

# **Vermont Cancer Data Pages**

Division of Health Statistics and Informatics Published April 2024



# **Table of Contents**

Topic	Page
Populations of Focus	3
Chapter 1: Risk Factors and Prevention	5
Chapter 2: Cancer Incidence	32
Chapter 3: Cancer Screening	48
Chapter 4: Cancer Mortality	57
Chapter 5: Cancer Survivorship	65
<u>Data Sources</u>	87
<u>Resources</u>	88

#### **Populations of Focus**

The Vermont Department of Health (VDH) recognizes that some individuals are more likely to be affected by cancer than others due to social, environmental and economic disadvantages.

The Vermont Comprehensive Cancer Control Program has chosen **five populations of focus** to track to assess disparities in health behaviors and outcomes.

- Black, Indigenous and people of color (BIPOC): Individuals who self-identified that they are of Hispanic, Latino/a, or Spanish origin, and/or responded that their race is one or more of the following: Black or African American, American Indian and/or Alaska Native, Asian, Pacific Islander. WnH refers to individuals who self-identified that they are white, non-Hispanic.
- Lesbian, gay, bisexual, transgender and queer (LGBTQ+) Vermonters: Data sources in this report only ask respondents to self-identify if they are lesbian, gay, bisexual and/or transgender so we acknowledge that these data do not fully represent the LGBTQ+ community.
- **Vermonters living with disabilities:** Individuals who self-identified as having one or more of the following conditions: sight impairment, being deaf or having serious difficulty hearing, difficulty walking, difficulty making decisions, difficulty doing errands alone, difficulty getting dressed alone.
- Low-income Vermonters: Individuals who have a household income that is 250% or less of the federal poverty level.
- Rural Vermonters: Individuals who live in an area designated as "rural" by the Rural-Urban Commuting Area (RUCA) Classification C.

#### Introduction

Cancer is a group of more than 100 different diseases that often develop gradually as the result of a complex mix of lifestyle, environmental, social and genetic factors.

Statistical Comparisons: Throughout this report, data comparisons presented as "higher," "lower," "larger," "smaller," "better," "worse," or as "significantly different" are all considered statistically significant differences. Statistical significance is assessed by comparing the confidence intervals of different groups.

Positive statistically significant results are sometimes called out with a star symbol:



Negative statistically significant results are sometimes called out with a warning symbol:



Age Adjustment: Measures throughout this document from the Vermont Cancer Registry are age adjusted. Age adjustment eliminates variation that results from differences in a populations' age distributions.

Acknowledgement: This publication was supported by Grant/Cooperative Agreement Number NU58DP006322-02-02 from the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention.

# **Chapter 1: Risk Factors and Prevention**

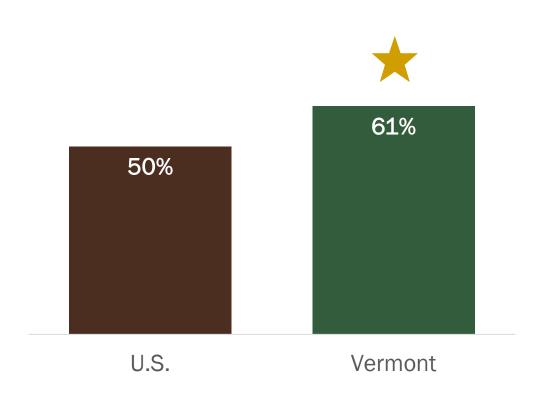
#### **Introduction: Risk Factors and Prevention**

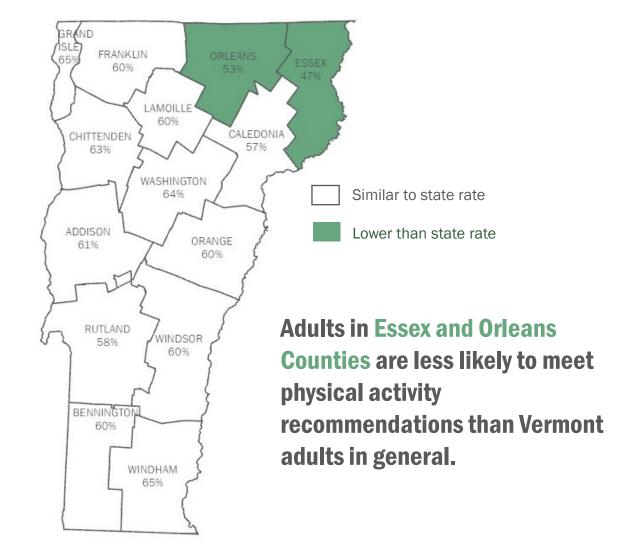
People are at higher risk for certain cancers due both to factors related to personal behaviors such as: diet, physical inactivity, tobacco use, alcohol use, and overexposure to sunlight; and to social determinants of health such as race/ethnicity, income-level, disability status, area of residence, and sexual identity and orientation.

The Risk Factors and Prevention chapter of the Vermont Cancer Data Pages explores the personal behaviors of Vermonters that are known to increase or decrease the risk of developing cancer.

## **Physical Activity**

Vermont adults are more likely to meet physical activity recommendations than the U.S. population.



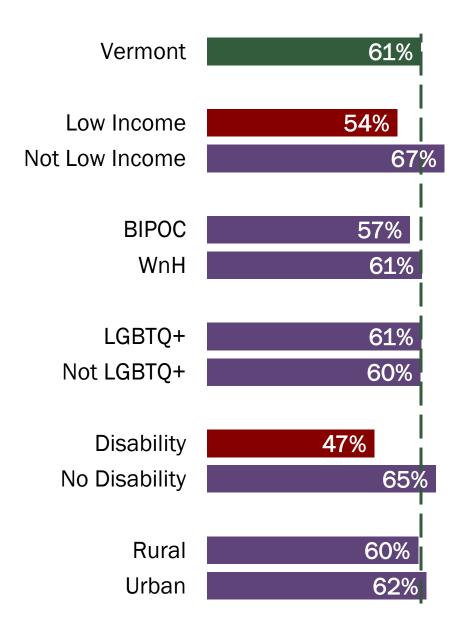


# **Physical Activity**

Adults in homes with a low income meet physical activity recommendations less than adults without a low income.

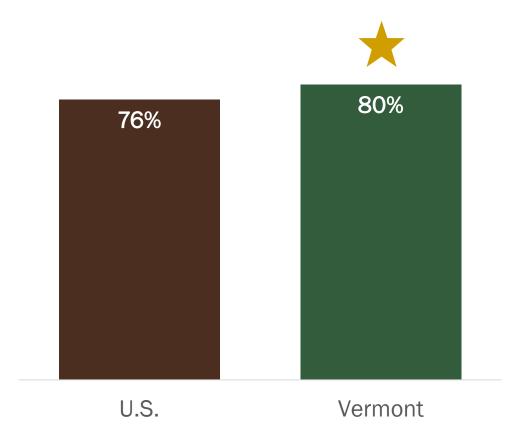
Adults with a disability meet physical activity recommendations less than those without a disability.

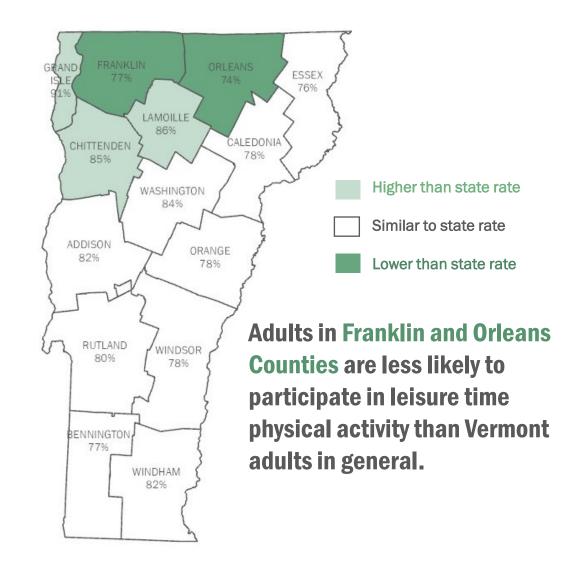
Other differences between groups are not statistically significant.



#### **Leisure Time Physical Activity**

Vermont adults are more likely to participate in leisure time physical activity than the U.S. population.

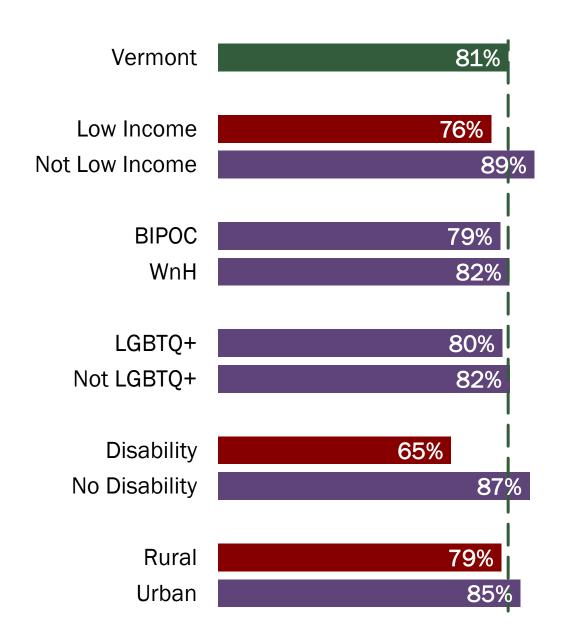




## **Leisure Time Physical Activity**

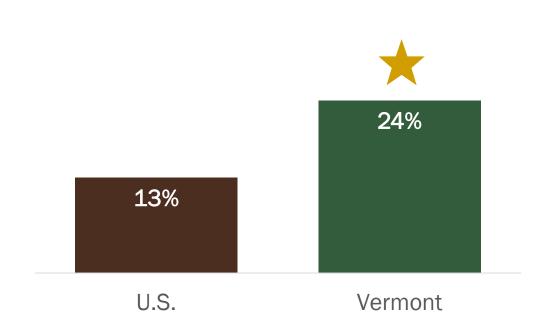
Adults in homes with a low income, those with a disability, and those living in rural areas participate in leisure time physical activity less than those without a low income, those without a disability and those living in urban areas.

Other differences between groups are not statistically significant.



## **Eat at Least Five Servings of Fruits and Vegetables**

Vermont adults eat at least five servings of fruits and vegetables at a rate higher than the U.S. population.

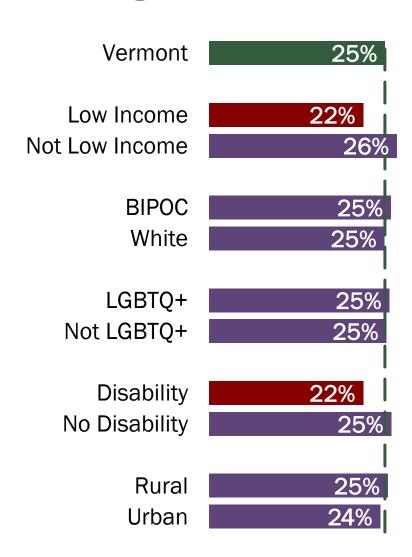




## **Eat at Least Five Servings of Fruits and Vegetables**

Adults with a disability and those in homes with a low income eat at least 5 servings of fruits and vegetables at rates less than those with a disability and those in homes without a low income.

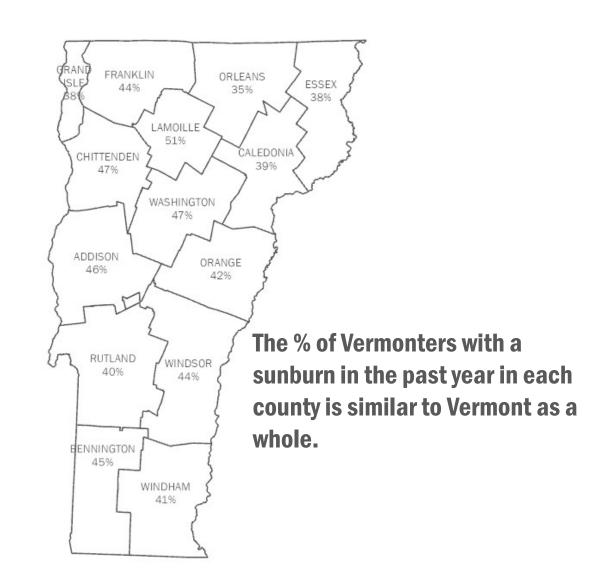
Other differences between groups are not statistically significant.



#### 1+ Sunburns: Adults

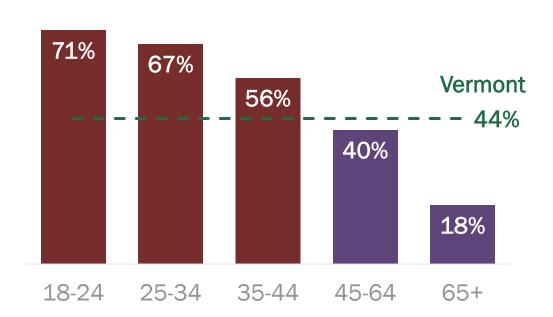
About 2 in 5 (44%) Vermont adults had a sunburn in the past year.





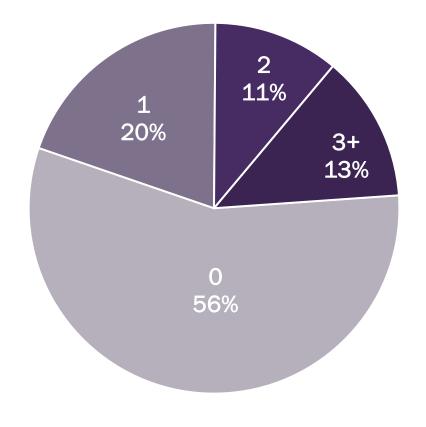
#### 1+ Sunburns: Adults

Vermonters ages 18-44 are more likely to have had a sunburn in the past year than Vermont adults in general.



#### **Number of Sunburns: Adults**

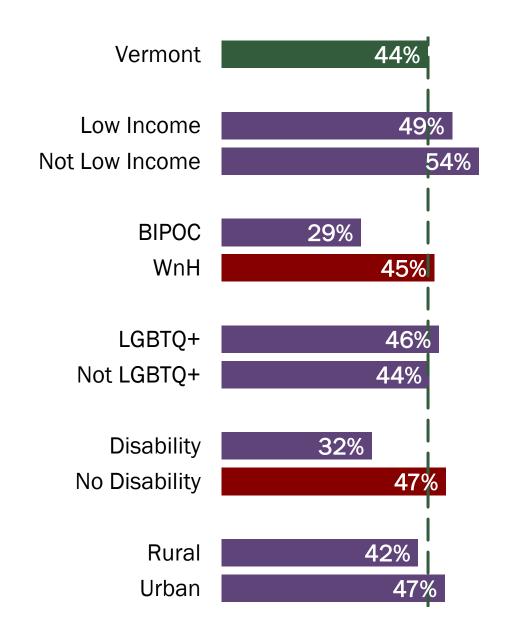
24% of Vermont adults had 2 or more sunburns in the past year.



#### **Sunburns: Adults**

White, non-Hispanic adults and those without a disability are more likely to have had at least one sunburn in the past year than BIPOC adults and those with a disability.

Other differences between groups are not statistically significant.



# 1+ Sunburns: High School

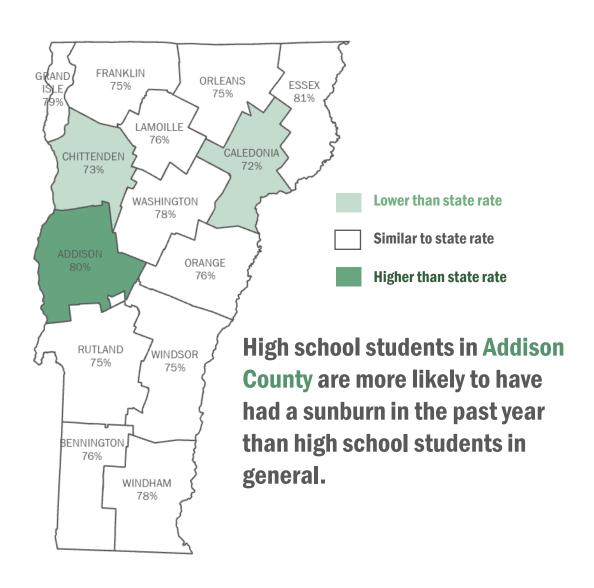
3 out 4 high school students report having had a sunburn in the past year.











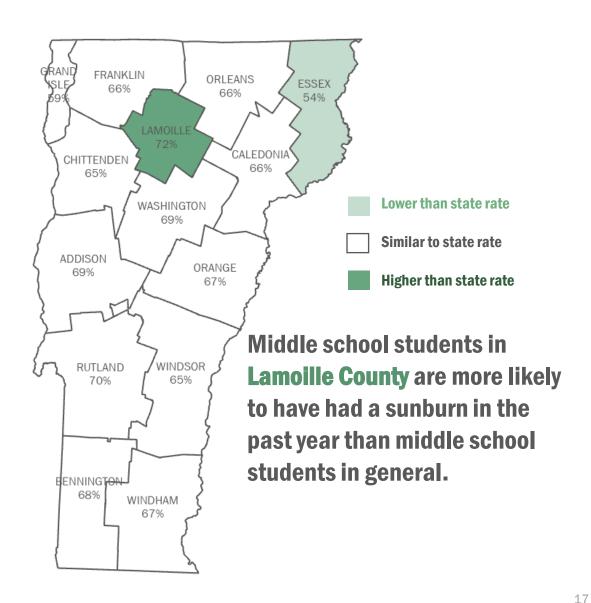
#### 1+ Sunburns: Middle School

2 out 3 middle school students report having had a sunburn in the past year.



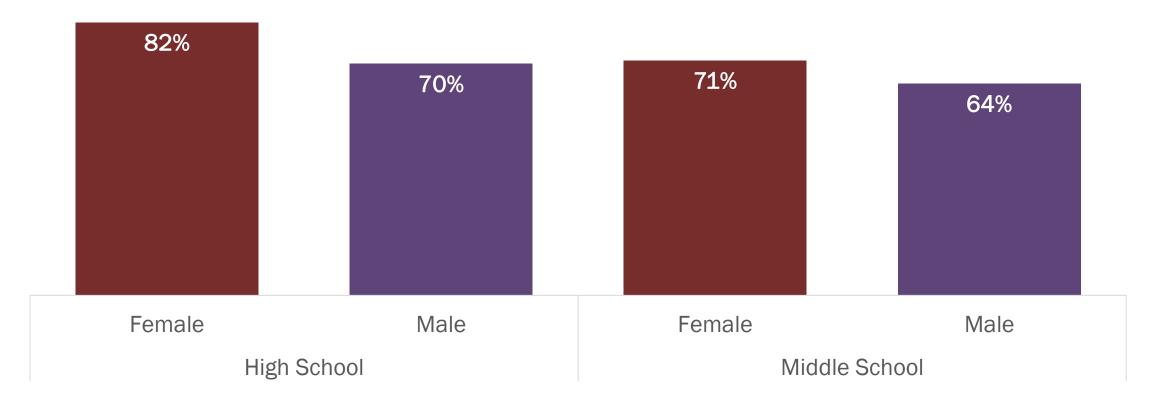






## One or More Sunburns: High School and Middle School

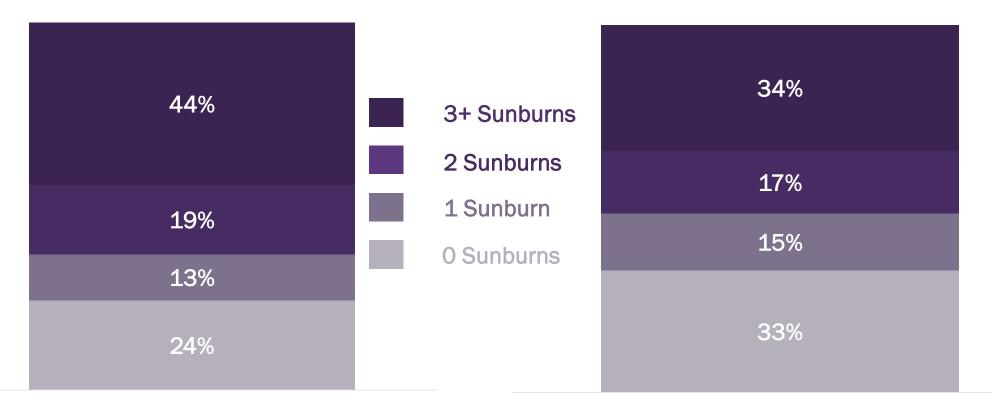
Female students in both high school and middle school are more likely to have had a sunburn in the past year than male students.



#### **Number of Sunburns: High School and Middle School**

63% of high school students had 2 or more sunburns in the past year.

51% of middle school students had 2 or more sunburns in the past year.



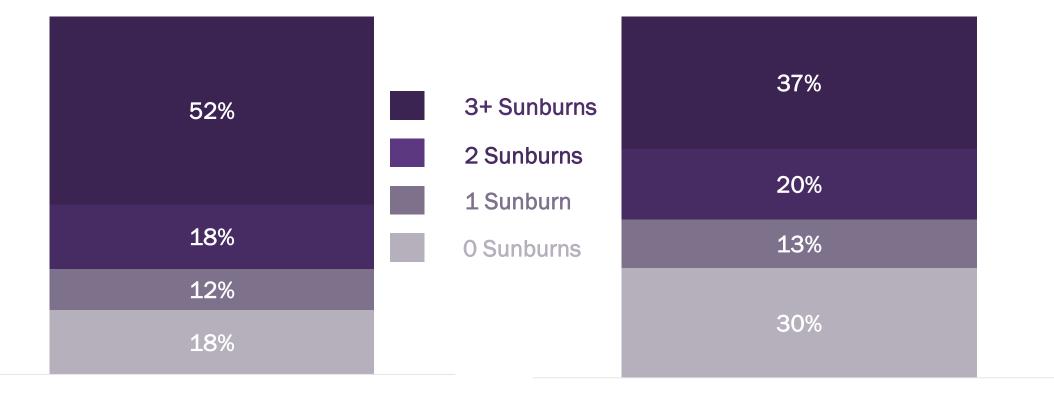
High School Students

Middle School Students

## **Number of Sunburns: High School**

70% of female high school students had 2 or more sunburns in the past year.

57% of male high school students had 2 or more sunburns in the past year.



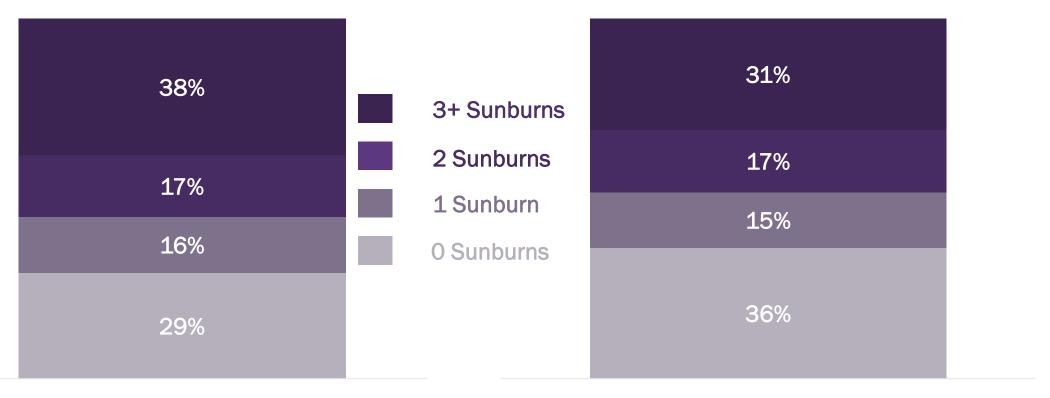
Female Students

Male Students

#### **Number of Sunburns: Middle School**

55% of female middle school students had 2 or more sunburns in the past year.

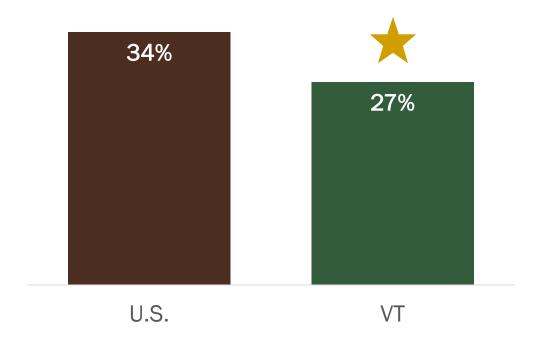
48% of male middle school students had 2 or more sunburns in the past year.

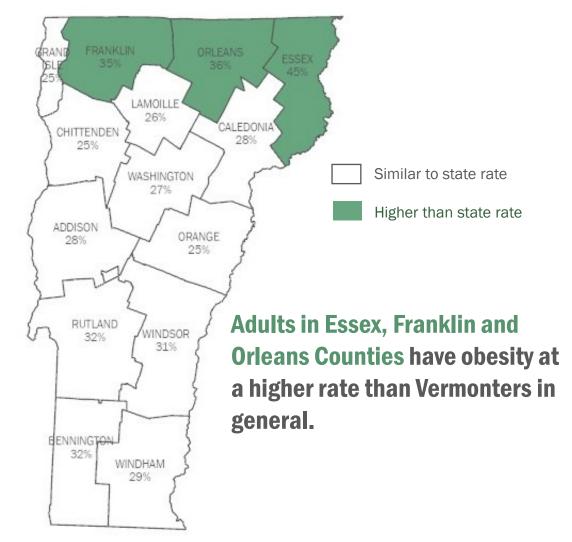


Female Students Male Students

## **BMI-defined Obesity**<sup>+</sup>

Vermont adults are less likely to have obesity than the U.S. population.



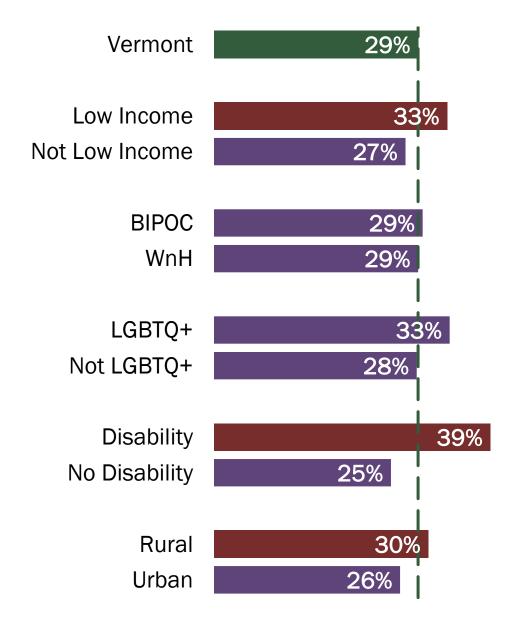


+ Body Mass Index (BMI): A singular, indirect, indicator of body fat meant to identify weight-related health risk. Though useful at the population level, BMI has limited usefulness to individuals.

## **BMI-defined Obesity**<sup>+</sup>

Adults in homes with a low income, those with a disability, and rural adults are more likely to have obesity than those in homes without a low income, those without a disability and urban adults.

Other differences between groups are not statistically significant.

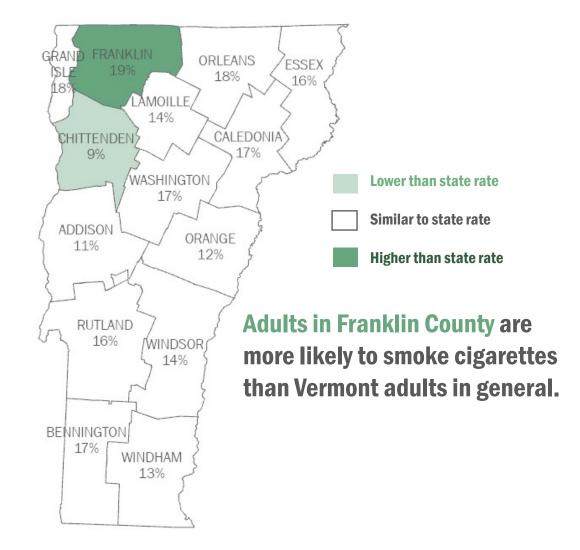


<sup>+</sup> Body Mass Index (BMI): A singular, indirect, indicator of body fat meant to identify weight-related health risk. Though useful at the population level, BMI has limited usefulness to individuals.

## **Smoke Cigarettes**

Vermont adults smoke cigarettes at a similar rate as the U.S. population.

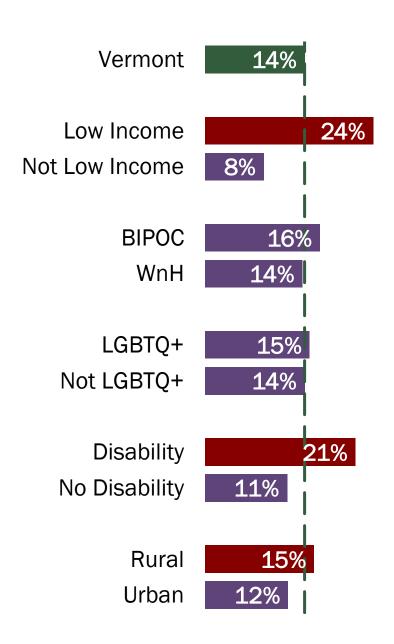




## **Smoke Cigarettes**

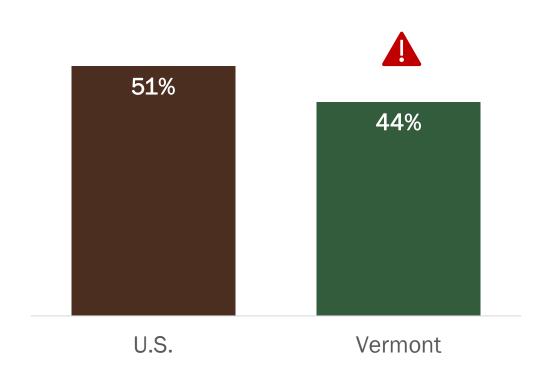
Adults in homes with a low income, those with a disability, and rural adults are more likely to smoke cigarettes than adults in homes without a low income, those without a disability and urban adults.

Other differences between groups are not statistically significant.



## **Quit Attempts**

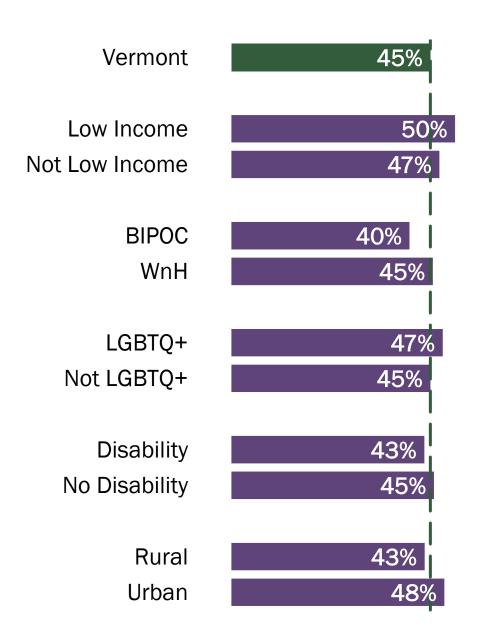
Vermont adults who smoke make quit attempts less than the U.S. population.





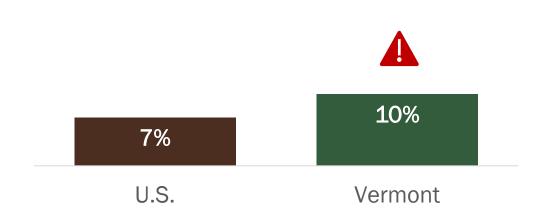
# **Quit Attempts**

Differences between groups in quit attempts among adults who smoke are not statistically significant.



# **Heavy Drinking**

Vermont adults are more likely to drink heavily (have more than 1 drink a day for females or 2 drinks a day for males) than the U.S. population.

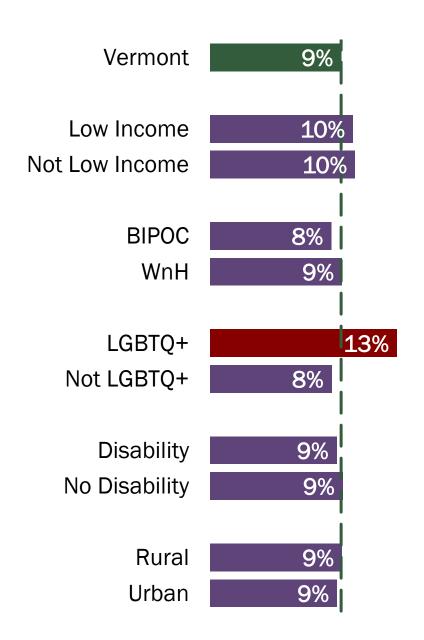




# **Heavy Drinking**

LGBTQ+ adults are more likely to drink heavily than non-LGBTQ+ adults.

Other differences between groups are not statistically significant.

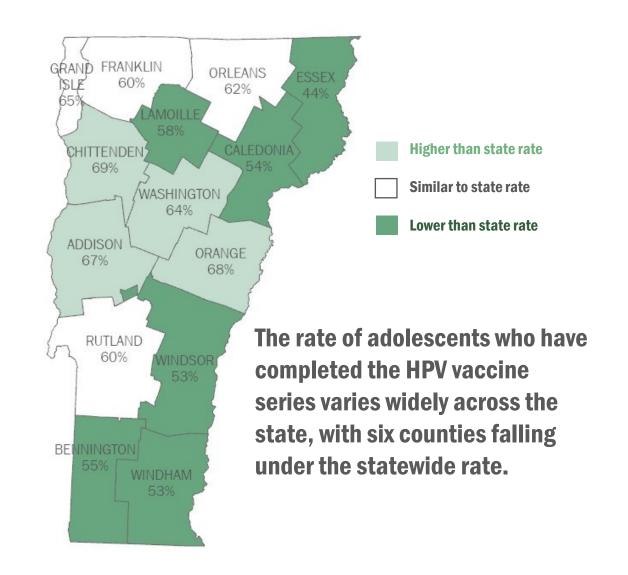


## **HPV Vaccination, Ages 13-17**

About 2 in 3 Vermont adolescents have completed the HPV vaccine series.



Completing the HPV vaccine series requires adolescents who received the first dose before their 15<sup>th</sup> birthday to receive two doses, and those that received the first dose after their 15<sup>th</sup> birthday to receive 3 doses.



# **Chapter 2: Cancer Incidence**

#### **Introduction: Cancer Incidence**

This chapter of the *Vermont Cancer Data Pages* presents cancer incidence and staging data from the Vermont Cancer Registry (VCR).

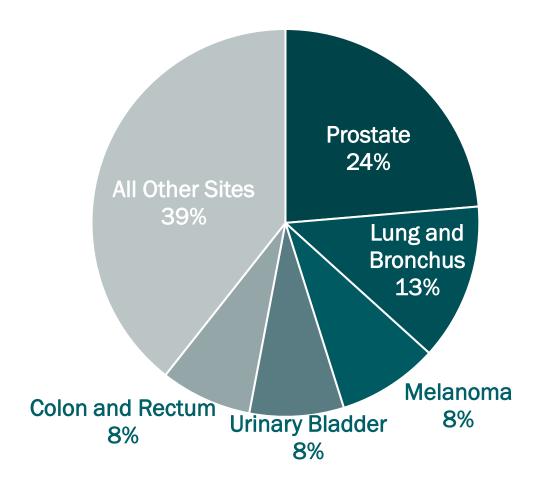
A cancer incidence rate is the number of newly diagnosed cancers per 100,000 people. This chapter reports on the incidence rates of cancers associated with common risk behaviors such as tobacco use, alcohol use, diet, physical inactivity, under-utilization of the HPV vaccine and overexposure to sunlight. For incidence rates of the most common cancers in Vermont, see the <u>Vermont 2016-2020 Cancer Incidence and Mortality Report</u>.

Rates in this chapter exclude basal cell and squamous cell skin cancers and in situ carcinomas except urinary bladder.

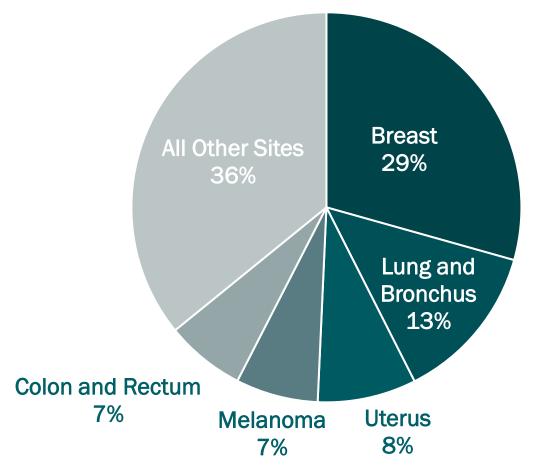
Cancer becomes more survivable when found and treated early, which can be accomplished through available cancer screening tests including those for lung, breast, cervical and colorectal cancers. In general, the result of more widespread use of screening is lower advanced (regional/distant) stage incidence rates.

Advanced-stage diagnosis is defined for the purposes of this report as diagnoses that occur at the regional or distant stages.

# Prostate and lung and bronchus cancers are the most common cancers among Vermont males.



# Breast and lung and bronchus cancers are the most common cancers among Vermont females.

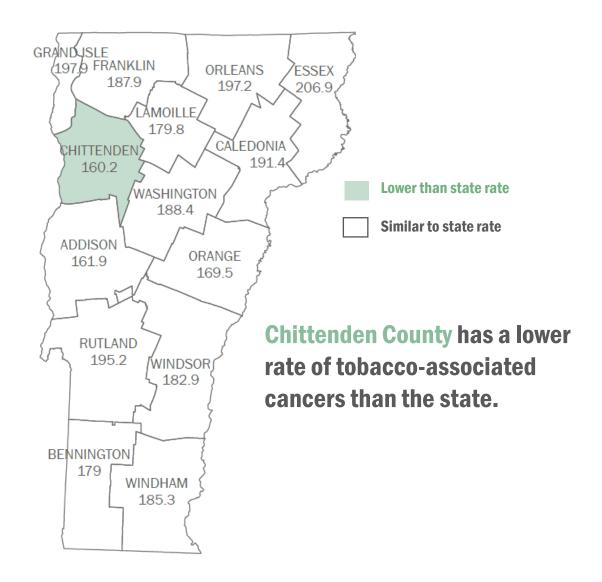


#### **Tobacco-Associated Cancers**<sup>+</sup>

\*See page 47 for list of tobacco-associated cancers.

The incidence rate of tobacco-associated cancers in Vermont is similar to that of the U.S. Incidence Rate per 100,000 people

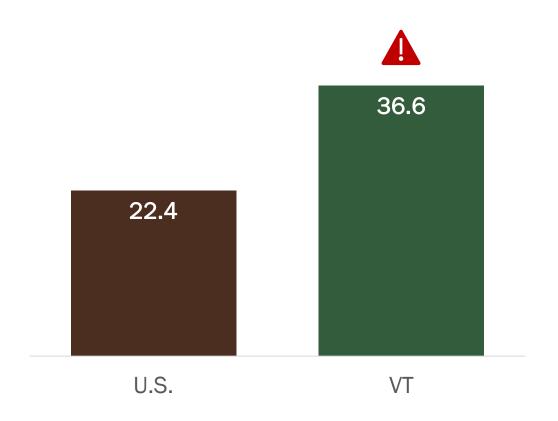


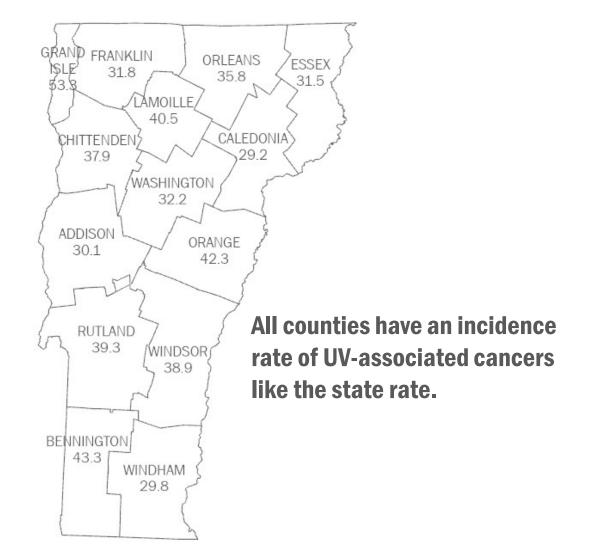


## **Ultraviolet (UV)-Associated Cancers**<sup>+</sup>

The incidence rate of UV-associated cancers in Vermont is higher than that of the U.S.

Incidence Rate per 100.000 people

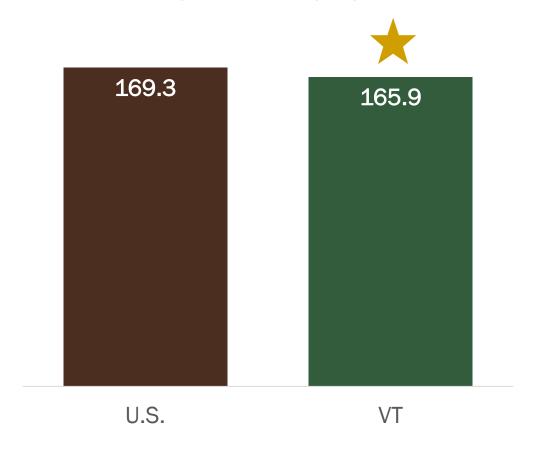


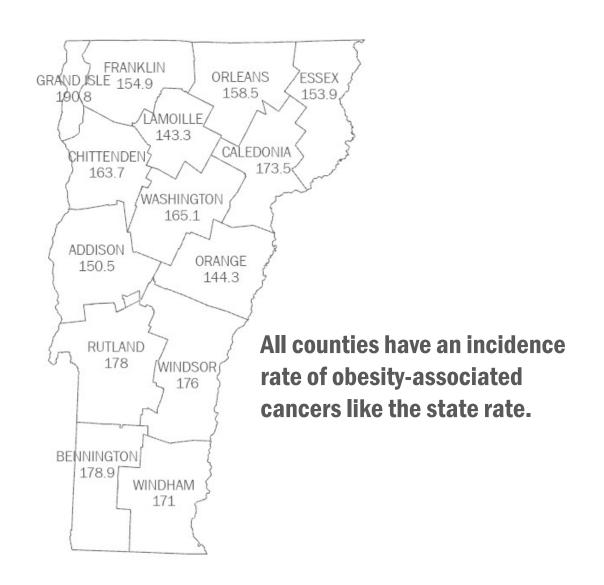


#### **Obesity-Associated Cancers**<sup>+</sup>

\*See page 47 for list of obesity-associated cancers.

The incidence rate of obesity-associated cancers in Vermont is lower than that in the U.S. Incidence Rate per 100,000 people



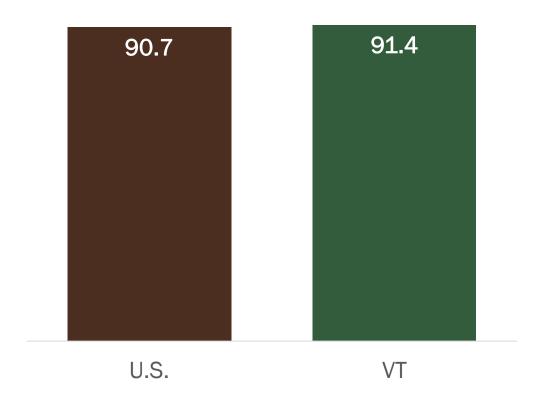


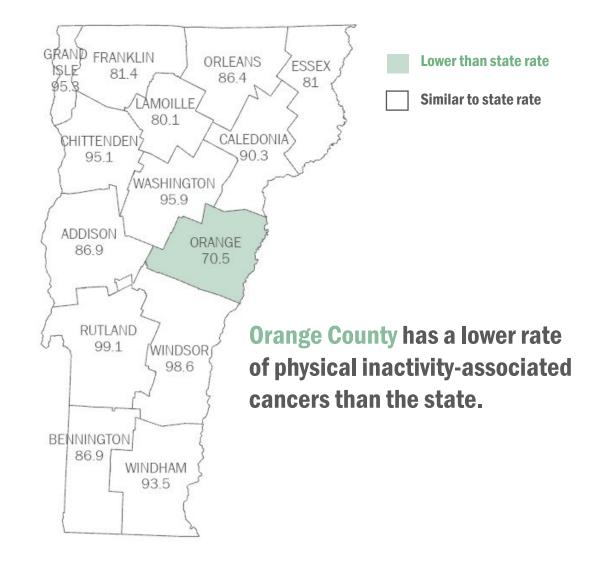
### **Physical Inactivity-Associated Cancers**<sup>+</sup>

\*See page 47 for list of physical inactivity-associated cancers.

The incidence rate of physical inactivityassociated cancers in Vermont is similar to that of the U.S.

Incidence Rate per 100,000



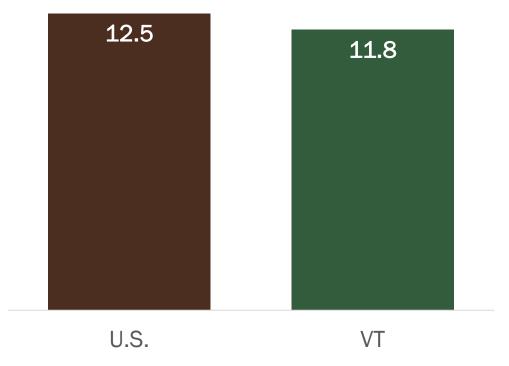


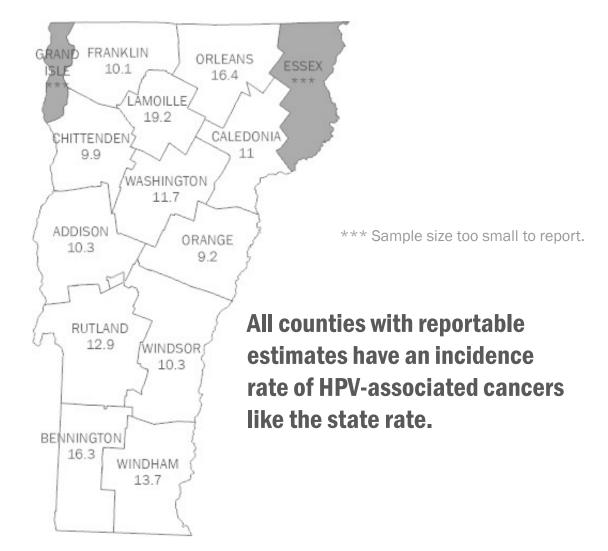
### Human papillomavirus (HPV)-Associated Cancers<sup>+</sup>

\*See page 47 for list of HPV-associated cancers.

The incidence rate of HPV-associated cancers in Vermont is similar to that of the U.S.

Incidence Rate per 100,000 people





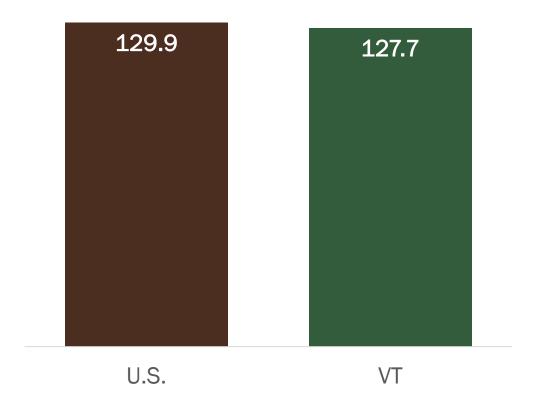
Note: Cervical cancers diagnosed as in situ are not reported to the Cancer Registry and are therefore not included in this chart.

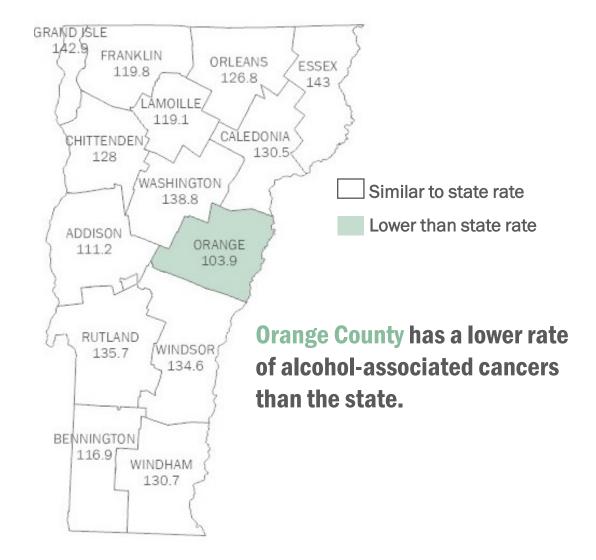
#### **Alcohol-Associated Cancers**<sup>+</sup>

\*See page 47 for list of alcohol-associated cancers.

The incidence rate of alcohol-associated cancer in Vermont is similar to that in the U.S.

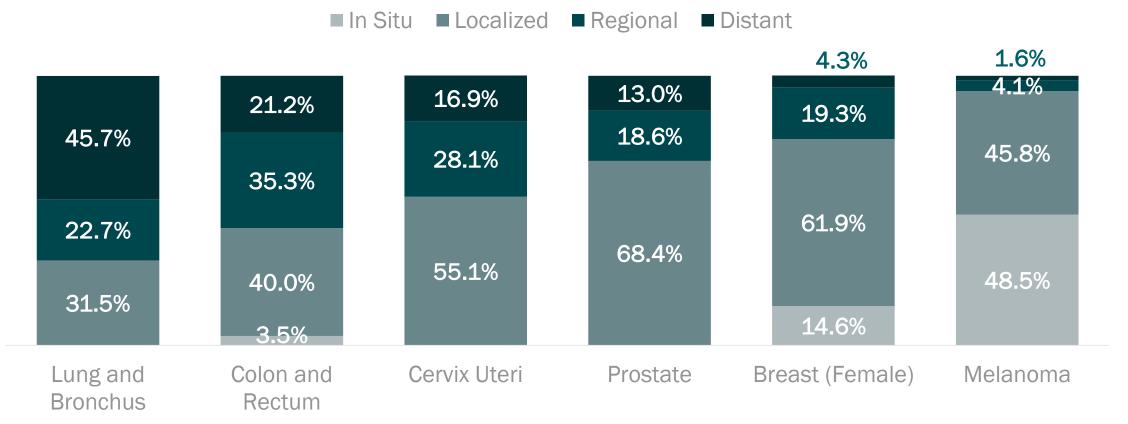
Incidence rate per 100,000 people





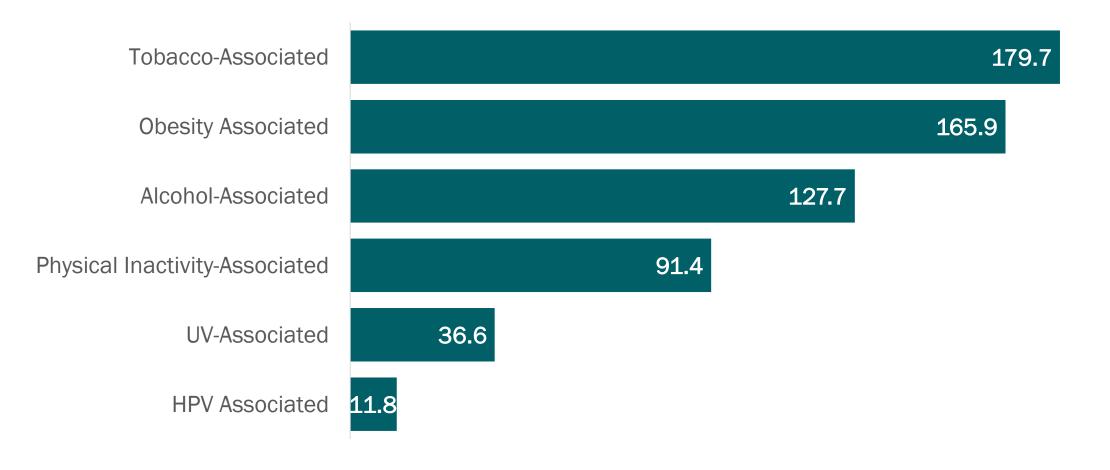
# Lung and colorectal cancers are the cancers most likely to be diagnosed at a distant stage.

Cancers by Stage at Diagnosis



Note: Cervical cancers diagnosed as in situ are not reported to the Cancer Registry and are therefore not included in this chart.

# Tobacco- and obesity-associated cancers are the most common cancers in Vermont.

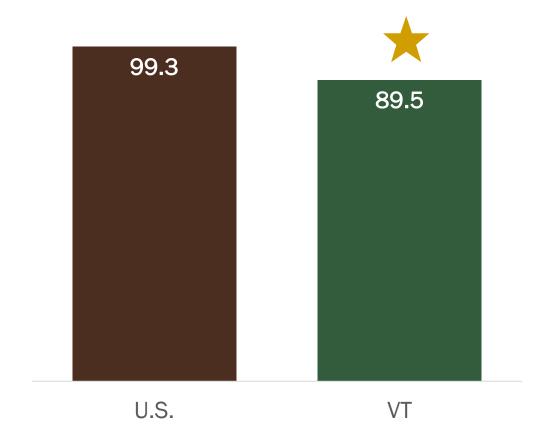


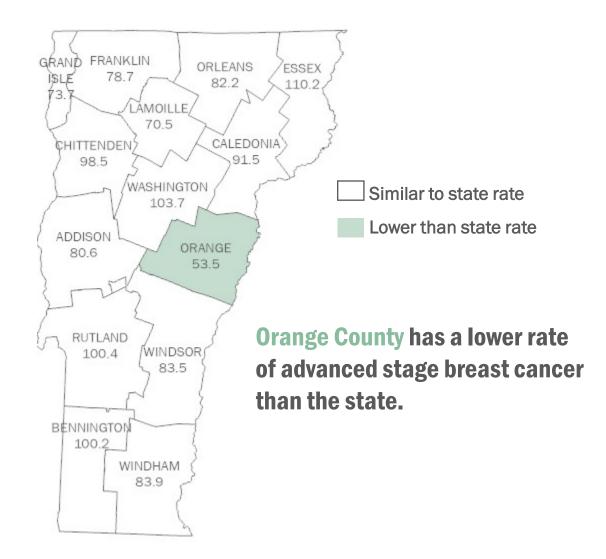
Note: Cervical cancers diagnosed as in situ are not reported to the Cancer Registry and are therefore not included in this chart.

#### **Advanced Stage Diagnosis: Breast Cancer (Female, Ages 50+)**

The incidence rate of advanced stage breast cancer is lower in Vermont than the U.S.

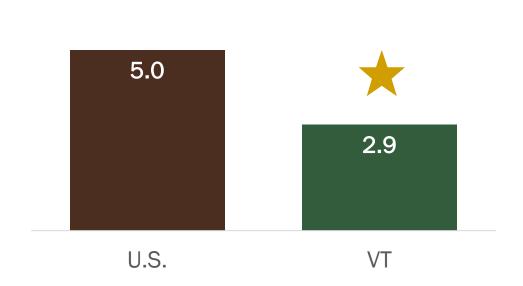
Incidence Rate per 100.000 people





### **Advanced Stage Diagnosis: Cervical Cancer (Female, Ages 20+)**

The incidence rate of advanced stage cervical cancer is lower in Vermont than the U.S. Incidence Rate per 100,000 people

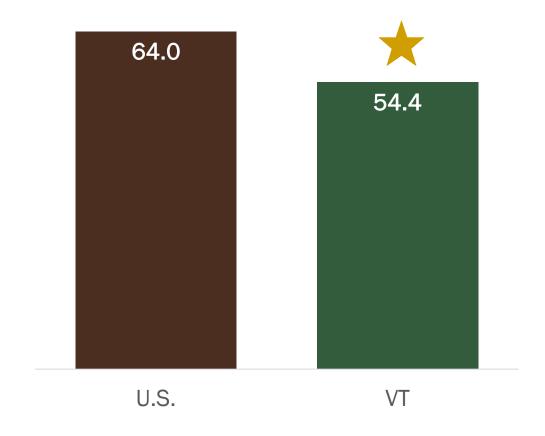


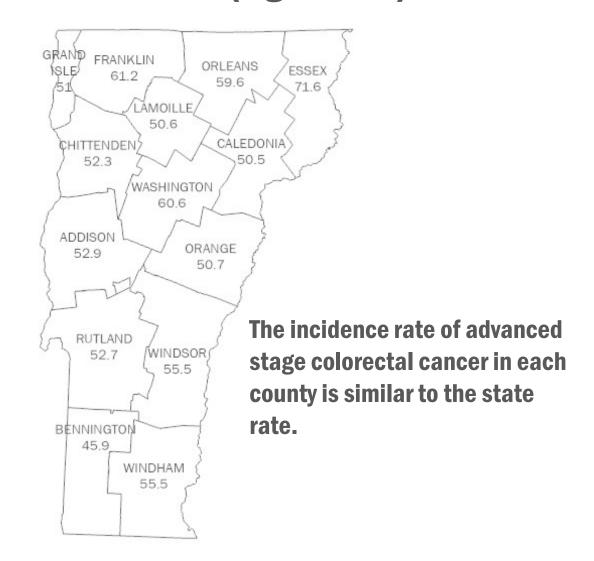
Due to the low number of cases of advanced stage cervical cancer in Vermont, comparisons cannot be made between counties.

#### **Advanced Stage Diagnosis: Colorectal Cancer (Ages 50+)**

The incidence rate of advanced stage colorectal cancer in Vermont is lower than the U.S.

Incidence Rate per 100,000 people

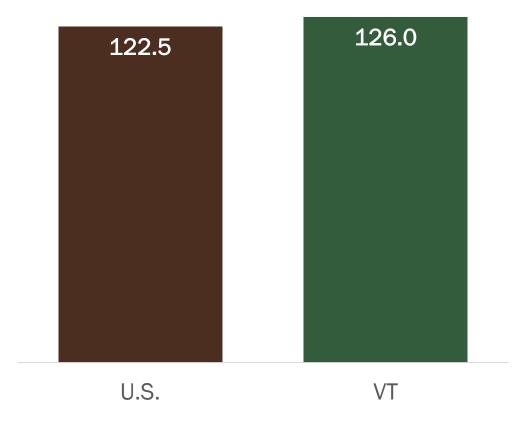


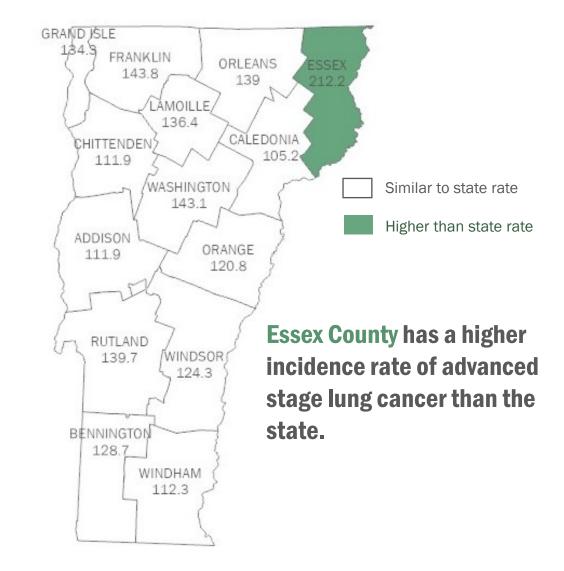


### **Advanced Stage Diagnosis: Lung Cancer (Ages 50+)**

The incidence rate of advanced stage lung cancer in Vermont is similar to that in the U.S.

Incidence Rate per 100,000 people





#### **Definitions of Risk Factor-Associated Cancers**

**Tobacco-Associated Cancers:** Lip, oral cavity, pharynx, esophagus, stomach, colon and rectum, liver, pancreas, larynx, trachea, lung, bronchus, cervix uteri, kidney and renal pelvis, urinary bladder, acute myeloid leukemia

**Ultraviolet-Associated Cancers:** Melanoma and non-melanoma skin cancers

Obesity-Associated Cancers: Esophageal adenocarcinoma, gastric cardia, colon and rectum, liver, gallbladder, pancreas, multiple myeloma, postmenopausal female breast, corpus and uterus not other wise specified, ovary, kidney, meningioma, thyroid

Physical Inactivity-Associated Cancers: Colon, postmenopausal female breast, corpus and uterus not otherwise specified

**HPV-Associated Cancers**: Oropharyngeal squamous cell carcinoma, anal and rectal squamous cell carcinoma, vulvar squamous cell carcinoma, vaginal squamous cell carcinoma, cervical carcinoma, penile squamous cell carcinoma

Alcohol-Associated Cancers: Lip, oral cavity, pharynx, esophagus, colon and rectum, liver, larynx, female breast

## **Chapter 3: Cancer Screening**

#### **Introduction: Cancer Screening**

Screening provides an opportunity to find and treat cancers early, leading to a decrease in overall cancer mortality. Lung, cervical, breast and colorectal cancers all have established screening guidelines. Benefits of screening have been determined to outweigh any potential harms.

Screening data were analyzed using the following methods:

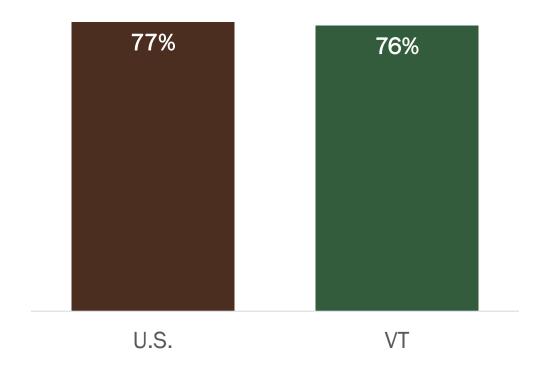
Breast Cancer Screening: Based on 2016 U.S. Preventative Services Task Force (USPSTF) recommendations. These calculations include women ages 50-74 years who had a mammogram in the past 2 years.

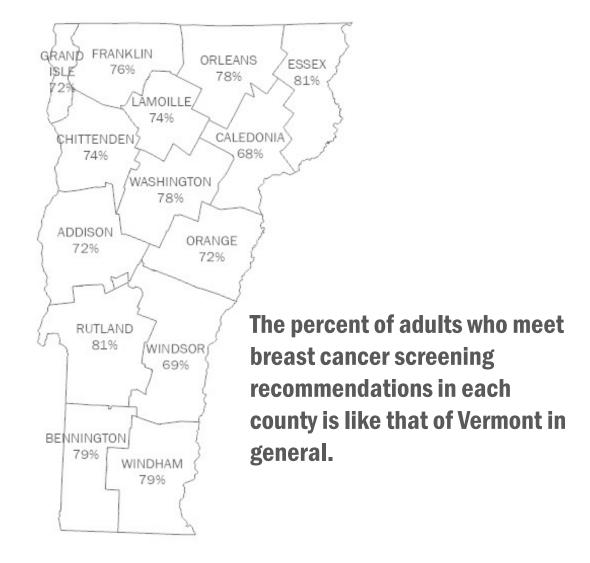
Colorectal Cancer Screening: Based on 2021 USPSTF recommendations. Because of limitations on the number of questions in the BRFSS survey, not all tests that are recommended for the detection of colorectal cancer are included here. The calculations used in this document include adults ages 45-75 who received a (1) Fecal Occult Blood Test (FOBT) or Fecal Immunochemical Test (FIT) in the past year, (2) stool DNA test in the past three years, (3) virtual colonoscopy in the past five years, (4) sigmoidoscopy in the past five years, (5) sigmoidoscopy in the past 10 years and a FOBT or FIT in the past year, or (6) colonoscopy in the past 10 years.

**Lung Cancer Screening:** Based on 2021 USPSTF recommendations. These calculations include adults ages 50-80 who have a smoking history of 20 pack-years or more and who currently smoke or have quit within the past 15 years.

### **Breast Cancer Screening**

Vermonters meet breast cancer screening recommendations at a similar rate as the U.S. population.

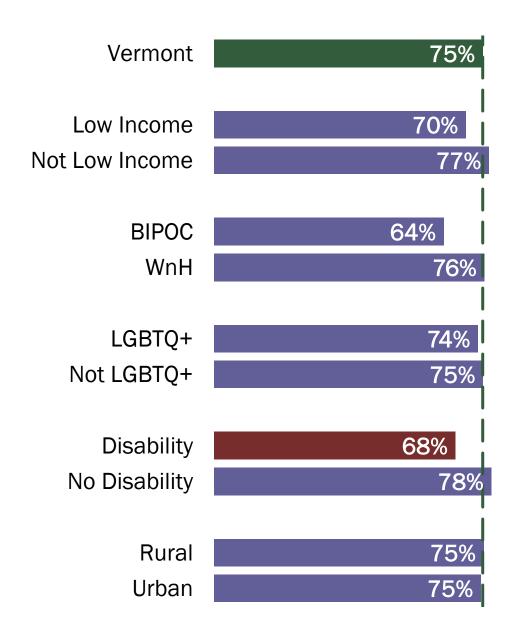




#### **Breast Cancer Screening**

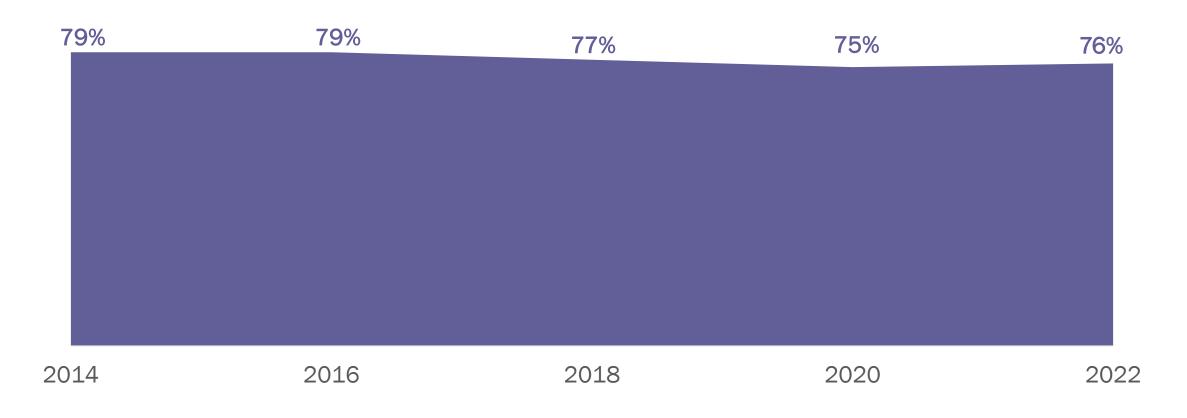
Vermonters with a disability are less likely to meet breast cancer screening recommendations than those without a disability.

Other differences between groups are not statistically significant.



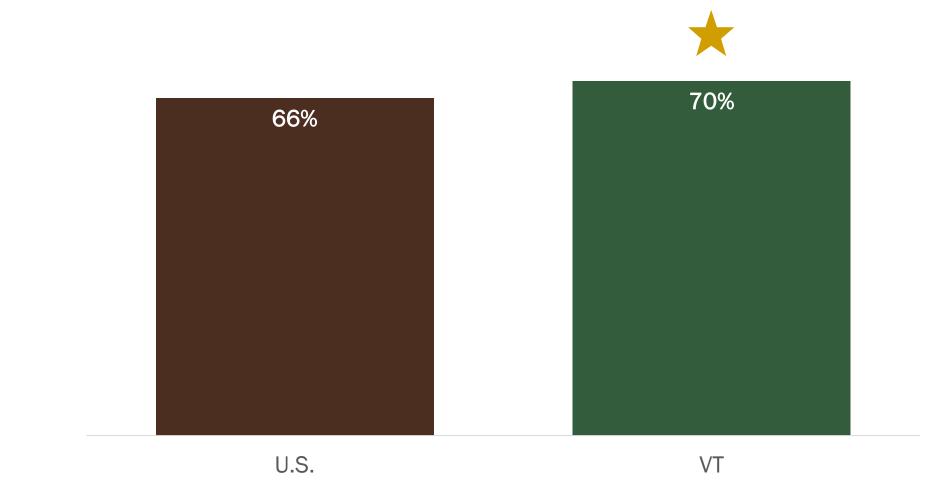
#### **Breast Cancer Screening**

The % of females ages 50-74 screened for breast cancer declined from 2016 to 2020, but the 2022 rate is similar to the 2014 rate.



### **Colorectal Cancer Screening 45-75**

Vermonters meet colorectal cancer screening recommendations at a higher rate than the U.S. population.

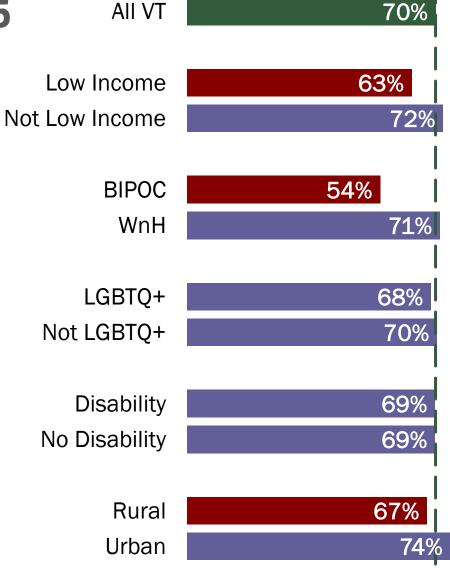


2022 is the first year data were collected for this measure among adults ages 45-75, so county-level data are not available.

#### **Colorectal Cancer Screening 45-75**

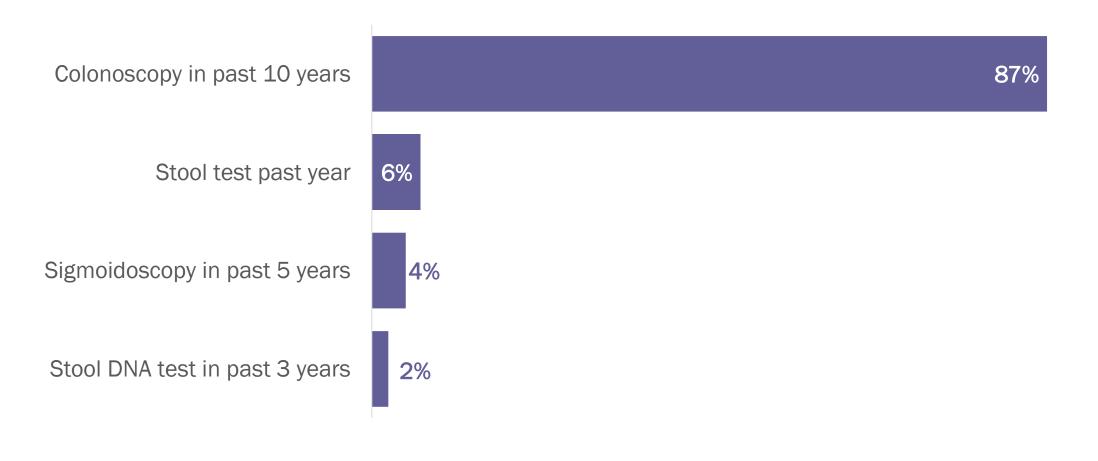
Vermont adults in homes with a low-income, BIPOC adults and those living in rural areas are less likely to be screening for colorectal cancer than adults in homes without a low income, WnH adults, and urban adults.

Other differences between groups are not statistically significant.



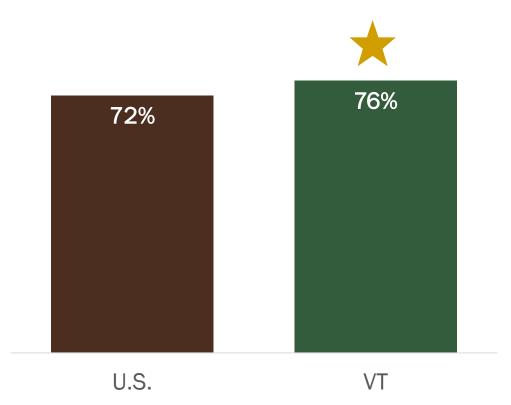
### **Colorectal Cancer Screening 45-75**

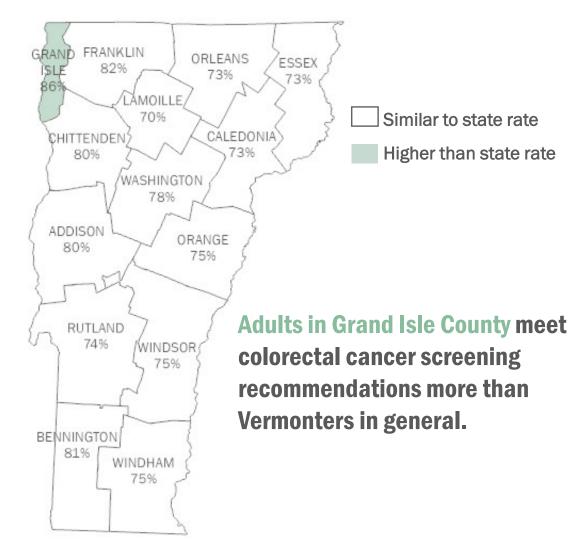
Most Vermonters who meet the colorectal cancer screening recommendations received a colonoscopy in the past 10 years.



### **Colorectal Cancer Screening 50-75 (out-of-date recommendation)**

Vermonters ages 50-75 meet colorectal cancer screening recommendations more than U.S. adults ages 50-75.





**Note:** the USPSTF now recommends colorectal cancer screening for adults ages 45-75. Data are shown here for the older recommendation to compare with previous rates.

## **Chapter 4: Cancer Mortality**

#### **Introduction: Cancer Mortality**

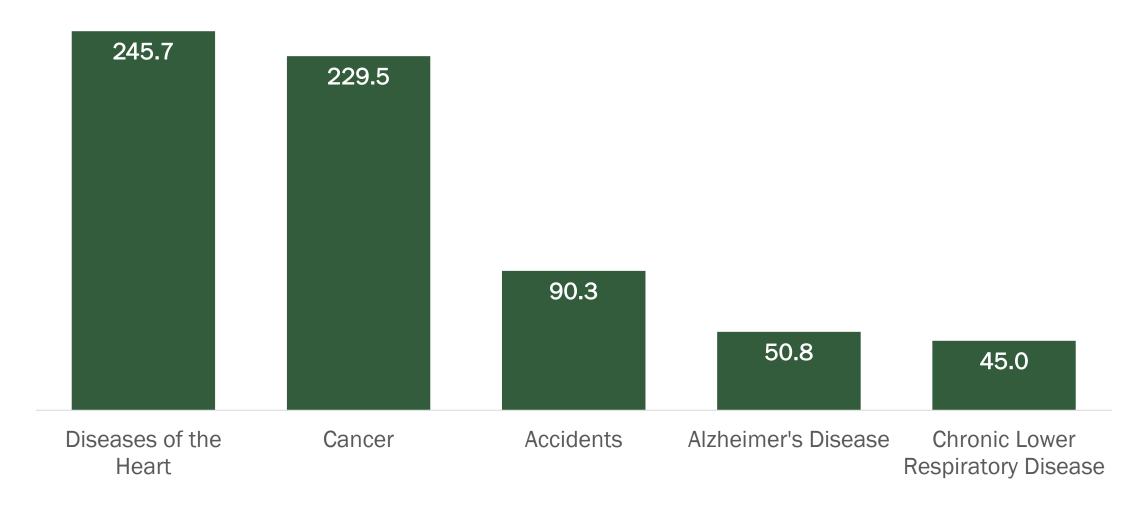
Cancer mortality is the number of deaths from cancer occurring in a population during a year.

Each year, almost 1,400 Vermonters die of cancer (Vermont Vital Statistics 2016-2020).

Five types of cancer make up the majority of new cancer diagnoses or cancer-related deaths. The sites in the body where these cancers occur are different for males and females. More commonly diagnosed cancers, such as melanoma, are not leading causes of cancer deaths because the chances of survival are higher. In contrast, certain cancers, such as pancreatic cancer, are less commonly diagnosed but much more likely to cause death.

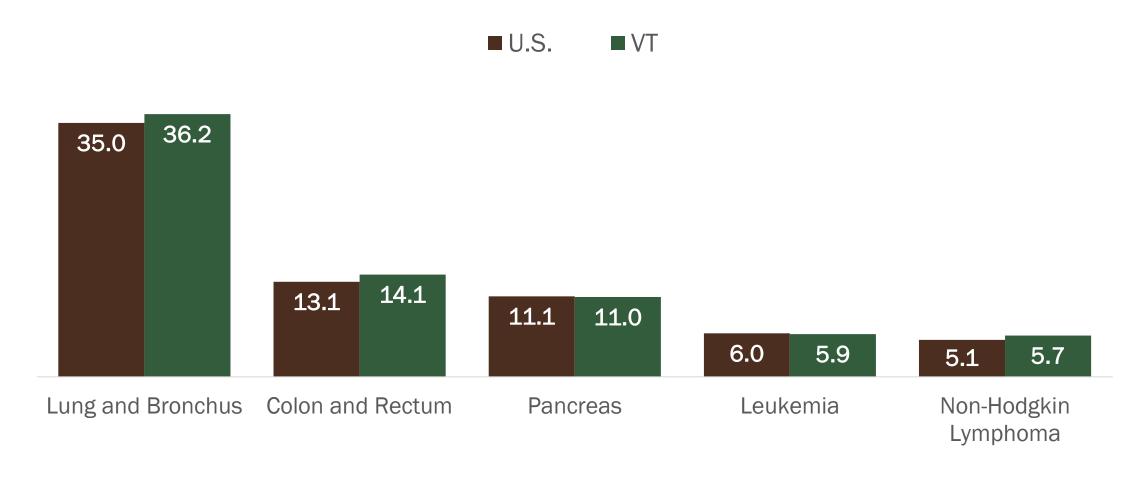
#### Cancer is a leading cause of death in Vermont.

Rates per 100,000 persons



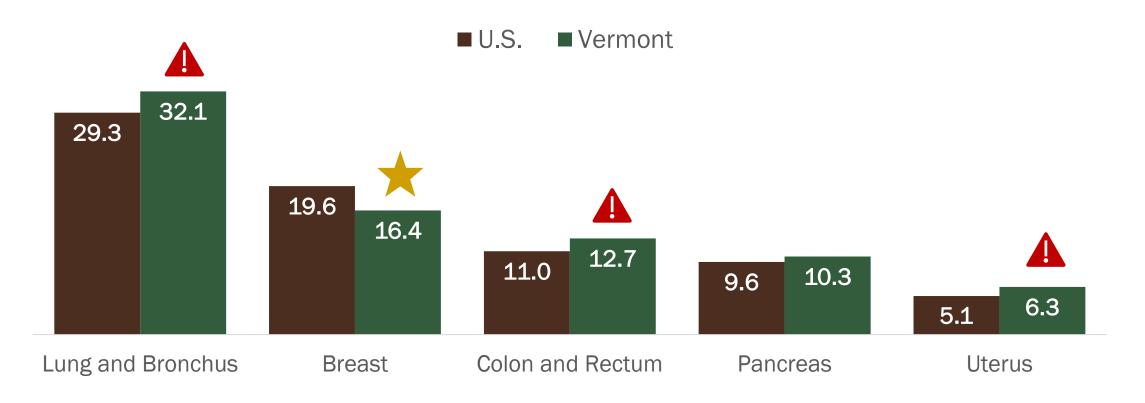
# Vermont males and females have a similar mortality rate as the US population among the five most common cancers.

Rates per 100,000 persons



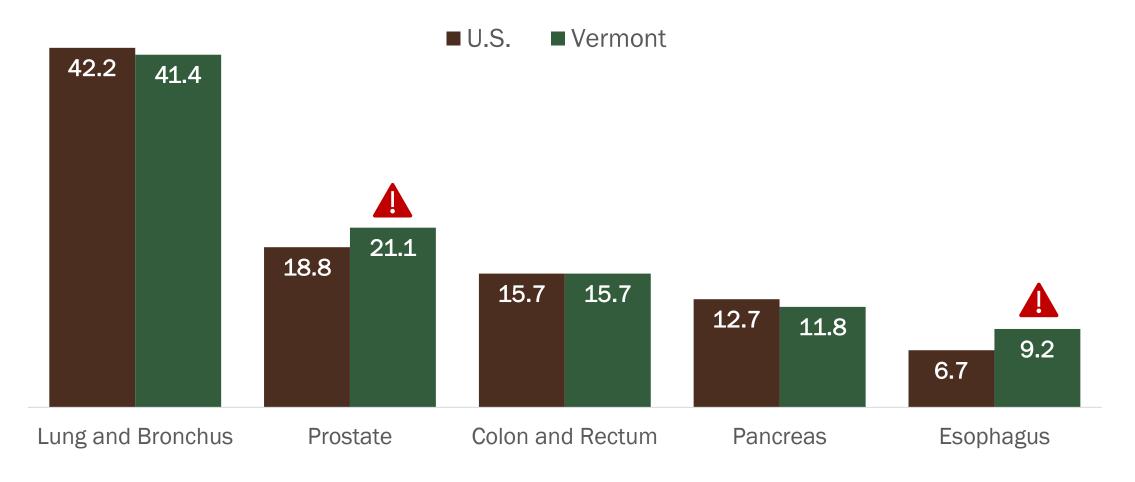
# **Vermont females** have a higher mortality rate of lung and bronchus, colon and rectum and uterus cancers than **U.S. females**.

Vermont females have a lower mortality rate of breast cancer. Rates per 100,000 persons

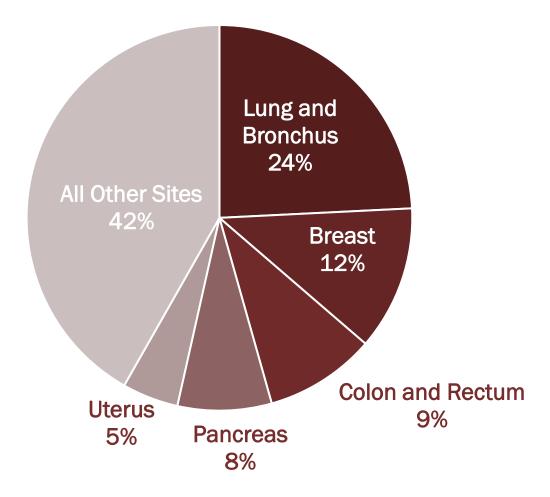


# **Vermont males** have a higher mortality rate of prostate and esophagus cancers than **U.S. males**.

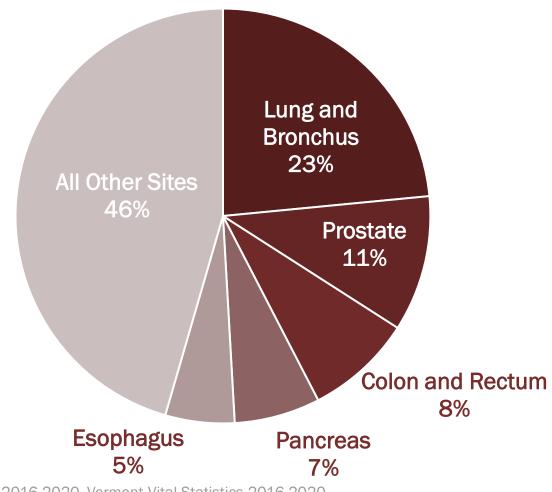
Rates per 100,000 persons



# Lung and breast cancers are the leading causes of cancer death for Vermont females.



## Lung cancer and prostate cancers are the leading causes of cancer death for Vermont males.



### **Chapter 5: Cancer Survivorship**

#### **Introduction: Cancer Survivorship**

Cancer prevalence is the number or proportion of people alive today who have ever been diagnosed with cancer. This includes individuals who are newly diagnosed, in active treatment, have completed active treatment and those living with progressive symptoms of the disease. Prevalence is often compared to *incidence*, which is defined as the number or rate of new cancer diagnoses during a year.

A person who is diagnosed with cancer is commonly called a *cancer survivor*, though this term is not universally accepted. Similarly, *survivorship* is the experience of those who have ever been diagnosed with cancer and describes the time from diagnosis to the end of the individual's life.

Throughout this presentation, *cancer* refers to any type of cancer except non-melanoma skin cancer.

**Note:** A major data source for this report is the Behavioral Risk Factor Surveillance Survey. Between 2021 and 2022, the survey changed how it asked about cancer diagnoses.

- Before 2022, the survey asked respondents if they had ever been diagnosed with a cancer \*other than skin cancer\*.
- Beginning in 2022, the survey asks respondents if they have ever been diagnosed with \*melanoma or any other type of cancer\*.

This change means that the cancer prevalence rate appears to have increased from 2021 to 2022, though an analysis of the change suggests that the difference is really because respondents with melanoma are now included in this result. Due to this change, rates of cancer prevalence in 2022 cannot be compared to previous rates.

#### **Introduction cont.: Cancer Survivorship**

Part of this chapter presents data concerning some of the social determinants of health.

A respondent was counted as having the barrier if they responded that:

**Food insecurity**: They always, usually or sometimes have worried that they or someone else in their household would not have enough food to eat.

Housing insecurity: There a time in the past 12 months when they were not able to pay their mortgage, rent or utility bills

**Transportation insecurity**: They had a lack of reliable transportation that kept them from medical appointments, meetings, work, or from getting things needed for daily living in the past 12 months.

**Employment insecurity:** They lost employment or had hours reduced in the past 12 months.

#### Non-melanoma Skin Cancer Prevalence

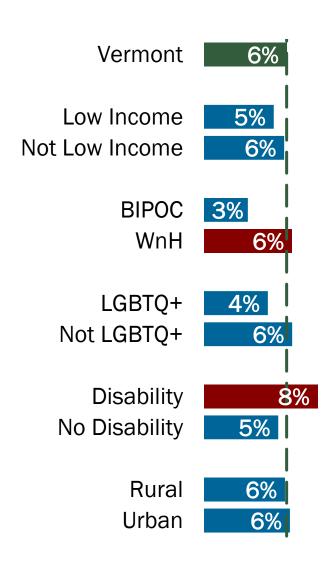
**Vermont adults are diagnosed with skin cancer at rates similar to U.S. adults.** 



#### Non-melanoma Skin Cancer Prevalence

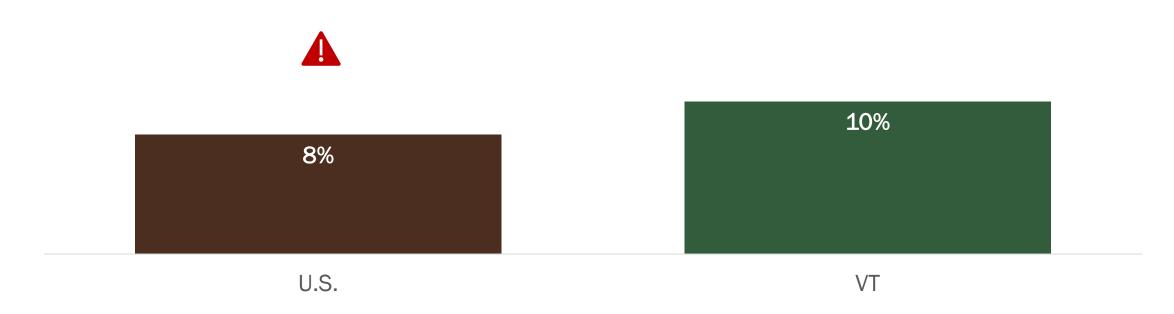
White, non-Hispanic adults and those with a disability are more likely to have skin cancer than BIPOC adults and those without a disability.

Other differences between groups are not statistically significant.



#### **Cancer Prevalence**

Vermonters are diagnosed with cancer at a higher rate the U.S. population.



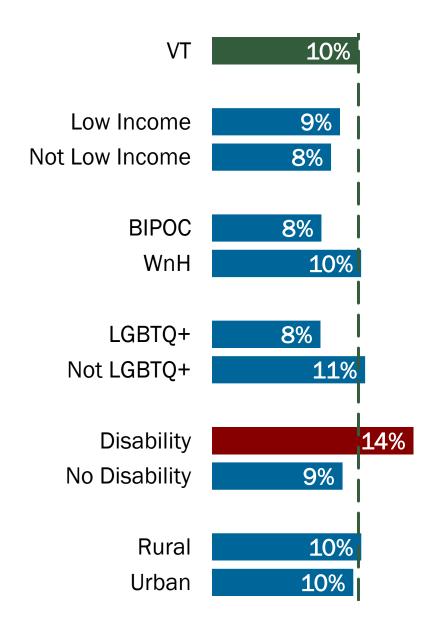
Vermont Department of Health Source: BRFSS 2022

In this report, cancer prevalence includes all cancer types except non-melanoma skin cancers.

#### **Cancer Prevalence**

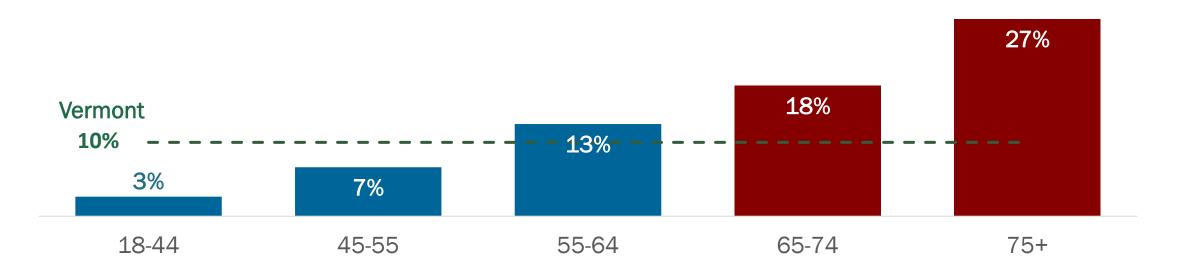
Adults with a disability are more likely to have cancer than those without a disability.

Other differences between groups are not statistically significant.



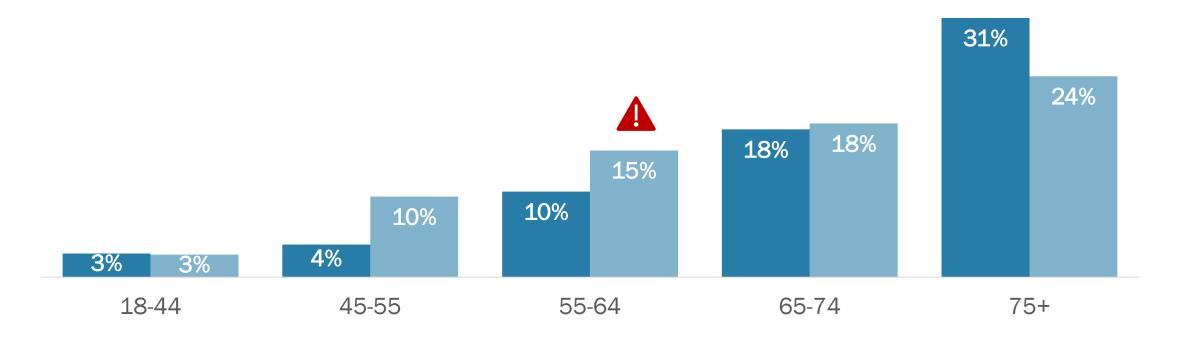
#### The prevalence of cancer increases as age increases.

**Vermonters ages 65+** are diagnosed with cancer more than Vermonters in general.



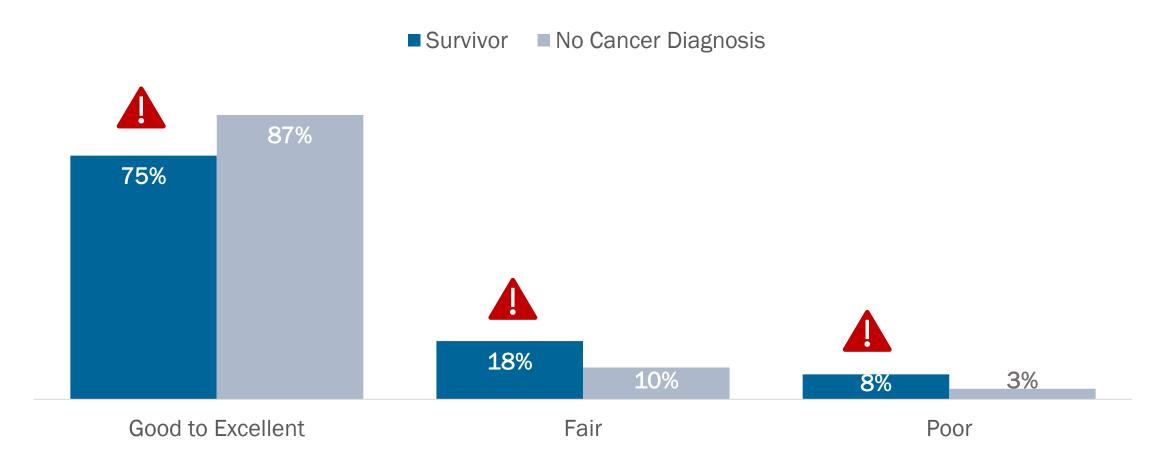
# Females ages 55-64 are more likely to have been diagnosed with cancer than males of the same age.





#### **General Health**

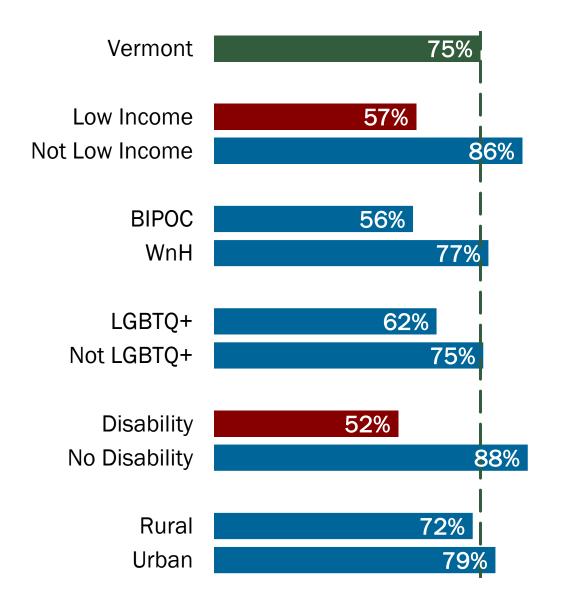
Cancer survivors report good to excellent health less and fair and poor health more than those without a cancer diagnosis.



### **General Health Among Survivors**

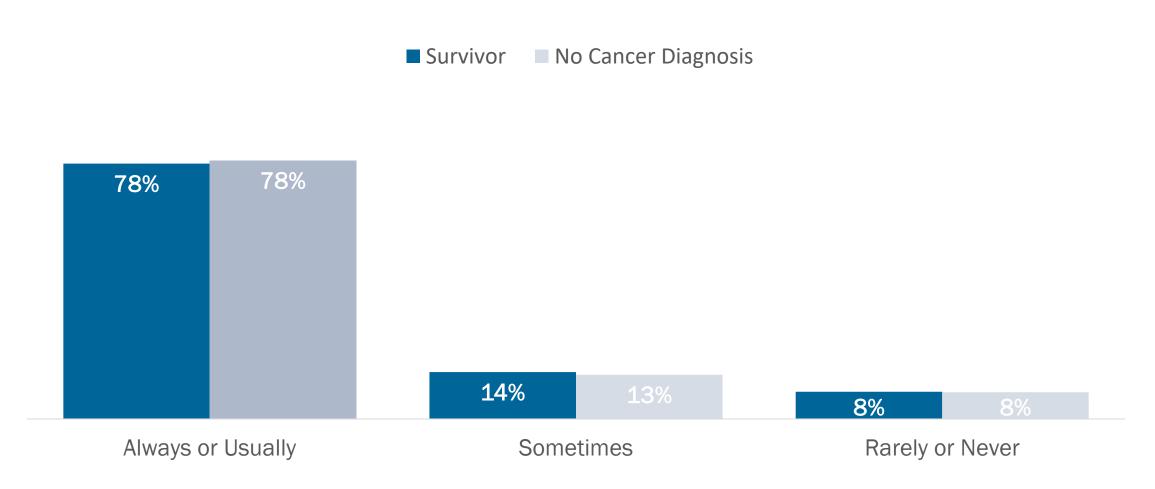
Adults in homes with a low income and those with a disability are less likely to report good to excellent general health than adults in homes without a low income and those without a disability.

Other differences between groups are not statistically significant.



# **Emotional or Social Support**

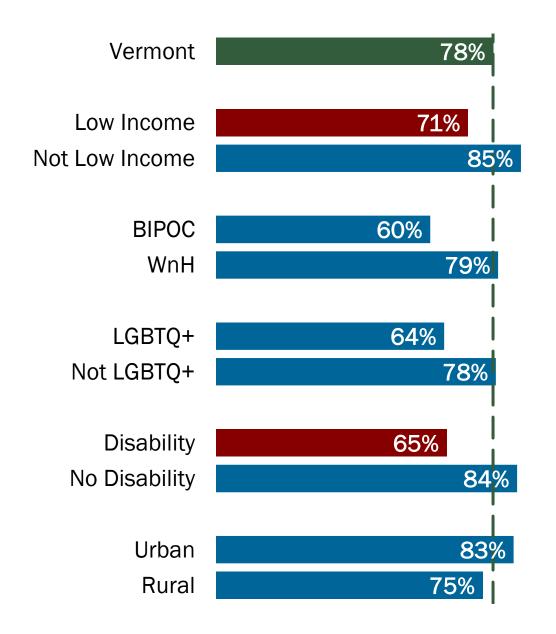
**Cancer survivors receive emotional and social support at a similar rate as those never diagnosed with cancer.** 



### **Emotional or Social Support**

Adult survivors in homes with a low income and those with a disability are less likely to always or usually receive emotional support than adults in homes without a low income and those without a disability.

Other differences between groups are not statistically significant.



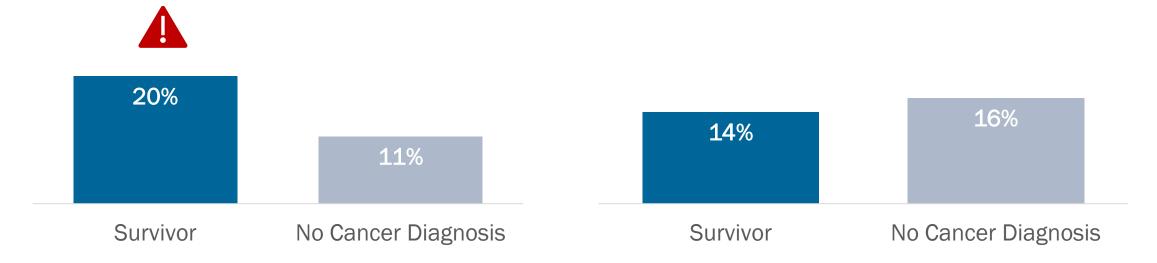
# **Poor Physical and Mental Health**



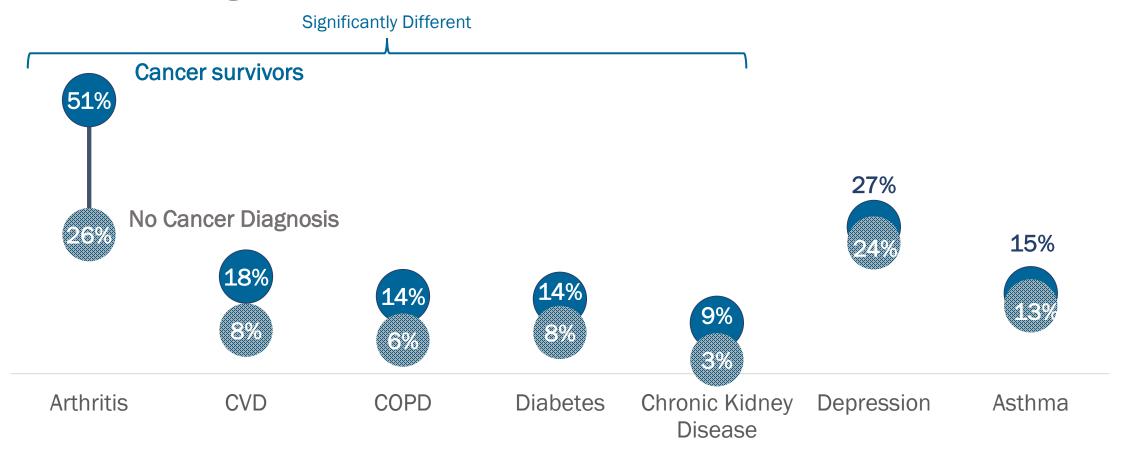
Cancer survivors are more likely to report poor physical health greater than 13 days a month than those never diagnosed with cancer.



Cancer survivors and those never diagnosed with cancer report poor mental health more than 13 days a month at a similar rate.



Cancer survivors are more likely to report arthritis, cardiovascular disease, COPD, diabetes and chronic kidney disease than those with no cancer diagnosis.



CVD: Cardiovascular Disease; COPD: Chronic Obstructive Pulmonary Disease Vermont Department of Health Source: BRFSS 2022

# Among Vermonters 65+, cancer survivors are more likely to report depression than those with no cancer diagnosis.













No Cancer Diagnosis 65+

Depression **Arthritis** 

**CVD** 

**Diabetes** 

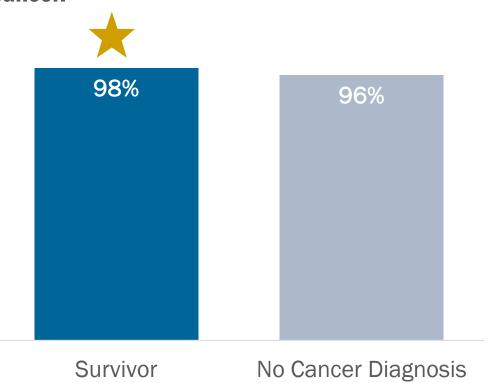
COPD

Chronic Kidney Disease

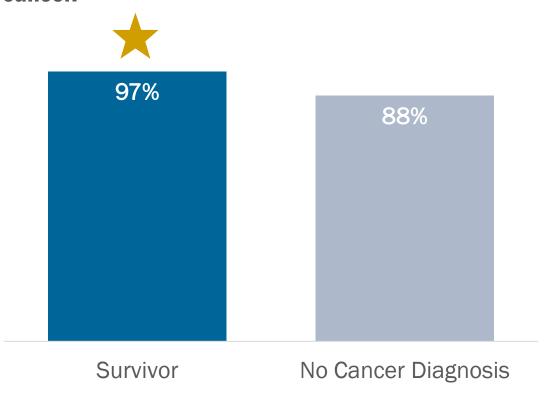
**Asthma** 

# Cancer survivors are more likely to access health systems than those never diagnosed with cancer.

Cancer survivors are more likely to have health coverage than those never diagnosed with cancer.



Cancer survivors are more likely to have a primary care provider than those never diagnosed with cancer.



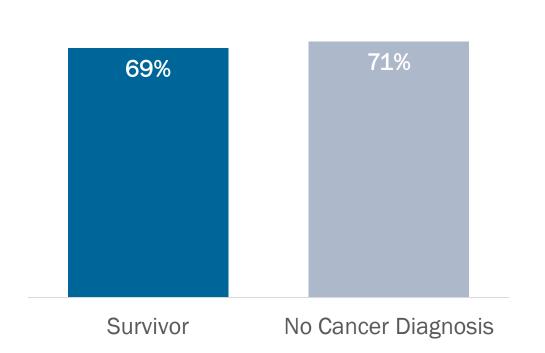
#### **Chronic Disease Prevention**

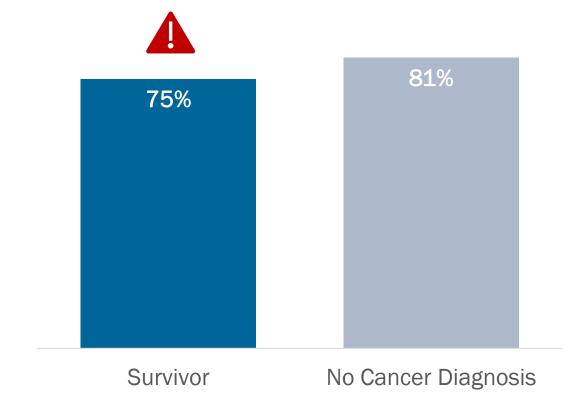


Cancer survivors sleep 7 or more hours per night at a similar rate as those never diagnosed with cancer.



Cancer survivors participate in leisure-time physical activity at lower rates than those never diagnosed with cancer.





Vermont Department of Health Source: BRFSS 2022

#### **Social Determinants of Health**



Survivors and those with no cancer diagnosis report not having enough food in the past month at the same rate.



Survivors and those with no cancer diagnosis report having housing insecurity in the past month at the same rate.



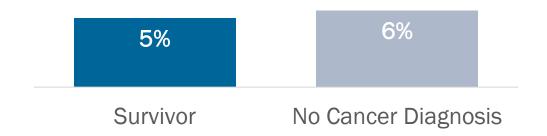
#### **Social Determinants of Health**



Cancer survivors and those with no cancer diagnosis report having transportation insecurity in the past month at a similar rate.



Cancer survivors and those with no cancer diagnosis report having employment insecurity in the past month at a similar rate.

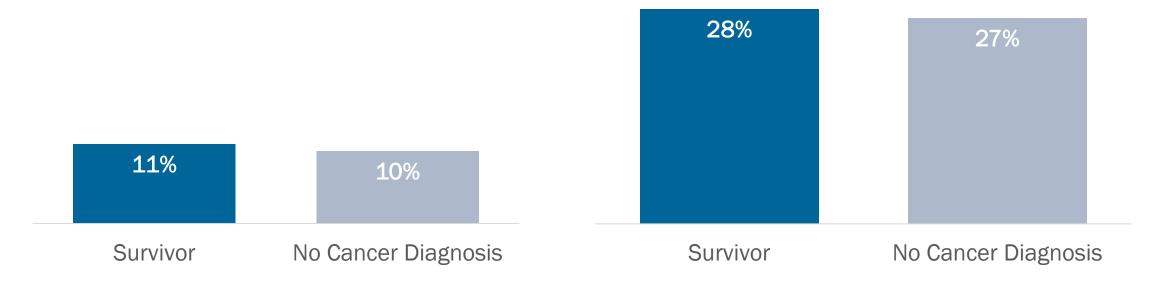




# **Risk Factors: Drinking and Obesity**

Cancer survivors drink heavily at a similar rate as those never diagnosed with cancer.

Cancer survivors and those never diagnosed with cancer have obesity at a similar rate.

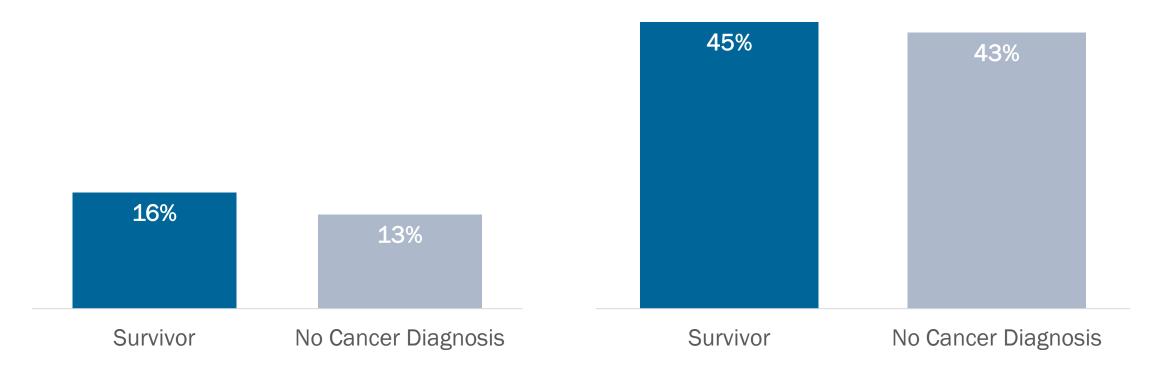


Vermont Department of Health Source: BRFSS 2022

#### **Tobacco-Use**

Cancer survivors smoke cigarettes at a similar rate as those never diagnosed with cancer.

Cancer survivors and those never diagnosed with cancer who smoke make quit attempts at a similar rate.



#### **Data Sources**

Behavioral Risk Factor Surveillance System (BRFSS): Vermont tracks health, chronic disease, risk behaviors and preventative measures using this telephone survey of adults. The results are used to plan, support, and evaluate health promotion and disease prevention programs. Vermont, along with the 49 other states and three territories, has participated in the BRFSS with the Centers for Disease Control and Prevention (CDC) since 1990. An adult (18 or older) in the household is asked a uniform set of questions. The results are weighted to represent the adult population of the state.

Youth Risk Behavior Survey (YRBS): Every two years since 1993, the Department of Health's Division of Alcohol and Drug Abuse Program and the Department of Education's Coordinated School Health Programs have sponsored the YRBS. The YRBS measures the prevalence of behaviors that contribute to the leading causes of death, disease, and injury among youth. The YRBS is part of a larger effort to help communities increase the "resiliency" of young people by reducing high risk behaviors and promoting healthy behaviors.

Vermont Immunization Registry (IMR): A confidential system for maintaining immunization records for all Vermont residents and those who seek medical care in Vermont. It was designed, developed, and is operated by the Vermont Department of Health, and was first made available to providers in July 2004. It receives immunization data from medical providers, hospitals, health insurers, and increasingly, from pharmacies and nursing homes. The advantage of using the IMR for immunization data is that unlike survey information, it is much more comprehensive, and is not subject to selection bias. As is the case with any large database, the IMR has its limitations. It can be very difficult to keep up with the residences of all these individuals, resulting in a larger population base in the registry than actually live in the state of Vermont. The data shown in this chapter represent vaccine completion rates as of April 2023.

**Vermont Cancer Registry:** The Vermont Cancer Registry (VCR) is Vermont's statewide population-based cancer surveillance system. The registry collects information about all cancers (except non-melanoma skin cancers and carcinoma in situ of the cervix) and all benign brain tumors diagnosed in Vermont. All statistics exclude in situ carcinomas except urinary bladder, unless indicated otherwise. Vermont cases include Vermont residents only.

National Program of Cancer Registries (NPCR) and Surveillance, Epidemiology & End Results (SEER) Incidence 1999-2020 Database: The U.S. incidence rates are based on the NPCR and the SEER Program Incidence State Restricted Access Data File (1999-2020).

Vermont Vital Statistics: The Vermont Department of Health vital statistics system tracks the following vital events that occur in Vermont: births, deaths, marriages, divorces and dissolutions, fetal deaths, and abortions. The Department of Health also receives abstracts for Vermont resident births and deaths that occur in other states which allows the Department to do statistical analyses of vital events involving Vermont residents, including those events which occurred outside of the state. The Vermont and the U.S. mortality rates are based on the Vermont Vital Statistics System, Vermont Department of Health (1994-2020) and the SEER Program Mortality - Aggregated Total U.S. (1990-2020). Mortality data were coded using the International Classification of Disease Tenth Revision (ICD-10) coding system. Vermont deaths include Vermont residents only.

#### Resources about the burden of cancer in Vermont

- Vermont Comprehensive Cancer Control Program
- Vermont Cancer Registry
- More data on cancer in Vermont
- Vermont 2025 Cancer Plan
- Vermonters Taking Action Against Cancer Coalition
- You First



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