure and quit attempts among people with poor mental health, or if smokers with poor mental health benefit from exposure to antismoking advertising of any type.

A study focused on New York reports that graphic/emotional advertising exposure was not significantly associated with quit attempts among respondents with poor mental health, and the finding “does not appear to be driven by lower levels of media consumption among those with poor mental health; our data show that those with poor mental health watched more hours of television per week than those with good mental health.”[18] This study speculates that a stronger efficacy or motivational message could be more effective.

The Mental Health audience is prone to heightened negative affect.
One potential explanation for the lack of effectiveness of emotional, graphic ads among Mental Health audiences is an existing baseline of negative emotions. Data suggest that depressive symptoms are a stable, consistent risk factor for tobacco use, and a major challenge to cessation among smokers with depressive symptoms is the greater salience of internal cues to smoke.[31] (53) “Smokers with depressive symptoms report higher levels of nicotine withdrawal, including craving, irritability, and restlessness, and are prone to experiencing heightened negative affect during a quit attempt. Negative affect, in turn, is a robust predictor of relapse to smoking following a cessation attempt.”[36]

Perhaps in part due to the stronger negative affect, people with mental health conditions face unique challenges. This population may benefit from additional services, such as more intensive counseling and/or longer use or a combination of cessation medications.[37]

A focus on the disparity and coping is effective for Mental Health members.
Explicitly addressing mental health symptoms in the context of smoking treatment may be beneficial for the Mental Health segment.[36] [38] One study reports that cessation treatments that help people learn new ways to cope with internal cues are promising, because of the role of internal cues for smokers with depressive symptoms.[36] The intervention tested in the research, Acceptance and Commitment Therapy (ACT), works to help people accept negative emotions and commit to value-based actions. “ACT focuses on changing the relationship between the internal cues and the smoking behavior rather than on changing the internal cues themselves.”[36] The study authors go on to explain that by helping participants be “more willing to experience uncomfortable physical and psychological states to make meaningful changes, rather than attempting to alter these states directly, ACT may facilitate cessation in smokers with depressive symptoms by breaking the link between depressed mood and quitting rather than by changing mood directly.”[36]

Similarly, a second study concluded that “explicitly addressing symptoms of social anxiety and other mental health symptoms in the context of smoking treatment (e.g., discussions of the relationships between mental health and smoking, teaching adaptive coping mechanisms) may be beneficial for socially anxious smokers (i.e., smokers with high and moderate social anxiety)... An integrated care approach where smoking is addressed within the context of mental health treatment may also be of benefit given that it yields promising outcomes for smokers with other mental health diagnoses, but may be of limited utility given the low rates of treatment utilization among individuals with social anxiety.”[38]

Policy and providers are especially important for Mental Health cessation.
In addition to strategies that reduce tobacco use in the general population (decreased access, increased taxes, clean indoor air laws, counter-marketing campaigns, quitlines, providing health insurance coverage),[11] other strategies that may contribute to progress with the Mental Health segment include motivating behavioral health clinicians and mental health advocacy groups to promote cessation, mandating smoke-free grounds at treatment settings, educating quitlines about how to respond to callers with behavioral health problems, helping staff at behavioral health facilities to quit and creating partnerships among different behavioral health entities.[11] Recent data show that less than half of substance abuse treatment centers (42%) currently offer tobacco cessation services.[27]

Health campaigns are moving to a broader, wellness-oriented approach.
For years health promotion in both Mental Health and LGBTQ communities particularly has focused on other issues, resulting in smaller populations see smoking as a lesser evil, the “least of my worries.”[39] For example, the LGBTQ community focused on sexual health issues like HIV and STD control and prevention[40] and the Mental Health community focused on treating the primary condition, with concerns that quitting smoking could increase rates of anxiety, depression, substance use disorders or other diagnoses, and/or jeopardize treatment/sobriety.[41] In reality, smoking can complicate treatment by

interacting with certain medications,[37] while cessation is associated with mental health benefits[37] and may actually reduce the likelihood of depression or other mental health diagnoses.[41]

The aggregation of research suggests there is opportunity to couch tobacco cessation in messages that strengthen perception of improved wellness. For example, within the LGBTQ community "...health campaigns are expanding towards a broader, wellness-oriented approach that moves beyond our sexual health to face issues like cancer and mental health. And tobacco seems to be on the forefront as pride events increasingly incorporate tobacco control and prevention strategies to reduce the burden of smoking at the local level."[40]

LGBTQ

Focusing on the extent of disparities could risk negative effects with LGBTQ.

Many factors may contribute to high prevalence of smoking among the LGBTQ population, including stress from discrimination and social stigma.[42] Historically, the tobacco industry has used high smoking rates among the LGBTQ community to their advantage by targeting this population with marketing materials.[42] The impact of this has been seen in findings such as the LGBTQ community's higher odds of using menthol cigarettes, consistent with the tobacco industry's selective marketing to LGBTQ smokers.[43]

However, while reportedly effective in the general population, some studies suggest that care should be taken with messaging about LGBTQ targeting by the tobacco industry, as it may not be effective in motivating quit attempts among this population.

Data show that norm perceptions do influence smoking behavior among the LGBTQ community. Research examining the factors correlated with quitting among urban gay and bisexual men found that respondents who reported that "none or almost none" of their gay or bisexual friends smoked were almost four times more likely to have quit smoking compared with those who said "all or almost all" of their friends smoked.[23]

Another study found that emphasizing the size and extent of a disparity as motivation to quit may actually reduce self-efficacy to quit by strengthening perceived norms,[44] although it's not clear the extent to which this applies to various sub-populations. In the absence of more clarity, the study's authors suggest targeted media campaigns should consider themes of overcoming tobacco addiction instead of emphasizing the normative nature of smoking in LGBTQ communities.

However, focusing on the threat to the LGBTQ community could be effective.

While taking a stand against the industry by calling out the LGBTQ community's disparately high smoking rate may have unintended negative consequences, other reports indicate that targeting by the tobacco industry can be taken on through the lens of a 'threat' to the community. For example, LGBTQ community organizations in Michigan urged readers of a local LGBTQ publication to "tell Big Tobacco, 'We won't take this anymore' by starting with a healthy smoke-free LGBTQ Pride season."[40] Another review of research found over the course of a four-year study that a growing number of LGBTQ advocates around the country and beyond are calling attention to the tobacco threat in their

communities. “The LGBTQ community, with a wide variety of infrastructures and a decades-long tradition of embracing many different issues, is poised to tackle tobacco. If LGBTQ advocates can promote a norm change, in which queer smoking rates decline and tobacco industry sponsorship is unwelcome, it will make a major contribution to the health of the queer community, and by extension, fuel the effort to rid the larger culture of the tobacco menace.”[45]

With this approach, rather than highlighting how many people smoke because of the industry’s influence, instead LGBTQ community members are encouraged to reject the industry's messages and distance tobacco use from the LGBTQ story. A Wisconsin resident featured in a series of videos from The City of Milwaukee Tobacco-Free Alliance said, “Smoking was part of my coming out story. Meeting new people, going new places—smoking was mixed into that.”[40] The video series highlighted new non-smoking areas at Milwaukee Pride 2017 and drew attention to the impact of tobacco on the LGBTQ community.

Historically, the bar culture was an important venue for social bonding among the LGBTQ community, with bars “among the few safe spaces for LGBTQ people. Because there is a biological and behavioral link between drinking and smoking, it is likely that the bar culture would have contributed to elevated smoking rates in this population. There is also the social aspect of smoking together with peers, which seems to be an especially strong risk factor among young people.”[23] This sense of community can continue to be reinforced away from tobacco.

The positive impact of a strong sense of community may relate to another finding pertinent to the LGBTQ population: a survey of LGBTQ beliefs and attitudes about quitting smoking found that more positive attitudes, and a greater sense of self-empowerment were strongly associated with the intent of participants to quit smoking. “The respondents with the strongest intention to quit were those that believed that quitting would allow one to ‘feel more like the person I want to be – my ideal self.’”[23]

There are evident disparaties within the LGBTQ segment.
The LGBTQ community is diverse and the impact of both tobacco and cessation messaging varies within the segment. For example, although lesbians and women who have sex with women (WSW) smoke at high rates, one study found that lesbian periodicals had the fewest cessation ads: only eight appeared over a ten-year period, compared to over 1,000 in periodicals targeted to gay men.[27]

Is it also worth noting that findings related to gender in general may very likely also impact gender within the LGBTQ segment; research does not indicate otherwise (see next section).
Finally members of the LGBTQ audience are also disproportionately impacted by mental illness compared to the general population, meaning mental health findings are also relevant to some people within the LGBTQ segment.

E: hello@crowdproof.com
P: 802.391.4147
W: crowdproof.com
D: 12/20/2018

Pregnant Vermonters

Generally, factors other than gender predict cessation attempts and success.

A review of research indicates that environmental variables—in contrast to demographic variables—are particularly detrimental to initial abstinence and/or time to first lapse and lapse to relapse, such as:

- Access to cigarettes. For example, data show that spending a greater proportion of time where cigarettes are easily available. following at least one day of abstinence predicted shorter latency to a first lapse, even after controlling for baseline risk factors such as gender, nicotine dependence, depressive symptoms and living with a smoker.[31]
- Fewer smoking restrictions at work. Occupational exposures for employees in blue collar or working class sectors like industrial or service professions are at increased risk of tobacco-related health outcomes, and often these positions are occupied by low-SES individuals.[27]
- Smoking in the home. Smoking in the home has been found to have a strong relationship with initial abstinence.[30]
- Life stress. Research reports share that smokers might believe that quitting will decrease quality of life because they will be deprived of a coping mechanism and/or because they believe cessation will disrupt routines, interfere with relationships and/or produce a loss of reinforcement/pleasure, even though findings actually suggest that individuals will be happier and more satisfied with their lives if they quit smoking.[46]
- Low levels of social support. Social support has been linked to success in both initial abstinence and preventing lapsing.[30]
- Greater nicotine dependence.[14]
- Less access to evidence-based treatments.[14] [26]

When it comes to gender-specific findings, research we reviewed suggests that women quit at the same rate as men.[30]

* **Please note** that the terms ‘women’ and ‘pregnant’ women used in this section reference language used in the cited studies.

Women experience extra risk of lapse and relapse.

However, the research also indicates that women are more likely than men to sample cigarettes and subsequently escalate use. In fact, one study reported that “gender was the only demographic or contextual variable to make a significant and unique contribution to risk of relapse (with women having a 29% greater risk of relapse than men).”[30] This indicates there may be unique causes or mediators of extra risk experienced by women.

It is of note that low-SES women have also been a target of the tobacco industry, with Big Tobacco historically distributing coupons with food stamps, discounting cigarettes and developing new brands.[27]

This finding is particularly relevant when considering the Pregnant Vermonters segment, as other research corroborates the risk of lapse and relapse in the postpartum period, a block of time considered critical for cessation success. “Our review revealed that even though some interventions help women

quit using tobacco during pregnancy, they often relapse after giving birth; hence, the postpartum period is a critical time in which to take advantage of a mother's efforts to quit using tobacco for the sake of her baby."[47]

Some research suggests that because family and friends can facilitate quitting, interventions that focus on helping partners quit and/or that encourage partners to be supportive of quitting may hold promise for preventing postpartum relapse.[47] The converse has also proven valid, that exposure to others who use tobacco can negatively impact maintaining cessation. For example, one study found that people in an Immersed network group (large network, extensive smoking exposure including smoking buddies) and people in a Smoking Partner network group (small network, smoking exposure primarily from partner), had the lowest tobacco abstinence rates over time in comparison to three groups characterized by minimal or distant smoking exposure.[29] This speaks to the influence of either multiple smoking exposure sources or a single, intimate exposure source in discouraging abstinence.

Those who are pregnant may respond more effectively to information vs NHE.
Data show that smoking rates tend to decrease during pregnancy, indicating an intrinsic motivation. For example, CDC data report that of the those who gave birth in 2014 and smoked during the 3 months before pregnancy, about one-quarter did not smoke during pregnancy (i.e., quit before pregnancy).[48]

Logically, with a powerful intrinsic motivation already activated, those who are pregnant may then need instruction on pursuing actionable steps. Research indicates that ensuring those who are pregnant have information on cessation options and knowledge of the logistics are helpful. In fact, the World Health Organization (WHO) recommends offering counseling to all pregnant smokers regardless of their intention to quit rather than using a Stages of Change approach: "The Stages of Change approach is not effective in pregnancy. The Stages of Change approach to tobacco cessation suggests that health behaviour change involves progress through six stages of change: pre-contemplation, contemplation, preparation, action, maintenance, and termination. As this approach is not effective, all women should be offered support irrespective of their intention to quit."[49]

In order to provide this type of information, one study describes pregnancy-specific self-help materials as a low cost option that has been shown to be slightly more effective than usual care (e.g., advice to quit smoking), with the caveat that more intensive approaches may be necessary for heavy smokers.[47]

Similarly, communication around the logistics of support has proven effective, including promoting awareness of cessation benefits and effectiveness of treatment through coordinated media campaigns that specifically targets those during childbearing years, outreach promoting pregnancy-specific counseling available, informing Medicaid subscribers about requirements to cover cessation services for those who are pregnant and running campaigns to education prenatal and postpartum care providers about Medicaid reimbursement.[47]

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P: 802.391.4147
W: crowdproof.com
D: 12/20/2018

FOR DISCUSSION

Implications for Future Campaigns

Relevant insights reported in this Research Review prompt a number of considerations for Vermont adult tobacco cessation messages looking ahead:

1. How can we more closely integrate a combination of policy change, prevention messaging campaigns and tobacco cessation services?
2. Do we consider mass media campaigns with universal ads (highly emotional, graphic fear/disgust and/or testimonial NHE ads) to impact most of the audience?
3. How do we ensure robust enough message exposure to increase likelihood and prevalence of quitting?
4. Can we counteract misperceptions in the context of NHE ads, particularly around perceived norms and the concept of willpower?
5. How can we balance emotional messages with efficacy messages?
6. How do we ensure audiences have enough information to take action while drawing on emotion?
7. How can we best extend messaging into smaller-population segments?
    a. Information campaigns for Pregnant Vermonters?
    b. Community impact campaigns for LGBTQ?
    c. Focus on interventions and breaking the link between mood and quitting for Mental Health?
    d. Elevating the importance and impact of smoking on function among LGBTQ and Mental Health?

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