# Goal 2: Promote Healthy Living and Cancer Prevention through Risk Factor Reduction

The goal of decreasing exposure to risk factors for preventable cancers is addressed through three **priority** areas, each further subdivided into focus areas.*

**Priority Areas:**

1. Healthy living
   a. Food and nutrition
   b. Physical activity and healthy eating
   c. Tobacco and vaping cessation
   d. Alcohol consumption
2. Exposure to environmental carcinogens
   a. Radon
   b. Ultraviolet light
3. Clinical interventions proven to prevent cancer
   a. HPV vaccination
   b. Hepatitis screening and vaccination
   c. Genetic risk assessment and counseling

## G-2, Priority Area 1: Healthy Living

### WHY THIS IS IMPORTANT

#### Nutrition and Physical Activity

- Overweight and obesity are clearly associated with an increased risk for developing many types of cancer. About one-quarter to one-third of new cancer cases in the U.S. are estimated to be related to overweight or obesity, physical inactivity, and poor nutrition
- Among students in grades 9 - 12 in the 2019 Connecticut Youth Risk Behavior Survey, 14.4% were obese and 14.3% were overweight. Obesity and overweight rates were significantly higher among Black and Hispanic students, compared to white students
- Persons with low socioeconomic status are more likely to have limited opportunities for physical activity and less access to fresh fruits and vegetables. Policy, systems, and environmental changes can help to alleviate these health inequities

#### Access to Healthy Food

- In Connecticut, 39% of Blacks and 37% of Hispanics report either poor or fair availability of affordable, high-quality fruits and vegetables, compared to 21% of whites

#### Alcohol

- Alcohol use is one of the most important preventable risk factors for cancer, along with tobacco use and excess body weight. Alcohol use accounts for about 6% of all cancers and 4% of all cancer deaths in the United States. Alcohol use has been linked with cancers of the mouth, throat, pharynx, larynx, esophagus, liver, colon, rectum, and breast

***Note that the target date for all objectives in the Connecticut Cancer Plan, 2021-2026 is 2026.**

## WHY THIS IS IMPORTANT (continued)

### Tobacco

- Tobacco product use is the leading cause of preventable disease, disability, and death in the U.S.
- Cigarette smoking can cause cancer almost anywhere in the body, including the mouth and throat, esophagus, stomach, colon, rectum, liver, pancreas, voice box (larynx), trachea, bronchus, kidney and renal pelvis, urinary bladder, and cervix, and it can cause acute myeloid leukemia
- In the U.S., smoking is linked to nearly 9 out of 10 lung cancers
- Cigarette smoking disproportionately affects the health of people with low socioeconomic status
- Cigarette smokers with lower income suffer more from diseases caused by smoking than do smokers with higher incomes
- A higher percentage of Black, non-Hispanic adults, and youth report current use of cigars than persons of other racial/ethnic groups
- The use of e-cigarettes is unsafe for kids, teens, young adults, and pregnant women as well as adults who do not currently use tobacco products. E-cigarettes are the most commonly used tobacco product among youth
- Most e-cigarettes contain nicotine. Nicotine can harm adolescent brain development–development that continues into the early to mid-20s. Nicotine also is highly addictive
- E-cigarette aerosol that users inhale and exhale from e-cigarettes can expose both themselves and bystanders to harmful substances
- Use of smokeless tobacco can cause cancer of the mouth, esophagus, and pancreas and can cause white or grey patches inside the mouth (leukoplakia) that can lead to cancer
- Young people who use smokeless tobacco and e-cigarettes can become addicted to nicotine and may be more likely to also become cigarette smokers
- Adults from rural counties have a higher prevalence of smokeless tobacco use than adults in urban, large metro, or small metro counties[47, 48, 49, 50]

## Food and nutrition objectives

- Decrease the percentage of Black residents reporting poor or fair availability of affordable, high-quality fruits and vegetables from 39% to 35% (Access Health CT data)
- Decrease the percentage of Hispanic residents reporting poor or fair availability of affordable, high-quality fruits and vegetables from 37% to 33% (Access Health CT data)

## Physical activity and healthy weight objectives

- Reduce the proportion of Connecticut adults who are overweight/obese from 65.7% (2019) to 59.13% (CT BRFSS 2019 Summary Tables)
- Reduce the proportion of adults who engage in no leisure time physical activity in the last 30 days from 22.8% to 21.8% (CT BRFSS 2019 Summary Tables)

## Tobacco objectives

- Reduce the prevalence of current tobacco use among high school students from 17.9% to 16.11% (2017 CT Youth Tobacco Survey)
- Reduce the prevalence of current tobacco use among adults from 12.2% to 11% (2018 CT Behavioral Risk Factor Surveillance System)
- Reduce the prevalence of use by high school students of electronic nicotine delivery systems from 27% to 24% (2019 Connecticut School Health Survey. CT YRBSS)

## Alcohol objective

- Reduce binge alcohol drinking in the last 30 days among Connecticut adults by from 18.8% to 15.8% (CT BRFSS 2018)

### First Person Point of View

*"We need to do a focused LGBTQ+ education program around preventing cancer, selecting a cancer doctor, and surviving cancer."*

–Stage 4 Cancer survivor's response from June 2020 needs assessment

## STRATEGIES

- Promote and support policies, systems, and environmental changes that optimize healthy living through good nutrition, increased physical activity, and tobacco and alcohol avoidance
- Collaborate with stakeholders to promote healthy eating and physical activity and advance awareness of the types of policy and environments that support cancer preventive nutritional choices, such as daily access to a variety of fruits and vegetables and avoidance of heavily processed foods
- Increase awareness of alcohol use as a cancer risk factor among Connecticut residents through educational outreach campaigns
- Support policy, systems, and environmental changes to create opportunities for physical activity where Connecticut residents live, work, play, and learn
- Support initiatives that target populations of focus and communities with high prevalence of cancer risk factors, including alcohol and tobacco use
- Collaborate with mental health providers, recognizing that persons with mental health needs may be at higher risk for late-stage diagnosis of cancer, may engage at higher rates of cancer risk factor behaviors, may have less access to regular screening, and may suffer higher rates of adverse cancer outcomes[51]
- Monitor trends in data related to cancer risk, including trends in relative cancer risk among populations of focus
- Collaborate with state and local agencies to implement policy for tobacco-free living and the support of cessation efforts[52]

### Resources


- Alcohol Use and Cancer. American Cancer Society. Alcohol Use and Cancer
- DataHaven Community Wellbeing Survey. https://www.ctdatahaven.org/reports/datahaven-community-wellbeing-survey
- Select Tobacco Use Data Graphs from the 2019 Connecticut School Health Survey Summary Graphs. https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/dph/hems/tobacco/PDF/Tobacco-Use-Data-Select-Slides-2019-Youth-Risk-Behavior-Survey.pdf
- The Toll of Tobacco in Connecticut. Tobacco Free Kids. Connecticut - Campaign for Tobacco-Free Kids (tobaccofreekids.org)
- Tobacco-Related Mortality. CDC. Tobacco-Related Mortality | CDC
- Increasing Healthy Nutrition and Physical Activity Across the Cancer Continuum through Policy, Systems, and Environment Change: A Resource for Comprehensive Cancer Coalitions. American Cancer Society Comprehensive Cancer Control. 2021. https://www.acs4ccc.org/wp-content/uploads/2021/04/NUPA-PSE-in-CCC-Guide_FINAL.pdf
- American Cancer Society. Cancer Prevention & Early Detection Facts & Figures, 2021-2022

# G -2, Priority Area 2: Exposures to Environmental Carcinogens

## WHY THIS IS IMPORTANT

### Radon

Radon is a radioactive gas that forms naturally when uranium, thorium, or radium (radioactive metals) breaks down in rocks, soil, and groundwater. People can be exposed to radon primarily from breathing radon in air that comes through cracks and gaps in buildings and homes.

Health officials estimate that radon is responsible for more than 21,000 lung cancer deaths each year, making it one of the top ten causes of cancer mortality in the United States.

Radon is the second leading cause of lung cancer after cigarette smoking. The combined health effects of radon and tobacco exposure are synergistic, so reducing either of the exposures substantially reduces lung cancer risk.

### Ultraviolet Light (UV)

Most skin cancers are a result of exposure to the UV rays in sunlight. Both basal cell and squamous cell cancers (the most common types of skin cancer) tend to be found on sun-exposed parts of the body, and their occurrence is typically related to lifetime sun exposure. The risk of melanoma, a more serious but less common type of skin cancer, is also somewhat related to sun exposure.

There is evidence that people who use tanning beds or booths have a higher risk of skin cancer. The risk of melanoma is higher if indoor tanning starts before age 35, and the risk of basal and squamous cell skin cancer is higher if indoor tanning started before age 25.[53]

## Radon objective

- Increase the percentage of households that test air for the presence of radon gas from 48.2%to 53% (CT BRFSS 2019 Summary Tables)

## Ultraviolet light objective

- Increase the proportion of adults ages 18 years and older who always or almost always use at least one sun protective measure (Data: TBD)

## STRATEGIES

- Promote and support policies, systems, and environmental changes to reduce exposure to environmental carcinogens
- Promote public awareness regarding radon exposure and encourage radon testing and reduction in homes, schools, and workplaces
- Promote the use of environmental changes, such as shade structures, to reduce the risks of harmful UV exposure and advocate for policies that reduce the risks of harmful UV exposure through artificial sources
- Advocate for inclusion of optional modules on indoor tanning and excess sun exposure modules in state BRFSS
- Support/promote sunscreen education in medical provider settings
- Advocate for the inclusion of sunscreen use on medical intake forms

### Resources


- Connecticut Department of Public Health Radon Program. https://portal.ct.gov/dph/Environmental-Health/Radon/Radon-Program
- Protect Yourself and Your Family from Radon. CDC. National Center for Environmental Health. Protect Yourself and Your Family from Radon (cdc.gov)
- Reducing the Risk from Radon: Information and Interventions. A Guide for Health Care Providers. HP_Radon_Guide_2018_FINAL.pdf (ct.gov)

# G -2, Priority Area 3: Clinical Interventions to Prevent Cancer

## WHY THIS IS IMPORTANT

- HPV can cause cancer of the cervix, oropharynx (back of the throat, including the base of the tongue and tonsils), vulva, vagina, penis, and anus. Each year, more than 35,000 men and women are diagnosed with a cancer caused by HPV in the U.S.
- Vaccines protect against the types of HPV that cause most of these cancers. The vaccine used in the United States also protects against the HPV types that cause most genital warts. It is estimated that HPV vaccination can prevent more than 90% of cancers caused by HPV, or about 33,000 cases annually, in the U.S.[54]
- Populations that include large numbers of recent immigrants, such as Hispanics and Asians, have higher rates of cancer related to infectious agents such as HPV. Hispanic women have the highest incidence rate for cervical cancer
- The COVID-19 pandemic resulted in a decline in vaccination rates. The CDC estimates that HPV vaccinations are down by more than 20%, compared to 2019[55]

### HPV vaccination objectives

- Increase HPV vaccination rates for males and females ages 13 – 17 from 41.3% to 45.43%[56] (NIS-TEEN dataset)
- Increase HPV vaccination rates for males and females ages 13 – 17 from 41.3% to 45.43%
- Increase HPV vaccination rates for Black students ages 13 – 17 from 29.2% to 32% (NIS-TEEN dataset)
- Establish commitments from three organizations to offer HPV vaccination in a trusted setting identified by the population of focus
- Establish commitments from 10 primary care clinics and/or Federally Qualified Health Centers in Connecticut to modify clinic hours to offer evening vaccination options
- Increase the proportion of oral and pharyngeal cancers detected at the earliest stage—from 29.5% to 34.2[57] (2016 SEER)

## STRATEGIES

- In concert with the Connecticut HPV Vaccination Coalition, develop a program that utilizes immunization registry data to provide reporting to providers or health systems, including their HPV vaccination initiation and completion rates compared to that of their peers and to this Plan's goal
- Support the training of healthcare providers on the evidence-based "announcement approach," meaning clinicians first talk about adolescent vaccines by announcing the child is due for meningitis, HPV, and Tdap vaccines, and then saying, 'We'll give those at the end of the visit'"[58]
- Support the use of reminder systems in provider offices to increase HPV vaccination completion rates
- Promote professional education for healthcare providers, including guidance on the importance of HPV vaccination, best practices for communicating with parents, and tips for boosting vaccination rates[59]
- Increase public awareness and education for parents, focusing on the message "HPV Vaccine is Cancer Prevention"[60]
- Collaborate with schools and universities on opportunities for HPV education and vaccination.
- Advocate for continued inclusion of optional HPV vaccination module in state BRFSS
- Educate clinicians on financial resources available for uninsured and underinsured populations for the HPV vaccine, including the VFC program

## WHY THIS IS IMPORTANT

Hepatitis B Virus and Hepatitis C Virus can cause chronic viral hepatitis, a liver infection that increases a person's risk of liver cancer. Liver cancer is the fastest growing cause of cancer death in the United States. The increase is mainly among adults who have less education, especially men, according to a 2019 study by the American Cancer Society (ACS). Inequities in liver cancer and death rates have persisted in populations with fewer resources due to infection and behavioral risk factors. In the United States, the Hepatitis B Virus (HBV) vaccine is recommended for all children.[61]

The Advisory Committee on Immunization Practices (ACIP) also recommends vaccination of adults at risk for Hepatitis B Virus (HBV) infection, including universal vaccination of adults in settings in which a high proportion have risk factors for HBV infection and vaccination of adults requesting protection from HBV without acknowledgment of a specific risk factor.

The CDC recommends Hepatitis C screening at least once in a lifetime for all adults ages 18 years and older and for all pregnant women during each pregnancy.

### Hepatitis screening and vaccination objectives

- Disseminate clinical education to practitioners to raise awareness of the importance of appropriate hepatitis screening

## STRATEGIES

- Advocate for evidence-based interventions to reduce exposure to and infection with Hepatitis B and C


## WHY THIS IS IMPORTANT

**Genomics**

Part of the trend toward personalized cancer care is based on the use of the genetic profile of a tumor to improve diagnosis and allow for targeted therapies. Increasingly, cancers are being classified and sub-classified by their molecular characteristics, as opposed to just tissue of origin. For example, registration of breast cancers now includes their estrogen and progesterone receptor status and HER2/neu status.

**Genetic Risk Assessment and Genetic Counseling**

Genetic risk assessment is becoming a routine part of cancer control. The NCI has developed information for hereditary cancer syndromes, and the Connecticut DPH Genomics Office has created guidelines entitled *Cancer Genomics Best Practices for Connecticut Healthcare Providers — Hereditary Breast and Ovarian Cancer Syndrome and Lynch Syndrome*.

Up to 10% of pancreatic cancers may also be due to abnormal genes, for which tests are available. Pancreatic cancer, a disease with low incidence but high mortality, causes more deaths in Connecticut than breast or prostate cancer. Since there are no evidence-based early detection tests and a disparity exists (Blacks experience greater incidence and mortality rates), monitoring the potential for the use of genetic testing for these inherited genetic mutations may be a useful approach to the control of this especially difficult type of cancer.[62]

## Genetic risk assessment information and genetic counseling objective

- Increase the proportion of people with a family history of hereditary cancers who receive genetic risk assessment information and genetic counseling (Data: TBD)[63]

## STRATEGIES

- Support efforts to make information on underlying genetic/heritable causes of common cancers and the importance of genetic counseling and early detection more readily available to the public. For example, children in families with hemochromatosis should be screened for the disease. Treatment can reduce the risk of later development of liver cancer[64]
- Disseminate resources for patients regarding genetic testing, counseling, and/or public health genomics
- Certain inherited diseases can cause cirrhosis of the liver, increasing a person's risk for liver cancer. Finding and treating these diseases early in life could lower this risk

## Resources

- CDC Recommendations for Hepatitis C Screening Among Adults in the United States. https://www.cdc.gov/hepatitis/hcv/guidelinesc.htm
- DOSE HPV: Development of Systems and Education for HPV Vaccination. https://ebccp.cancercontrol.cancer.gov/programDetails.do?programId=25930477
- Hepatitis B Vaccination of Adults. https://www.cdc.gov/hepatitis/hbv/vaccadults.htm#:~:text=The%20Advisory%20Committee%20on%20Immunization,HBV%20without%20acknowledgment%20of%20a
- https://www.cdc.gov/vaccines/imz-managers/coverage/teenvaxview/data-reports/hpv/dashboard/2018.html
- TeenVaxView, National Immunization Survey-Teens: 2019 Adolescent Human Papillomavirus (HPV) Vaccination Coverage Dashboard.
- https://www.cdc.gov/vaccines/imz-managers/coverage/teenvaxview/data-reports/index.html
- What Happens During Genetic Testing for Cancer Risk? https://www.cancer.org/cancer/cancer-causes/genetics/what-happens-during-genetic-testing-for-cancer.html
- National HPV Vaccination Roundtable. HPV YouTube channel. https://www.youtube.com/channel/UCeX-D142UQHtMiw8ddW77-w