

## Beliefs About Nicotine and Low Nicotine Cigarettes Among US Adults

### Introduction

Research suggests that the public may have a poor understanding of the health effects of nicotine. For instance, studies show that many people mistakenly believe that nicotine causes cancer or that reducing nicotine levels makes cigarettes and other tobacco products less dangerous. This is concerning because smokers who believe that nicotine is a key cause of tobacco-related disease may be less willing to use nicotine replacement therapies (NRT) in their quit attempts, hesitant to switch to potentially less harmful tobacco products if they contain nicotine, and may switch to lower nicotine (but equally harmful) products instead of quitting altogether. Additionally, the belief that a product is lower risk because it contains less nicotine could encourage experimentation among susceptible non-smokers.

An accurate understanding of the public's understanding of nicotine and its role in addiction and tobacco-related disease is vital for the development of effective public health messaging on this topic, as well as successful smoking cessation programs.

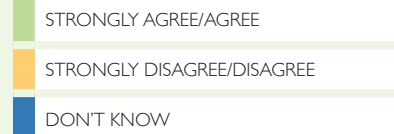
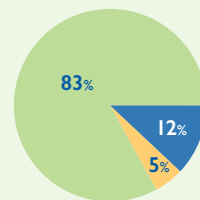
### Quick Facts

- Nicotine is the primary agent of addiction in tobacco products, but most tobacco-related disease is caused by other chemicals in tobacco or tobacco smoke.
- FDA is considering a rule that would reduce the nicotine in cigarettes to “minimally or non-addictive” levels.
- Many people hold incorrect beliefs about nicotine and potentially inaccurate beliefs about low nicotine cigarettes.
- There is no substantial evidence to suggest that reducing the nicotine level in a conventional cigarette will make it less harmful to the user if smoked in the same manner and at the same frequency.

The Food and Drug Administration (FDA) is considering a rule that would lower nicotine levels in combustible cigarettes to “minimally or non-addictive” levels, noting that lowering nicotine levels could decrease the number of youths who become addicted to cigarettes in the future and help currently addicted smokers quit. There are no low nicotine cigarettes currently on the market in the U.S. Assessing the public's perceptions of nicotine and cigarettes advertised as “low nicotine” will inform regulatory efforts. This HINTS Brief provides a snapshot of beliefs about nicotine and cigarettes advertised as “low nicotine” among U.S. adults.

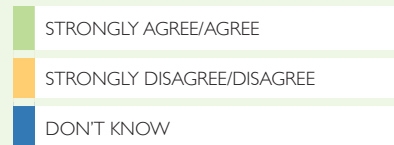
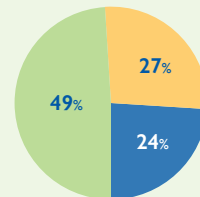
#### Nicotine addiction beliefs

83 percent of Americans correctly agree that nicotine is the main substance in cigarettes that makes people want to smoke, 5 percent do not think this is true, and 12 percent are unsure.



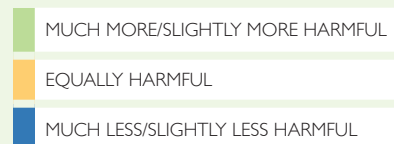
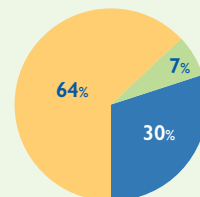
#### Nicotine harm beliefs

About one quarter of Americans (27 percent) correctly disagree that nicotine is the cause of most smoking-related cancers, but 49 percent of Americans incorrectly believe that nicotine causes most smoking-related cancers, and 24 percent are unsure.



#### Beliefs about the harmfulness of cigarettes advertised as low nicotine

64 percent of Americans report that if a cigarette is advertised as “low nicotine,” it would be equally as harmful to health as a typical cigarette. A substantial minority (30 percent) report that a cigarette advertised as “low nicotine” would be less harmful than a typical cigarette, and 7 percent say it would be more harmful.



## Beliefs About Nicotine and Cigarettes Advertised as ‘Low Nicotine,’ by Demographic Characteristics and Smoking Status

In a recently published study, investigators analyzed data from HINTS FDA (2015) to examine beliefs about nicotine and cigarettes advertised as “low nicotine” among various demographic groups, as well as current, former, and never smokers.\* Although most people are aware that nicotine is the main substance responsible for addiction to tobacco products, about three quarters of Americans either incorrectly believe that nicotine causes smoking-related cancer or are unsure about the relationship between nicotine and smoking-related cancer. People who are black, Hispanic, or other race, or who are less educated, over 65 years old, or have never smoked, are most likely to believe that nicotine is chiefly responsible for smoking-related cancers. Additionally, about 30 percent of Americans believe that cigarettes advertised as “low nicotine” would be less harmful than typical cigarettes, when there is no substantial evidence to suggest that reducing the nicotine level in a conventional cigarette will make it less harmful to the user if smoked in the same manner and at the same frequency. White adults are more likely than black adults to believe that cigarettes advertised as “low nicotine” would be less harmful to health than typical cigarettes, and people who never smoked are more likely to believe this than former smokers.

\* These data were collected before the FDA issued an advance notice of proposed rulemaking for reducing the nicotine level in cigarettes.

### How Can This Inform Your Work?

HINTS data suggest a need to correct misperceptions about nicotine and cigarettes advertised as “low nicotine” to ensure more accurate harm perceptions about various nicotine and tobacco products, thereby enabling individuals to make informed decisions about their use. This could be accomplished through mass media campaigns, targeted communication efforts aimed at specific subgroups (e.g., racial minorities, those over 65, and those with less educational attainment), or one-on-one counseling by health care providers on the effects of nicotine and the harms of other substances found in cigarettes, among other strategies.

Data on the public’s potentially incorrect beliefs about nicotine (especially among certain subgroups) could also help improve public health. For example, smokers who believe that nicotine causes smoking-related cancer may be unwilling to use NRT or may use less of it than is recommended. Correcting consumers’ misperceptions about nicotine, and providing information on the safety and efficacy of NRT, may increase the number of smokers who use these medications properly as well as increase quitting rates. Information about NRT is in this [fact sheet](#), available at [Smokefree.gov](#). Similarly, consumers who perceive cigarettes advertised as low nicotine to be less harmful than other cigarettes may have lower motivation to stop using these products.

### About HINTS

[hints.cancer.gov](https://hints.cancer.gov)

The National Cancer Institute (NCI) created the Health Information National Trends Survey (HINTS) to monitor changes in the rapidly evolving field of health communication. The survey data can be used to understand how adults use communication channels to obtain health information for themselves and their loved ones. It can also help practitioners create more effective health communication strategies.

The HINTS survey has been fielded 10 times to date: HINTS 1 (2003) surveyed 6,369 Americans; HINTS 2 (2005) surveyed 5,586 Americans; HINTS 3 (2008) surveyed 7,674 Americans; HINTS 4 Cycle 1 (2011) surveyed 3,959 Americans; HINTS 4 Cycle 2 (2012) surveyed 3,630 Americans; HINTS 4 Cycle 3 (2013) surveyed 3,185 Americans; HINTS 4 Cycle 4 (2014) surveyed 3,677 Americans; HINTS FDA (2015) surveyed 3,787 Americans; HINTS 5 Cycle 1 (2017) surveyed 3,285 Americans; and HINTS FDA Cycle 2 (2017) surveyed 1,736 Americans.

HINTS Briefs provide a snapshot of noteworthy, data-driven research findings. They introduce population-level estimates for specific questions in the survey and summarize significant research findings resulting from analyses of how certain demographic characteristics influence specific outcomes. Many Briefs summarize research findings from recent peer-reviewed journal articles that have used HINTS data.

### For More Information on Cancer

- Call the NCI Cancer Information Service at 1-800-4-CANCER
- Visit <https://www.cancer.gov>
- Order NCI publications at <https://pubs.cancer.gov/ncipl/home.aspx>
- Visit [Facebook.com/cancer.gov](https://www.facebook.com/cancer.gov) and <https://www.youtube.com/ncigov>

### References Used in This HINTS Brief

- O'Brien, E. K., Nguyen, A. B., Persoskie, A., & Hoffman, A. C. (2017, March). U.S. adults' addiction and harm beliefs about nicotine and low nicotine cigarettes. *Preventive Medicine, 96*, 94–100. <https://doi.org/10.1016/j.ypmed.2016.12.048>
- Food and Drug Administration. (2017, July 28). FDA announces comprehensive regulatory plan to shift trajectory of tobacco-related disease, death [Press Release]. Retrieved from <https://www.fda.gov/newsevents/newsroom/pressannouncements/ucm568923.htm>
- Morgan, J. C., Byron, M. J., Baig, S. A., Stepanov, I., & Brewer, N. T. (2017). How people think about the chemicals in cigarette smoke: A systematic review. *Journal of Behavioral Medicine, 40*(4), 553–564. <https://doi.org/10.1007/s10865-017-9823-5>
- National Center for Chronic Disease Prevention and Health Promotion (US) Office on Smoking and Health. (2014). *The Health Consequences of Smoking: 50 Years of Progress: A Report of the Surgeon General*, 2014. Atlanta, GA: Centers for Disease Control and Prevention.



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