

## Confusion about Cancer Prevention

Because many cancers can be prevented through individual action and lifestyle (e.g., not smoking, eating a healthy diet, exercising, and wearing sunscreen), public understanding of cancer prevention is critical to cancer control. Examining how knowledge and beliefs about cancer prevention are associated with lifestyle and behavior is of special concern to health communication practitioners. Effective communication strategies can help to correct misperceptions that may lead to lower participation in behaviors that are known to protect against cancer.

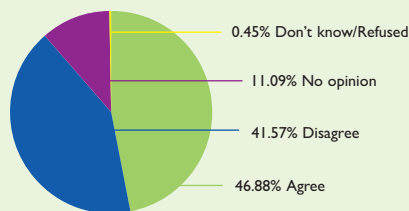
Most respondents to the National Cancer Institute's (NCI) Health Information National Trends Survey (HINTS) realize that cancer is preventable; however, there appears to be confusion about known risk factors for the disease and about which recommendations to follow to decrease individual cancer risk.

Fatalistic beliefs, characterized by pessimism, helplessness, and confusion about ways to avoid getting cancer, are prevalent among U.S. adults. These fatalistic beliefs often are spurred by ambiguity regarding the credibility and reliability of health information in the public domain.

In this *HINTS Brief*, we summarize two recently published studies that show how fatalistic beliefs and ambiguity about cancer prevention are associated with a lower likelihood of participating in many behaviors that are known to reduce the risk of cancer generally, and colon, skin, and lung cancers specifically.

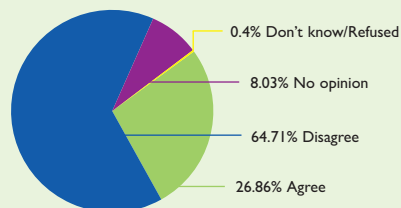
### It Seems Like Everything Causes Cancer

2003 Estimated  
U.S. Population Percentage



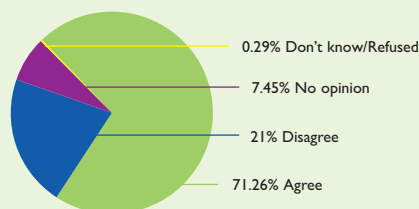
### There's Not Much People Can Do to Lower Their Chances of Getting Cancer

2003 Estimated  
U.S. Population Percentage



### There Are So Many Recommendations about Preventing Cancer, It's Hard to Know Which Ones to Follow

2003 Estimated  
U.S. Population Percentage



## Quick Facts

- Lifestyle factors, including smoking, diet and nutrition, physical activity and sun protection can affect a person's risk for cancer.
- There are many ways to reduce the risk of developing cancer:
  - Avoid smoking
  - Eat a diet rich in vegetables and fruits and low in saturated fat
  - Get regular physical activity
  - Obtain recommended cancer screening exams
- Most Americans know that it is possible for individuals to take action to lower their risk of getting cancer.
- Confusion about the causes of cancer and recommendations for preventing cancer is associated with a lower likelihood of participating in many behaviors that protect against the disease.

## Fatalism and Ambiguity Predict Lower Adherence to Cancer Prevention Recommendations

- **“Fatalism”** is defined as an outlook that all events are inevitable and controlled by fate, and humans are powerless to influence them.
- **“Ambiguity”** is defined as uncertainty regarding the reliability, credibility, or adequacy of information about risks.

A recently published study using HINTS 2003 data found that several fatalistic beliefs about cancer are associated with a lower likelihood of engaging in behaviors known to reduce cancer risk, including regular exercise, not smoking, and eating five or more servings of fruits and vegetables per day. The relationship between fatalistic beliefs and healthy behaviors proved significant even as other predictors of behavior were considered, including age, gender, race/ethnicity, income, education, employment status, marital status, health insurance, and family history of cancer.

A similar study using HINTS 2005 data examined associations between ambiguity about cancer prevention recommendations and behaviors specific to preventing colon, skin, and lung cancers. Investigators found that respondents who agreed with the statement, “There are so many recommendations about preventing colon/skin/lung cancer, it's hard to know which ones to follow,” were less likely to engage in behaviors to reduce their risk of those cancers. Specifically, they were less likely than respondents who were not confused about cancer prevention recommendations to have reported undergoing flexible sigmoidoscopy or colonoscopy or using sunscreen, and more likely to report being a current smoker. Ambiguity had an independent effect when several sociodemographic characteristics were considered.

***In this HINTS Brief, we explore factors associated with confusion about cancer prevention.***

## Who Is Confused about Cancer Prevention?

*HINTS 2003 Data Show that Education Level Plays the Largest Role*

In this section, we provide information on the contribution of variables such as education, income, employment status, and health insurance status, to holding fatalistic beliefs about cancer.

### Education

Fatalistic beliefs about cancer prevention are far more prevalent among HINTS respondents with lower levels of education compared to those with a college degree. Education appears to predict confusion about cancer prevention more than any other sociodemographic characteristic examined.

### Income and Employment

Income and employment status do not seem to play a role in contributing to fatalistic beliefs about cancer when other sociodemographic variables are considered.

### Health Insurance Status

There are no differences in fatalistic beliefs about cancer among respondents who have and do not have health insurance, when other factors are considered.

## How Can This Inform Your Work?

Because fatalism and ambiguity are associated with not engaging in behaviors that are known to protect against cancer, and because these beliefs are prevalent among Americans with low levels of education, health communication practitioners have an opportunity to play a role in alleviating confusion by targeting information and prevention strategies appropriately. Cultivating accurate beliefs and knowledge about the causes of cancer and recommendations for cancer prevention is a necessary first step in efforts to promote cancer prevention.

Target efforts aimed at promoting the preventability of cancer and specific behavioral recommendations for cancer prevention toward Americans with low levels of education. Consider that health literacy and information access may play a role.

*Promote the use of credible resources for cancer information:*

- **The National Cancer Institute's Cancer Information Service**
  - URL: <http://cis.nci.nih.gov/>
  - Telephone: 1-800-4-CANCER
- **The American Cancer Society**
  - URL: <http://www.cancer.org>
  - Telephone: 1-800-ACS-2345
- **The Centers for Disease Control and Prevention**
  - URL: <http://www.cdc.gov/cancer/>
  - Telephone: 1-800-CDC-INFO

**About HINTS**  
<http://hints.cancer.gov>

The National Cancer Institute (NCI) fielded the first Health Information National Trends Survey (HINTS) in 2002 and 2003, surveying 6,369 Americans. The second survey was fielded in 2005, surveying 5,586 Americans. HINTS was created to monitor changes in the rapidly evolving field of health communication. The survey data can be used to understand how adults 18 years and older use different communication channels to obtain health information for themselves and their loved ones, and to create more effective health communication strategies across populations.

*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 that are a result of analyzing how sociodemographic variables influence specific outcomes. The Briefs are intended to highlight top-level findings derived from analyses reported in other venues, and are not meant to be comprehensive reports.

## For More Information on Cancer

- Call the NCI Cancer Information Service at 1-800-4-CANCER (1-800-422-6237)
- Visit <http://cancer.gov>
- Order NCI publications at <https://cissecure.nci.nih.gov/ncipubs/>

## References Used in This HINTS Brief

- Han PKJ, Moser RP, Klein WMP. Perceived ambiguity about cancer prevention recommendations: associations with cancer-related perceptions and behaviors in a U.S. population survey. *Health Expect*. 2007 Dec;10(4):321-36.
- Niederdeppe J, Gurmankin Levy A. Fatalistic beliefs about cancer prevention and three prevention behaviors. *Cancer Epidemiol Biomarkers Prev*. 2007;16(5):998-1003.



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