Misinformation About Commercial Tobacco Products on Social Media—Implications and Research Opportunities for Reducing Tobacco-Related Health Disparities

See also Chou and Gaysynsky, p. S270.

Misinformation about commercial tobacco products is not new. For decades, major tobacco companies deliberately deceived the public through marketing practices (e.g., brand names or labels such as "natural" and "organic") and public relations campaigns. The tobacco industry's deception of the public provides an important historical context for examining current forms of tobacco product misinformation through social media. The industry's campaigns sought to downplay and deny health harms and addictiveness of combustible cigarettes. These campaigns were aimed at creating doubt about scientific evidence showing how cigarette smoking harmed smokers and those exposed to secondhand smoke.

The tobacco industry's deliberate deception has led to tremendous human suffering and millions of lives lost in the United States and globally every year because of smoking and secondhand smoke exposure. Although the overall prevalence of smoking in the United States has declined over the past 50 years because of comprehensive tobacco-control policies and efforts, targeted marketing campaigns and community sponsorships among disparity populations—including African American communities, sexual and gender minorities, and populations experiencing homelessness—contribute to persistent disparities in cigarette smoking and related health consequences in these populations.

In recent years, the introduction of alternative forms of nicotine products into the marketplace (e.g., e-cigarettes, heated tobacco products, and smokeless tobacco) has led to a more complex information landscape, as the population health effects of using these products remain inconclusive—leading to intense scientific and public debate. For example, misinformation from the online marketing of e-cigarettes by manufacturers, retailers, and social media influencers has claimed that e-cigarettes contain only water vapor and are harmless. This misinformation serves to downplay the risks and addictiveness of e-cigarette use and is in part responsible for the youth vaping epidemic of recent years. Conversely, online misinformation that e-cigarettes are just as or more harmful than smoking potentially deters current cigarette smokers who are unable to quit smoking from considering reducing harms by switching to e-cigarettes. Because cigarette smoking is increasingly concentrated among disparity populations, the impact of misperceptions about e-cigarettes' relative harms compared with smoking could lead to widening tobacco-related health disparities in these populations.[1]

Social media may amplify the transmission of tobacco product misinformation in addition to traditional media. Exposure to and effects of misinformation about tobacco products may be unevenly distributed across population subgroups because of structural determinants, including variations in access to trusted sources of health information, health literacy, and online social networks. Inequalities in misinformation exposure and receptivity may perpetuate and widen tobacco use disparities and related health disparities.[2] Tailoring algorithms based on users' online behaviors and preferences may further increase certain users' exposure to misinformation about commercial tobacco products. However, there is limited research on exposure to misinformation about tobacco products on social media and the effects of such exposure on attitudes and use of tobacco products, particularly among disparity populations.

We discuss gaps in research to address misinformation about tobacco products on social media, especially among tobacco disparity populations. In the current information environment, most misinformation is from tobacco companies and user-generated social media posts that are not explicitly linked to tobacco companies. We further consider both explicit misinformation (information that is verifiably false based on current scientific evidence) and implicit misinformation (information that misleads the public about the

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This editorial was accepted August 3, 2020.

https://doi.org/10.2105/AJPH.2020.305910

harms and benefits of tobacco products).[3]

SOCIAL MEDIA MISINFORMATION SURVEILLANCE

Surveillance of misinformation on tobacco products on social media is needed to keep pace with the introduction of new tobacco products such as e-cigarettes and smokeless tobacco and the spread of false information about such products. For example, a content analysis of 1068 tweets from a corpus of tobacco-related tweets reported that 10% contained claims about tobacco-related health consequences, use patterns, policies, or tobacco industry actions. Of these claims, the researchers coded 18% as explicitly false, with the majority being unverified health consequences of tobacco product use and cessation methods that were not evidence based.[4]

It is clearly important to conduct surveillance on pro-tobacco misinformation on social media that misleads the public into thinking tobacco products are safe or help smokers to quit successfully, contrary to current evidence. Yet, there is also a need to characterize the prevalence and content of misinformation that exaggerates the harms of e-cigarettes on social media (e.g., posts that e-cigarettes are as harmful as or more harmful than combustible tobacco products or cause cancers). Although evidence suggests that e-cigarette use is not completely harmless, switching completely to e-cigarettes is associated with reducing the risks of short-term health effects compared with continuing cigarette smoking. Social media posts focusing on the harms of e-cigarette use may be a reason for a growing public misperception that e-cigarettes are just as harmful as or even more harmful than combustible cigarettes.[5]

EXPOSURE TO AND EFFECTS OF MISINFORMATION

Research is also needed to assess whether exposure to and effects of misinformation about tobacco products on social media adversely affect tobacco use and tobacco-related health consequences among disparity populations. Efforts are needed to determine whether disparity populations are specifically targeted by misinformation campaigns about tobacco products in terms of the content, sources, and how these social media posts are disseminated. There is limited research on measuring exposure and effects of tobacco product misinformation in the general population, and none has focused on disparity populations.

A randomized experiment to examine the effects of misleading tobacco content in YouTube videos found that young adult participants aged 18 to 24 years who viewed misleading information about e-cigarettes and hookahs reported more positive attitudes toward these products than did those who viewed a control video unrelated to health.[6] The majority of participants were non-Hispanic (88%) and White (73%).

Research to assess how misinformation influences tobacco product perceptions and use among tobacco disparity populations will help to determine the need for preventive and corrective interventions and appropriate approaches to intervene for these populations.

PREVENTIVE AND CORRECTIVE INTERVENTIONS

Recent research focused on misinformation corrective strategies, including court-ordered corrective statements, reported that there was an uneven reach of these correctives across education level and socioeconomic status.[7] However, there are research gaps in evaluating interventions aimed at debunking misinformation about tobacco products on social media and preventive approaches such as inoculation messages or media literacy training for increasing awareness of and resistance to influence by misinformation. In addition, research has not focused on the effectiveness of corrective approaches among disparity populations. Research is needed to design and implement culturally appropriate and effective preventive and corrective interventions for disparity populations, if warranted based on evidence from research on the exposure and effects of misinformation among these populations. Principles of community-engaged and participatory research provide helpful frameworks to design culturally appropriate preventive and corrective interventions for diverse populations.

In sum, misinformation about tobacco products on social media is a significant factor that may influence public misperceptions and adversely affect the health of populations who are most affected by tobacco product use and widen health disparities. It is critical to apply state-of-the-science approaches from the emerging body of research on health misinformation to conduct surveillance, measure exposure and effects, and design potential interventions to prevent and mitigate the adverse effects of tobacco product misinformation among tobacco disparity populations. AJPH

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ACKNOWLEDGMENTS

A. S. L. Tan is supported by the National Cancer Institute, US National Institutes of Health (NIH) and the US Food and Drug Administration (FDA; grant R03CA212544-01A1) and the National Cancer Institute (grant 1R01CA237670-01A1).

Note. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH or the FDA.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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