Vermont Cancer Data Pages

Department of Health Statistics and Informatics

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VERMONT
DEPARTMENT OF HEALTH

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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 were 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.

- **Lesbian, gay, bisexual, transgender and queer (LGBTQ+) Vermonters:** Data sources only ask respondents to self-identify if they are lesbian, gay, bisexual and/or transgender. To best represent the available data therefore, we use **LGBT** when discussing findings from these data sources, while also acknowledging that these data do not fully represent the LGBTQ+ community.

- **Vermonters living with disabilities:** Individuals who self-identified as having <u>one or more</u> 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 limit.

- **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.

Note: 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:

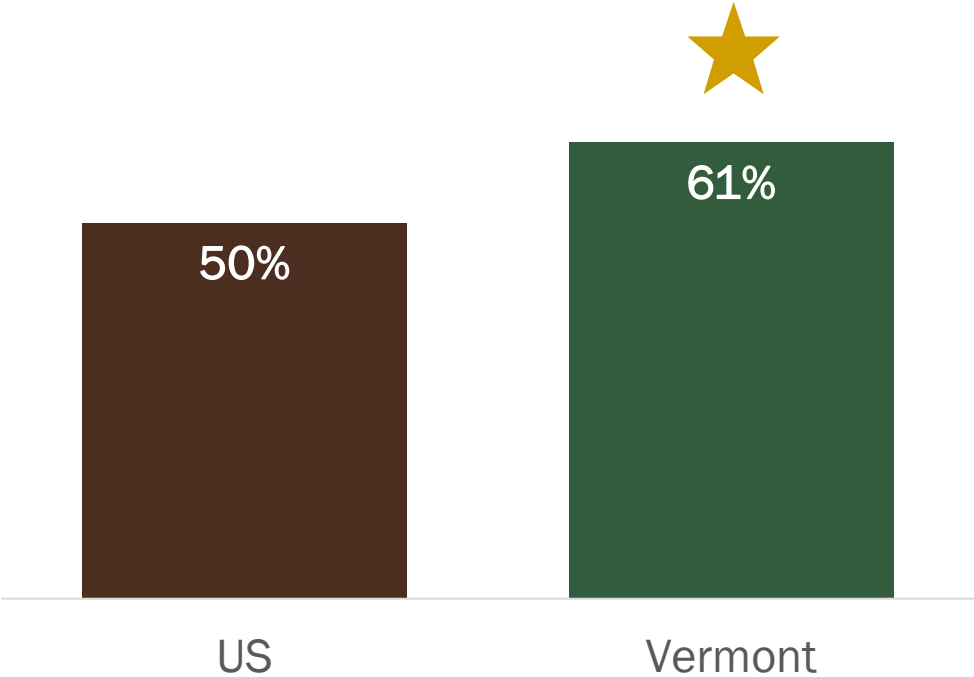# Chapter 1: Risk Factors and Prevention

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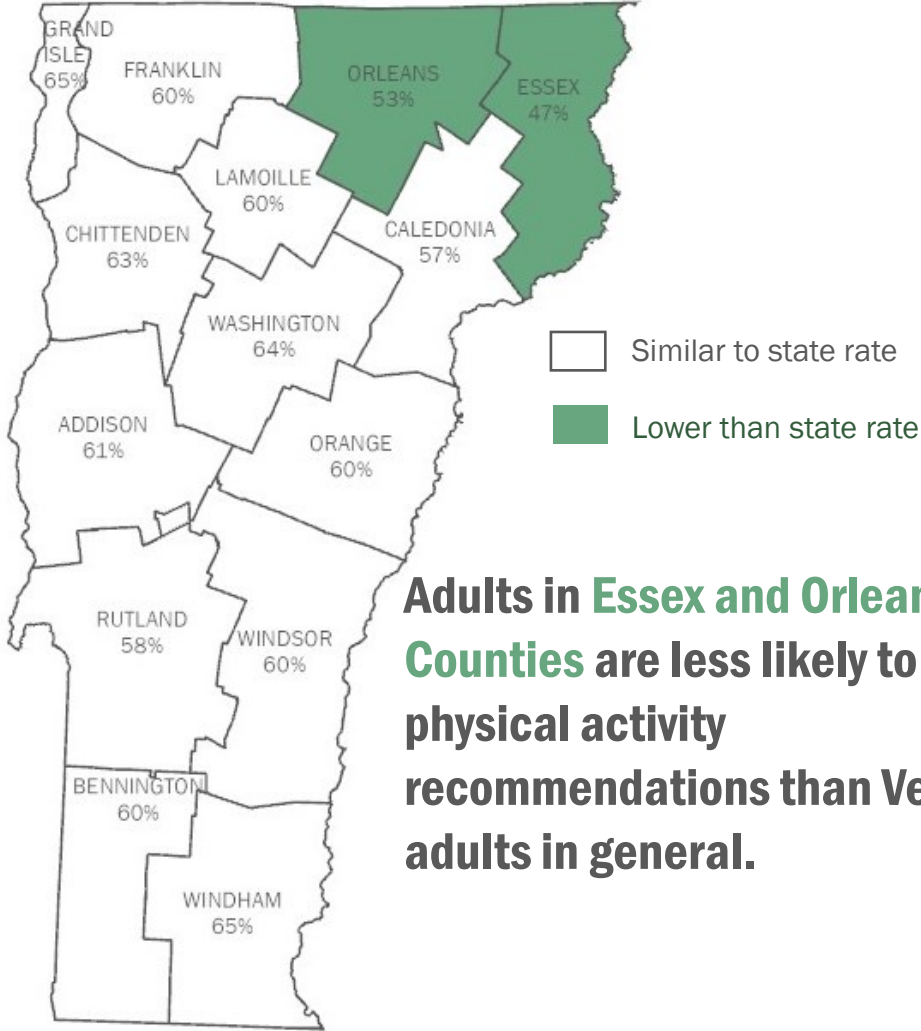
This chapter of the *Vermont Cancer Data Pages*, Risk Factors and Prevention, explores the personal behaviors of Vermonters that are known to increase or decrease the risk of developing cancer.

Physical Activity

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

US — 50%
Vermont — 61%

GRAND ISLE 65%
FRANKLIN 60%
ORLEANS 53%
ESSEX 47%
LAMOILLE 60%
CHITTENDEN 63%
CALEDONIA 57%
WASHINGTON 64%
ADDISON 61%
ORANGE 60%
RUTLAND 58%
WINDSOR 60%
BENNINGTON 60%
WINDHAM 65%

☐ Similar to state rate
🟩 Lower than state rate
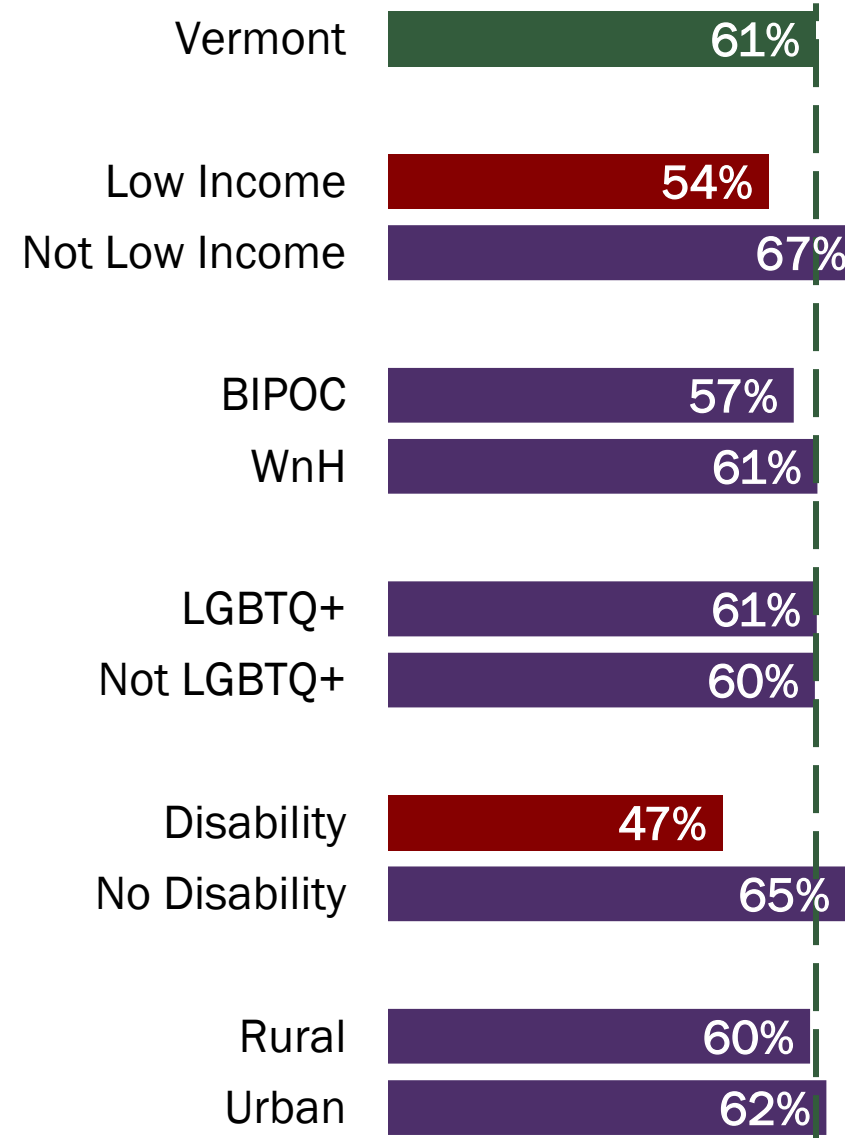
Adults in Essex and Orleans Counties are less likely to meet physical activity recommendations than Vermont adults in general.

Risk Factors and Prevention

Physical Activity

Adults with a low income and those with a disability meet physical activity recommendations less than a group of comparison.

All other groups have similar rates to a group of comparison.

Group	Percentage
Vermont	61%
Low Income	54%
Not Low Income	67%
BIPOC	57%
WnH	61%
LGBTQ+	61%
Not LGBTQ+	60%
Disability	47%
No Disability	65%
Rural	60%
Urban	62%

8

Leisure Time Physical Activity

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

US 76%
Vermont 80%

GRAND ISLE 91%
FRANKLIN 77%
ORLEANS 74%
ESSEX 76%
LAMOILLE 86%
CHITTENDEN 85%
CALEDONIA 78%
WASHINGTON 84%
ADDISON 82%
ORANGE 78%
RUTLAND 80%
WINDSOR 78%
BENNINGTON 77%
WINDHAM 82%

Higher than state rate
Similar to state rate
Lower than state rate
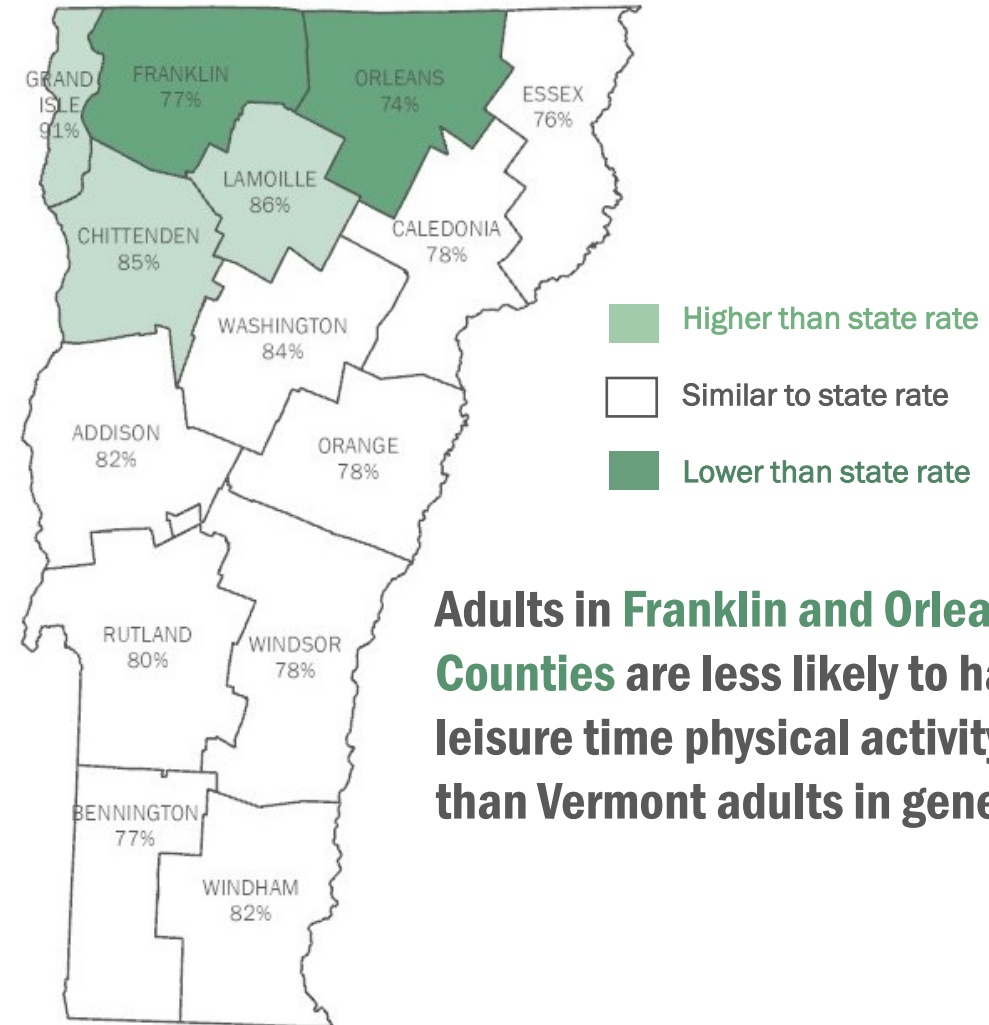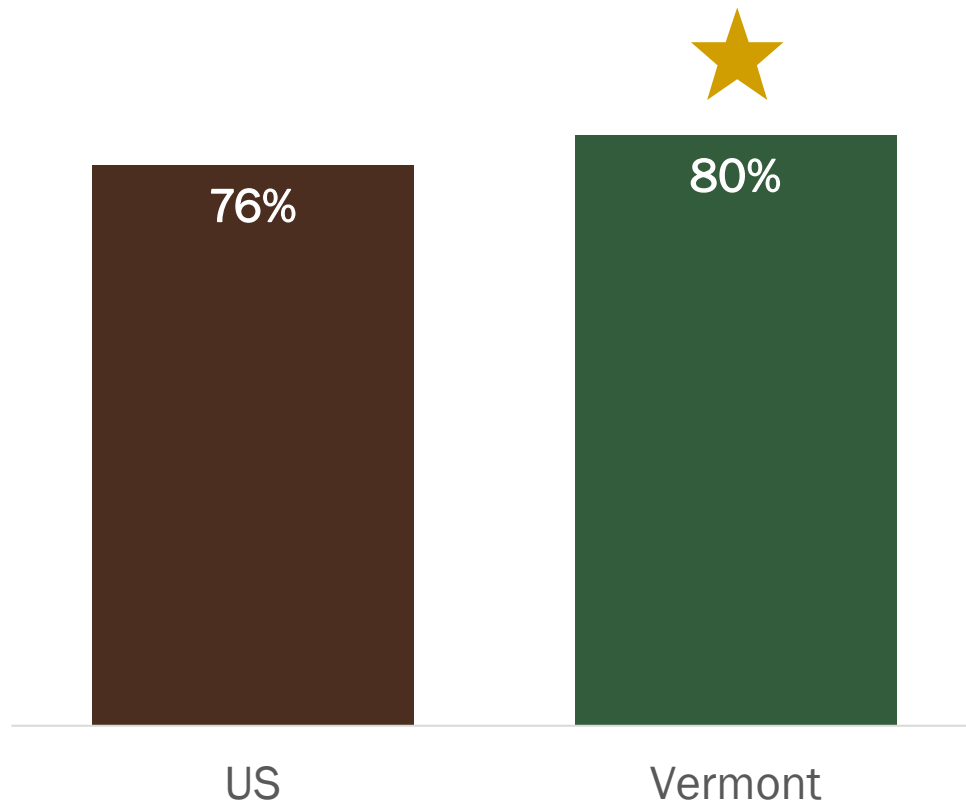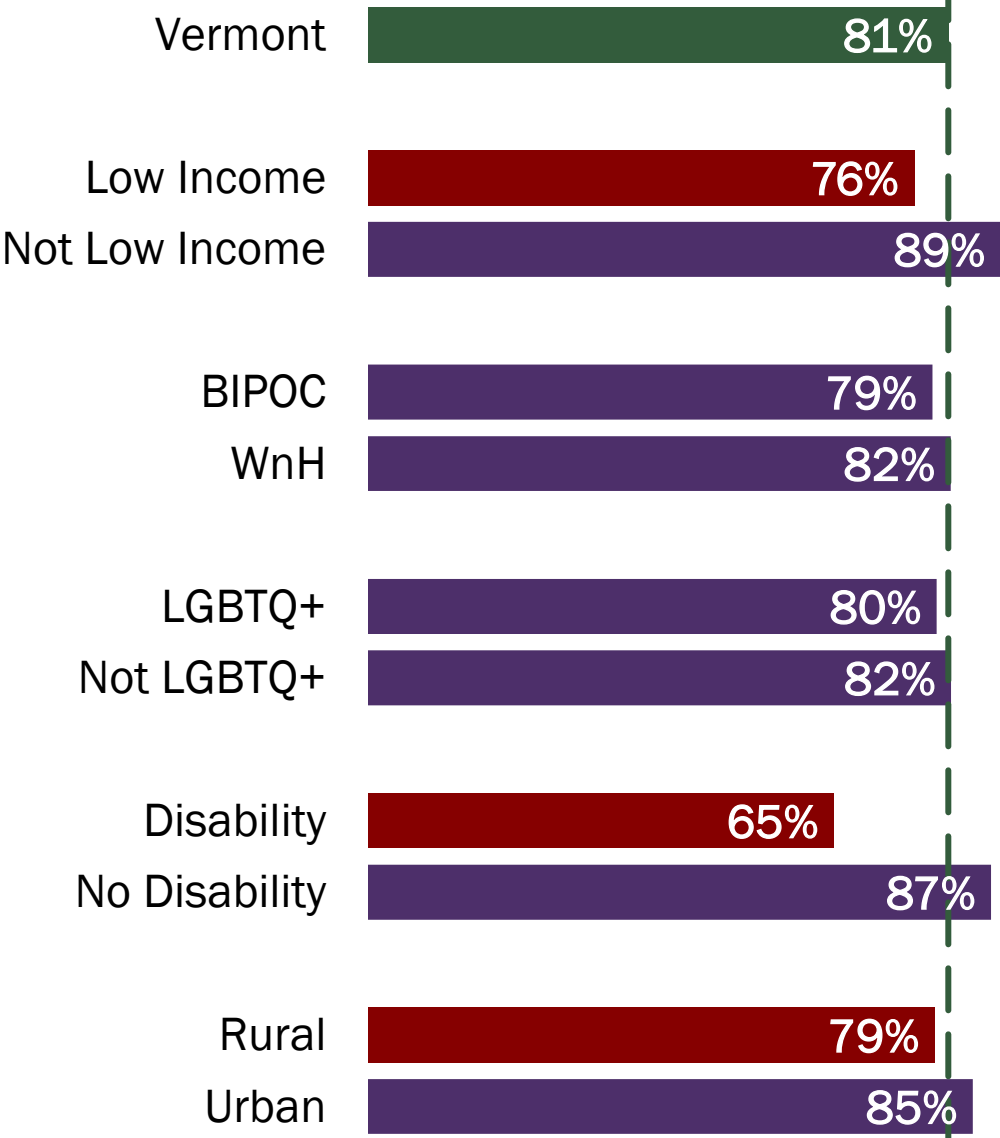
Adults in Franklin and Orleans Counties are less likely to have leisure time physical activity than Vermont adults in general.

Leisure Time Physical Activity

Adults with a low income, those with a disability and those living in rural areas have leisure time physical activity less than a group of comparison.

All other groups have similar rates to a group of comparison.

Vermont — 81%

Low Income — 76%
Not Low Income — 89%

BIPOC — 79%
WnH — 82%

LGBTQ+ — 80%
Not LGBTQ+ — 82%

Disability — 65%
No Disability — 87%

Rural — 79%
Urban — 85%

Eat at Least Five Servings of Fruits and Vegetables

Vermont adults eat at least five servings of fruits and vegetables <u>more</u> than the **U.S. population**.
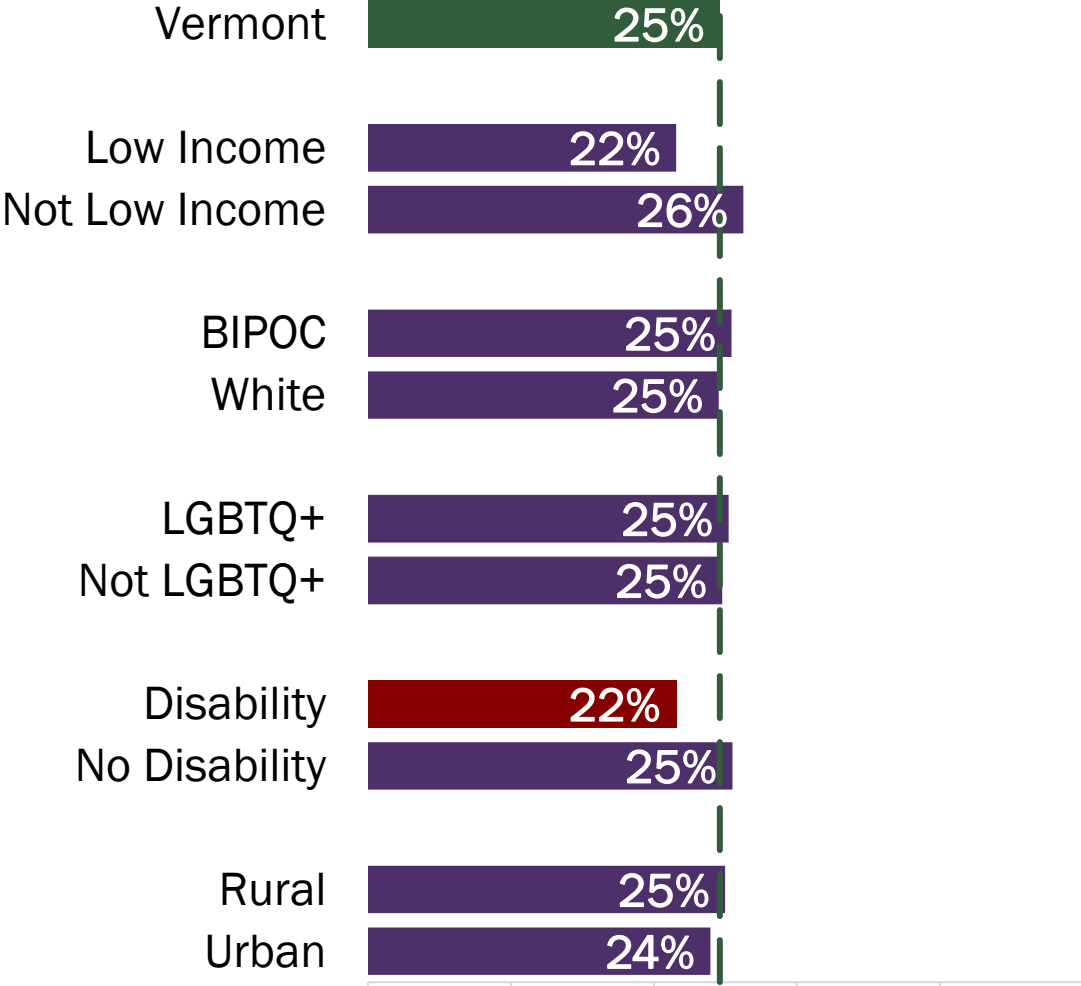
23%

13%

US
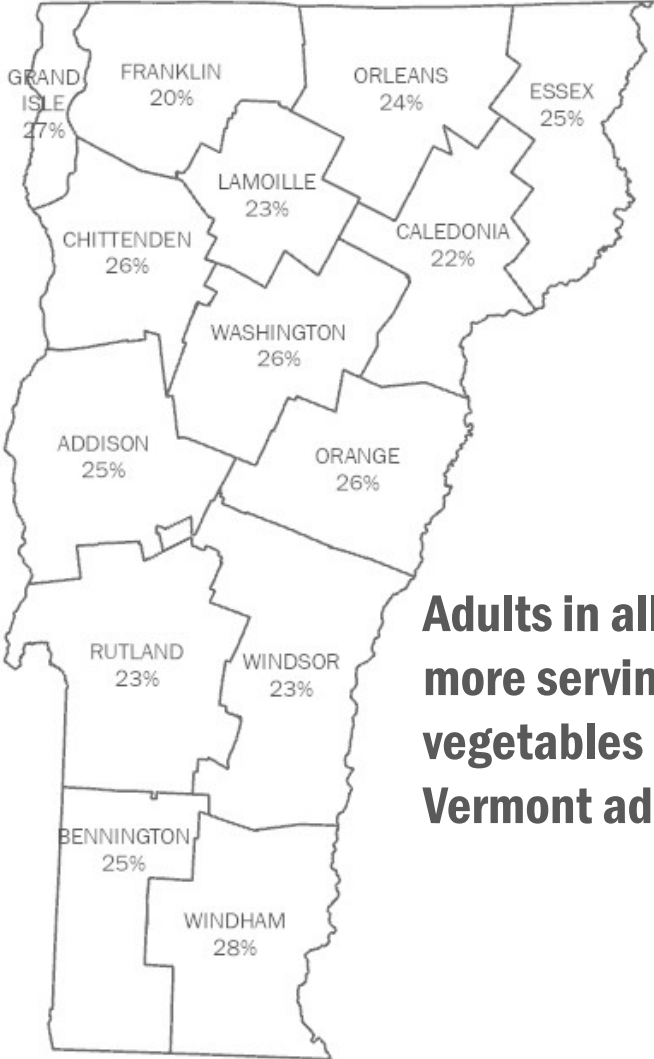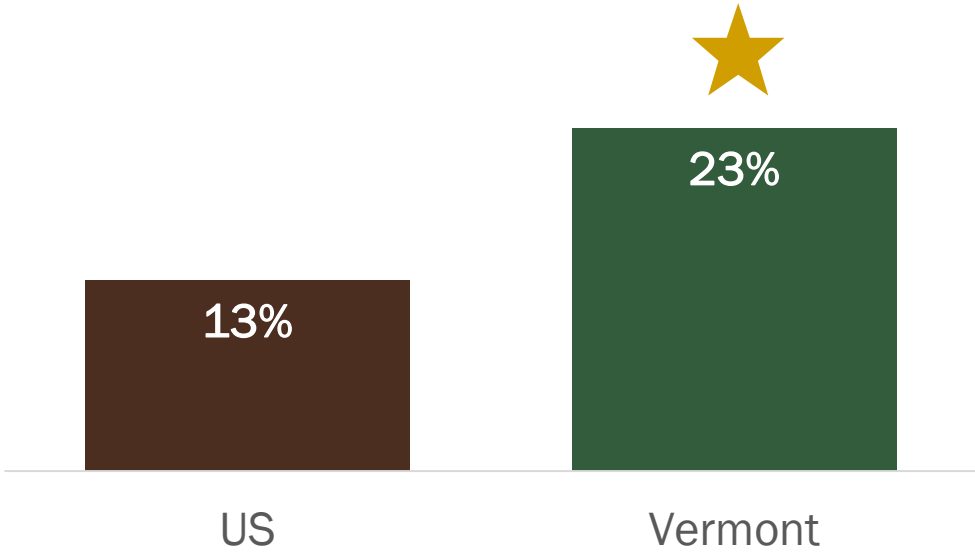
Vermont

Adults in all counties eat five or more servings of fruits and vegetables at a rate similar to Vermont adults in general.

Risk Factors and Prevention

Eat at Least Five Servings of Fruits and Vegetables

Adults with a disability eat at least 5 servings of fruits and vegetables less than Vermonters without a disability.

All other groups have similar rates to a group of comparison.

| Group	Percent
Vermont	25%
Low Income	22%
Not Low Income	26%
BIPOC	25%
White	25%
LGBTQ+	25%
Not LGBTQ+	25%
Disability	22%
No Disability	25%
Rural	25%
Urban	24%

Risk Factors and Prevention

Sunburns: Adults

The % of Vermonters that had a sunburn in the past year in each county is like that of Vermont as a whole.

GRAND ISLE 38%

FRANKLIN 44%

ORLEANS 35%

ESSEX 38%

LAMOILLE 51%

CHITTENDEN 47%

CALEDONIA 39%

WASHINGTON 47%

ADDISON 46%

ORANGE 42%

RUTLAND 40%

WINDSOR 44%

BENNINGTON 45%

WINDHAM 41%

Risk Factors and Prevention
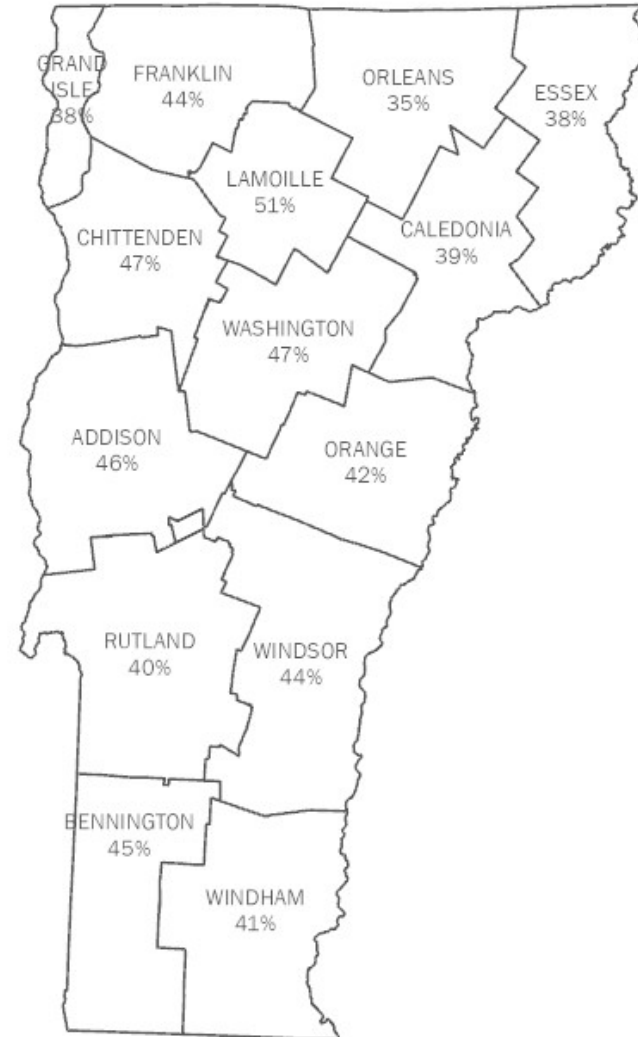
1+ Sunburns: Adults

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

71% — 18-24
67% — 25-34
56% — 35-44
40% — 45-64
18% — 65+
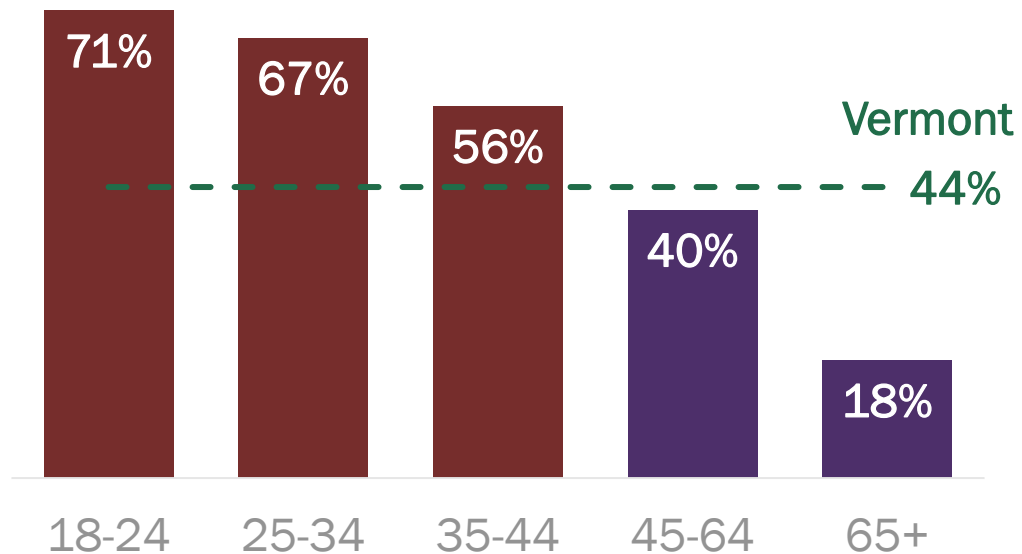
Vermont
44%

Number of Sunburns: Adults

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

2
11%

3+
13%

1
20%

0
56%
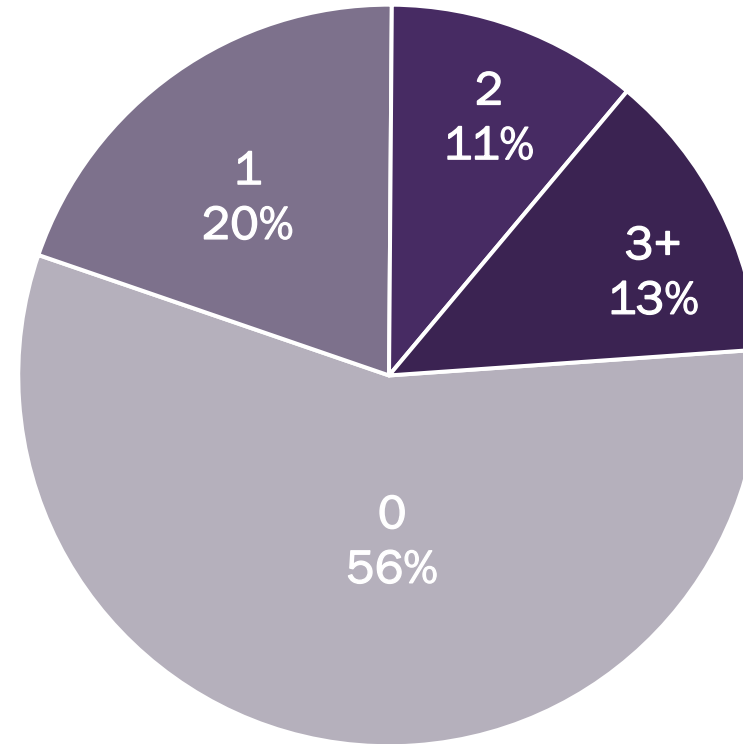
Sunburns: Adults

White, non-Hispanic adults and those without a disability are more likely to have had at least one sunburn in a prior year than a group of comparison.

All other groups have similar rates to a group of comparison.

Group	Percent
Vermont	44%
Low Income	49%
Not Low Income	54%
BIPOC	29%
WnH	45%
LGBTQ+	46%
Not LGBTQ+	44%
Disability	32%
No Disability	47%
Rural	42%
Urban	47%

Risk Factors and Prevention
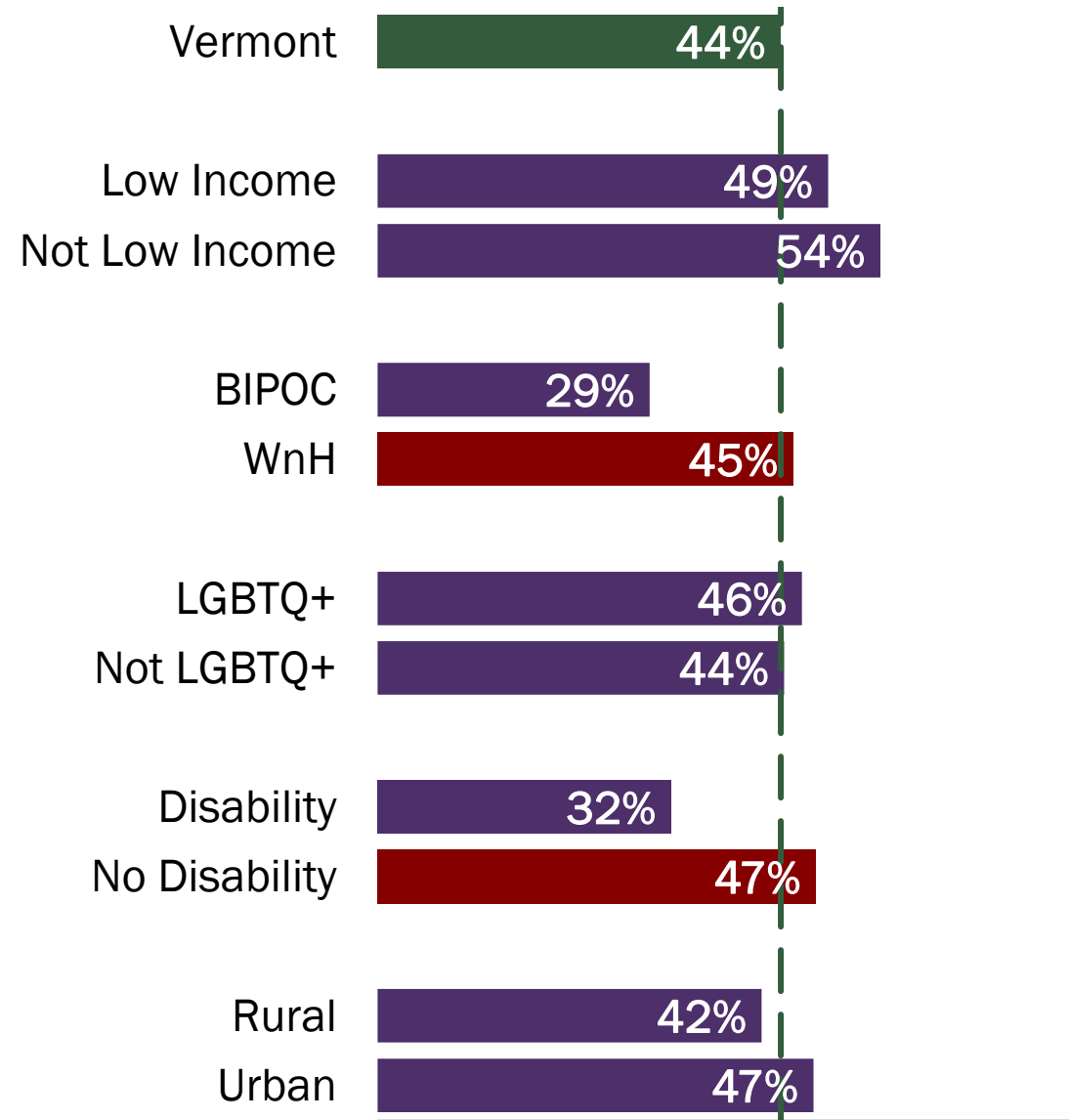
Sunburns: High School

High school students in Addison, Washington and Windham Counties are more likely to have had a sunburn in the past year than high school students in general.

Those in Caledonia and Chittenden Counties are less likely to have had a sunburn.

GRAND ISLE 79%
FRANKLIN 75%
ORLEANS 75%
ESSEX 81%
LAMOILLE 76%
CHITTENDEN 73%
CALEDONIA 72%
WASHINGTON 78%
ADDISON 80%
ORANGE 76%
RUTLAND 75%
WINDSOR 75%
BENNINGTON 76%
WINDHAM 78%

Lower than state rate

Similar to state rate

Higher than state rate
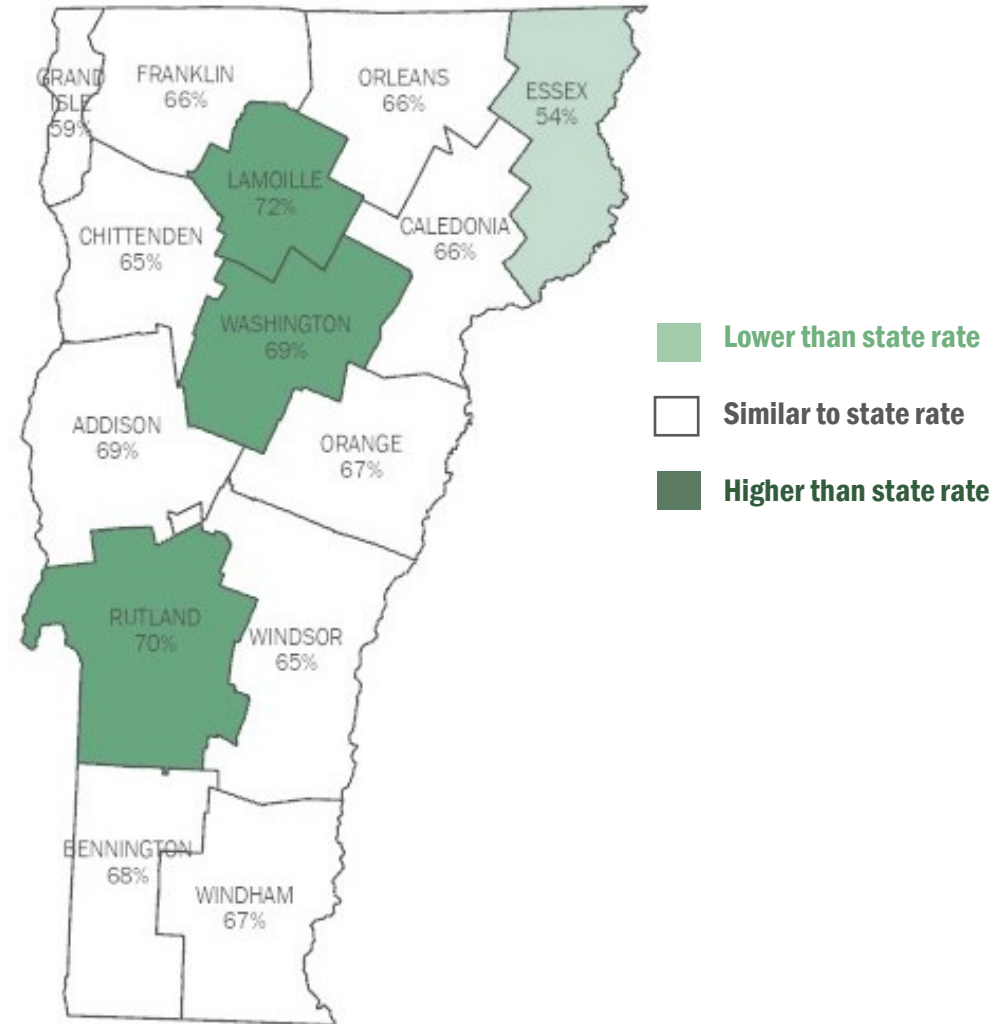
Risk Factors and Prevention
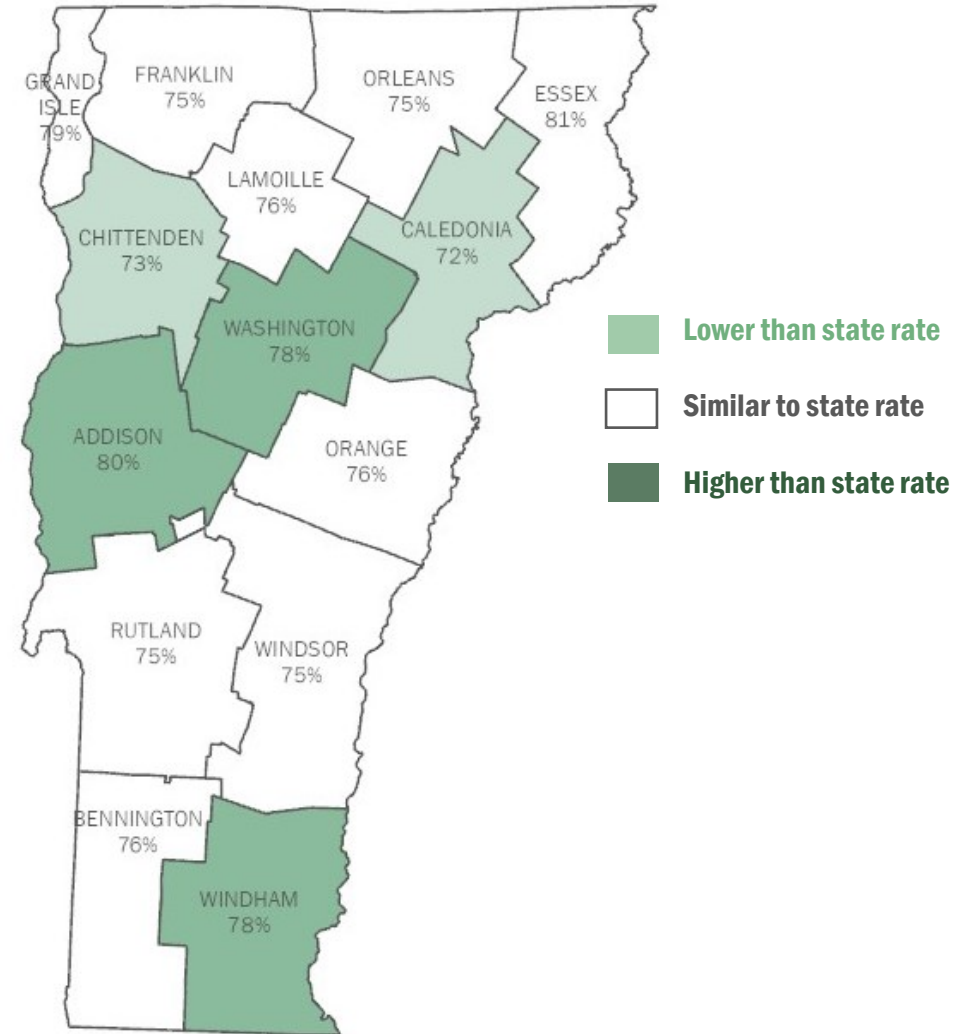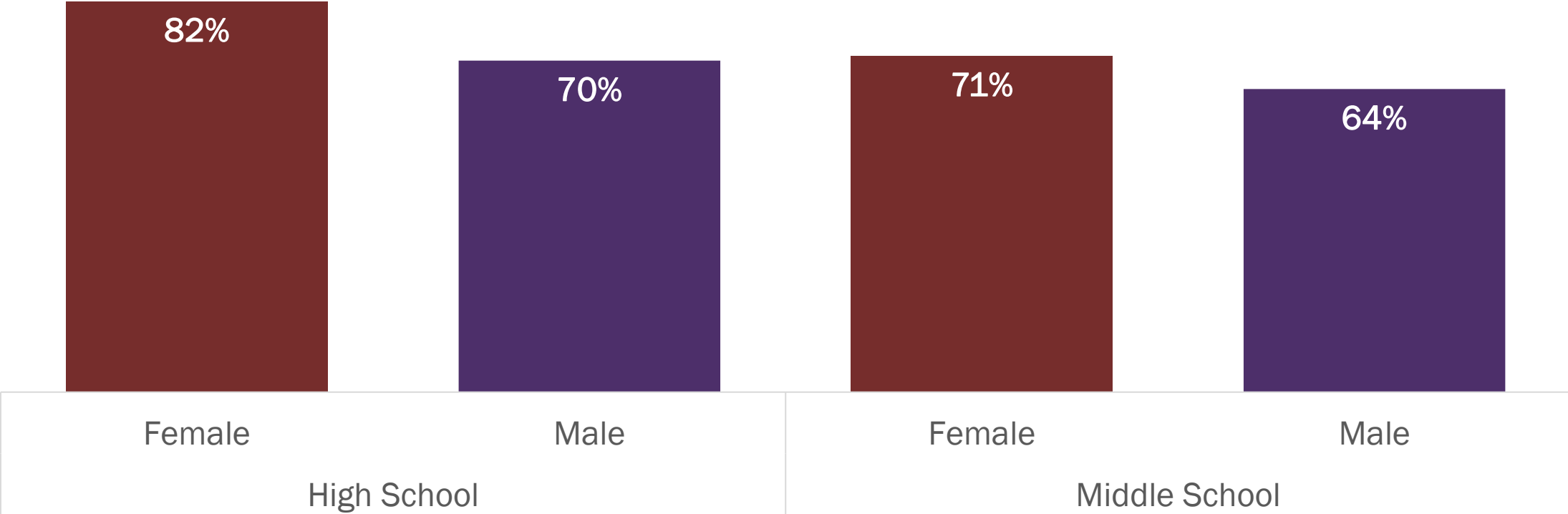
Sunburns: Middle School

Middle school students in **Lamoille, Rutland and Washington Counties** are more likely to have had a sunburn in the past year than middle school students in general.

Those in Essex County are less likely to have had a sunburn.

GRAND ISLE 59%
FRANKLIN 66%
ORLEANS 66%
ESSEX 54%
LAMOILLE 72%
CHITTENDEN 65%
CALEDONIA 66%
WASHINGTON 69%
ADDISON 69%
ORANGE 67%
RUTLAND 70%
WINDSOR 65%
BENNINGTON 68%
WINDHAM 67%

Lower than state rate
Similar to state rate
Higher than state rate

Risk Factors and Prevention

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

- 44% (3+ Sunburns)
- 19% (2 Sunburns)
- 13% (1 Sunburn)
- 24% (0 Sunburns)
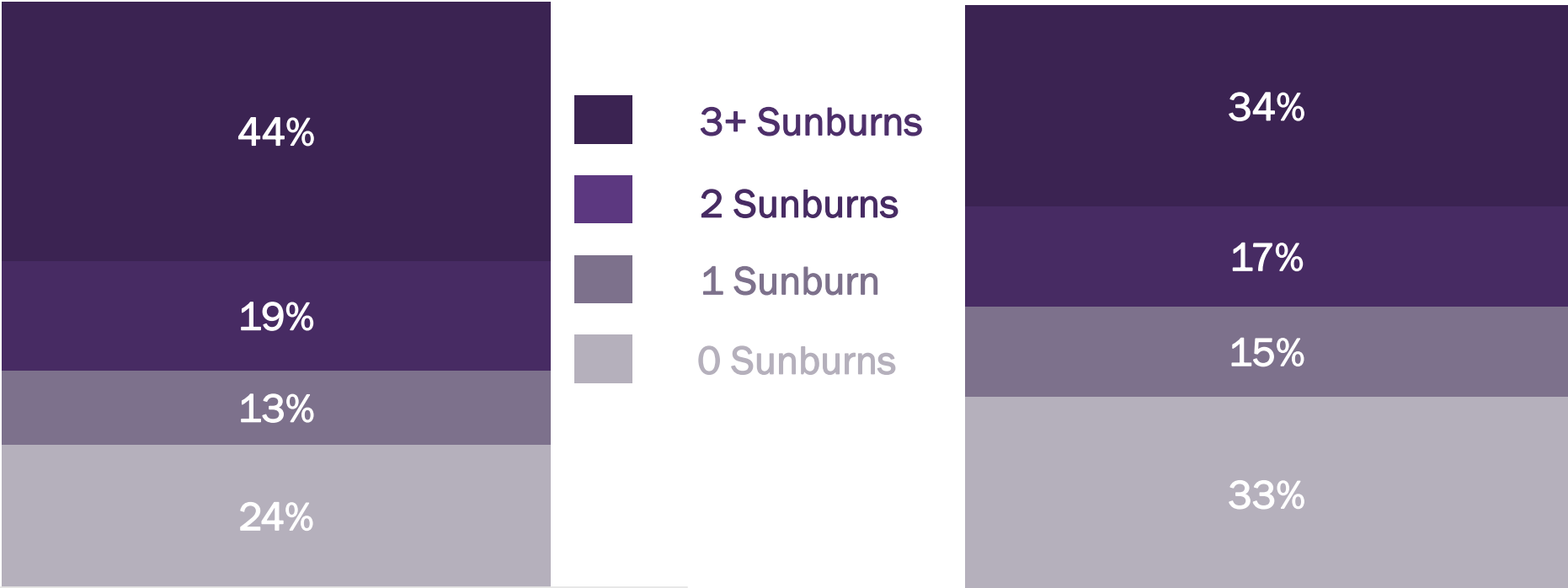
Legend:
- 3+ Sunburns
- 2 Sunburns
- 1 Sunburn
- 0 Sunburns

Middle School Students

- 34% (3+ Sunburns)
- 17% (2 Sunburns)
- 15% (1 Sunburn)
- 33% (0 Sunburns)

Risk Factors and Prevention
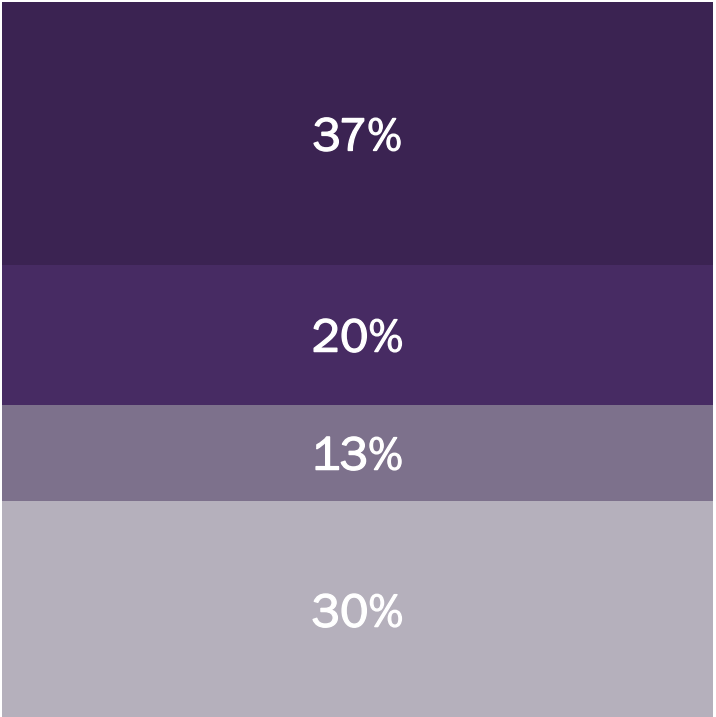
Number of Sunburns: Middle School

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

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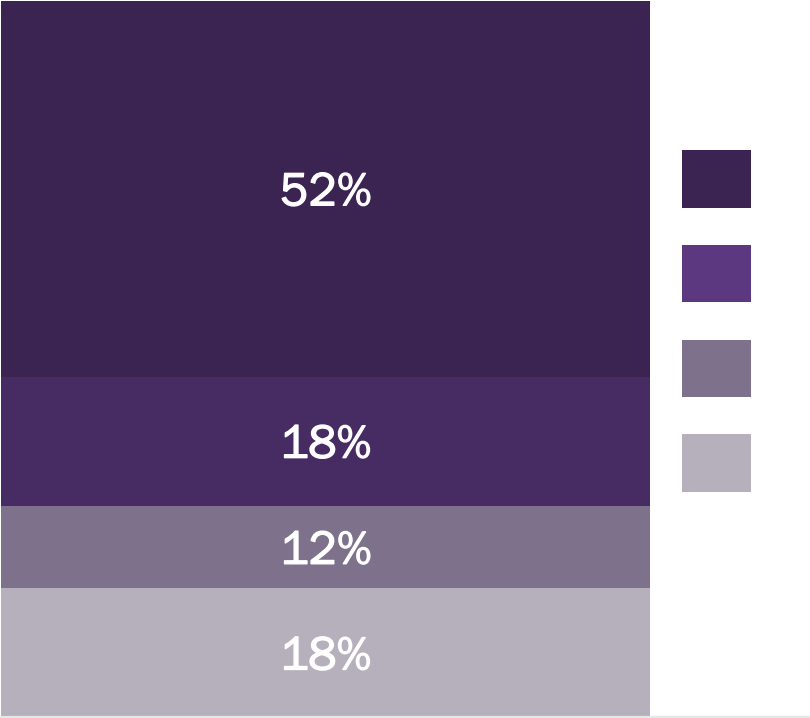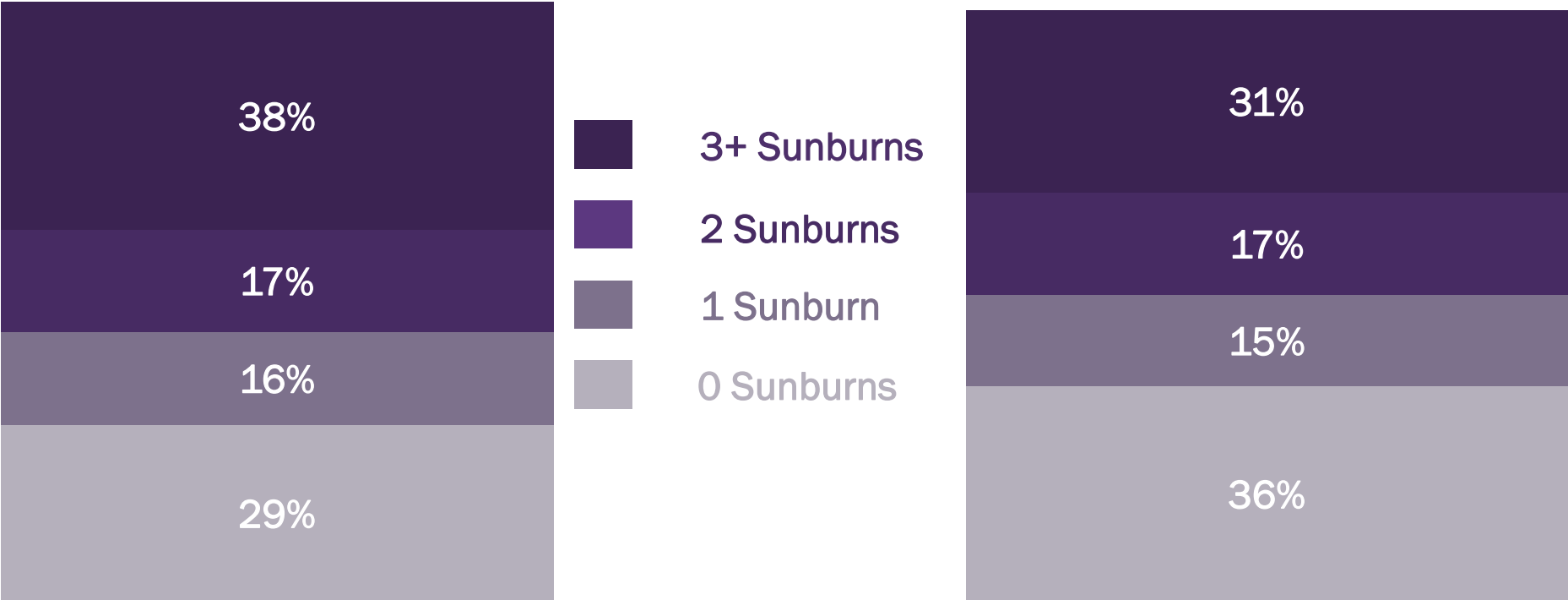

Legend:
- 3+ Sunburns
- 2 Sunburns
- 1 Sunburn
- 0 Sunburns

Female Students:
- 38%
- 17%
- 16%
- 29%

Male Students:
- 31%
- 17%
- 15%
- 36%

Risk Factors and Prevention

Obesity

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

US — 34%
VT — 27%

Similar to state rate

Higher than state rate

GRAND ISLE 25%
FRANKLIN 35%
ORLEANS 36%
ESSEX 45%
LAMOILLE 26%
CHITTENDEN 25%
CALEDONIA 28%
WASHINGTON 27%
ADDISON 28%
ORANGE 25%
RUTLAND 32%
WINDSOR 31%
BENNINGTON 32%
WINDHAM 29%
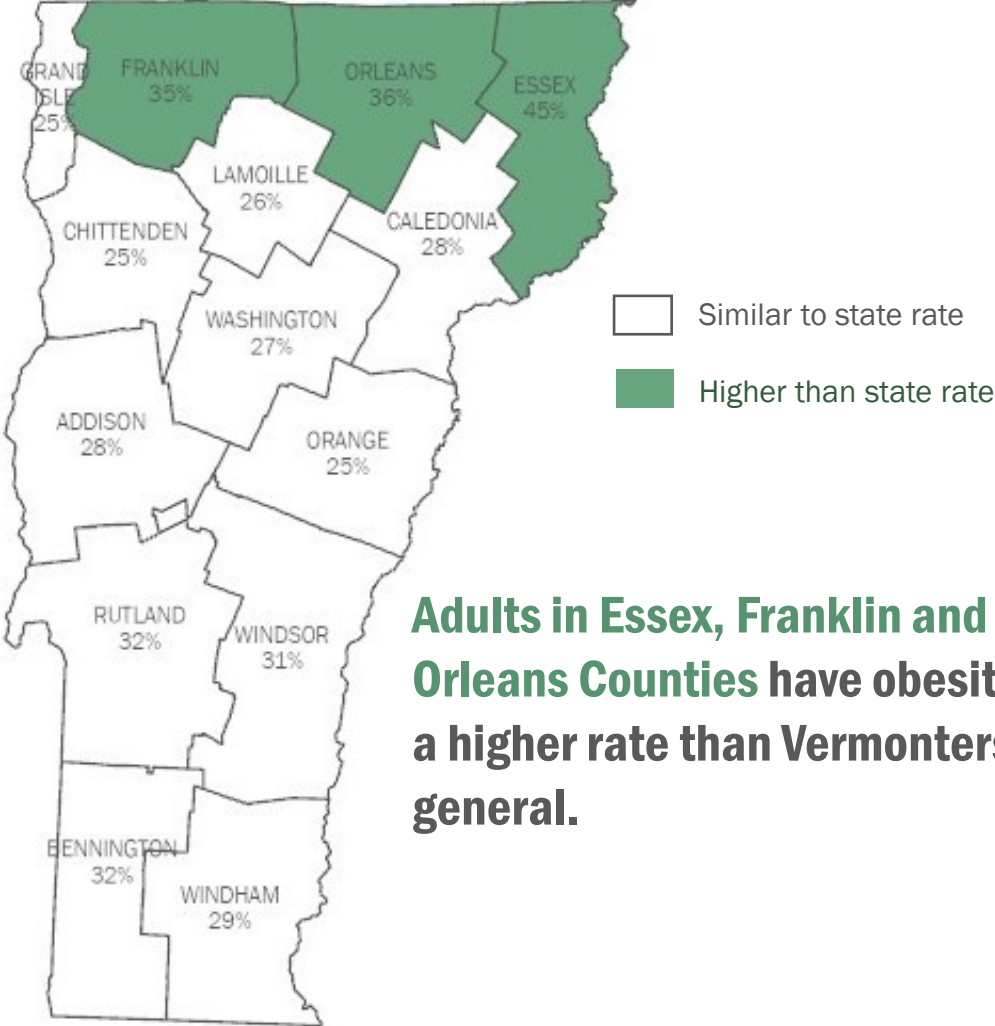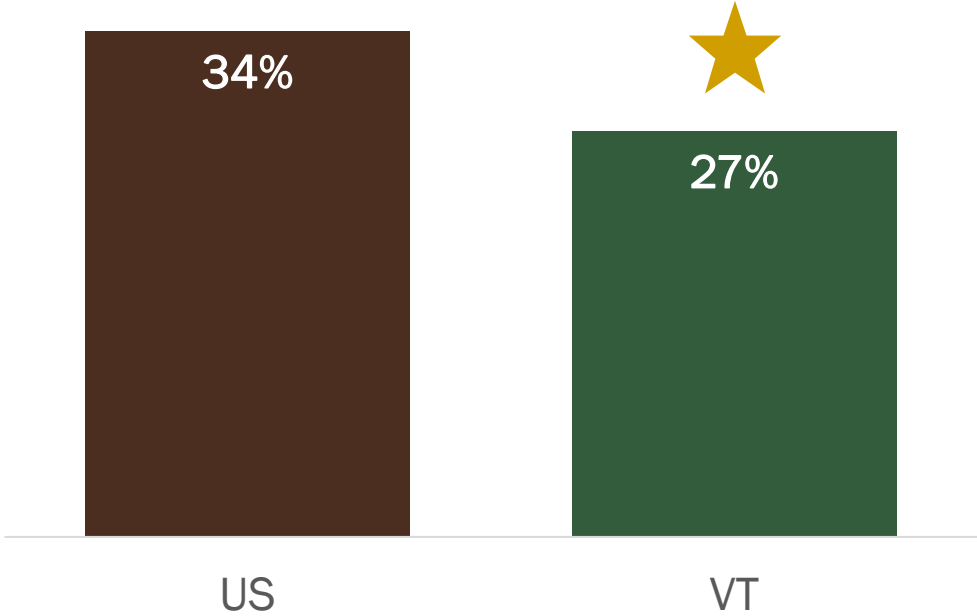
Adults in Essex, Franklin and Orleans Counties have obesity at a higher rate than Vermonters in general.

Risk Factors and Prevention

Obesity

Adults with a low income, those with a disability, and rural adults are more likely to have obesity than a group of comparison.

All other groups have similar rates to a group of comparison.

Group	Percent
Vermont	29%
Low Income	33%
Not Low Income	27%
BIPOC	29%
WnH	29%
LGBTQ+	33%
Not LGBTQ+	28%
Disability	39%
No Disability	25%
Rural	30%
Urban	26%

Risk Factors and Prevention
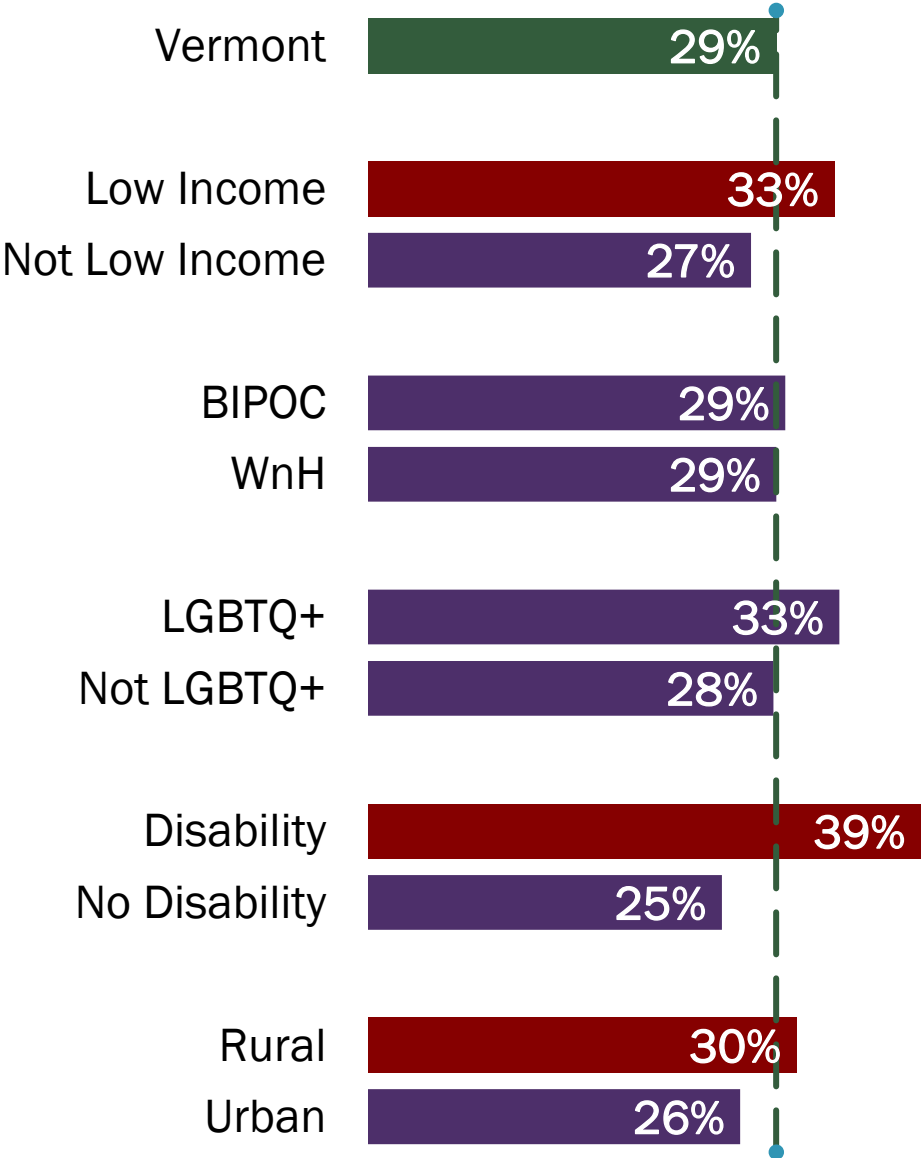
Tobacco Use

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

GRAND ISLE 18%
FRANKLIN 19%
ORLEANS 18%
ESSEX 16%
LAMOILLE 14%
CHITTENDEN 9%
CALEDONIA 17%
WASHINGTON 17%
ADDISON 11%
ORANGE 12%
RUTLAND 16%
WINDSOR 14%
BENNINGTON 17%
WINDHAM 13%

Lower than state rate
Similar to state rate
Higher than state rate

Adults in Franklin County are more likely to use tobacco than Vermont adults in general.

13%
US

13%
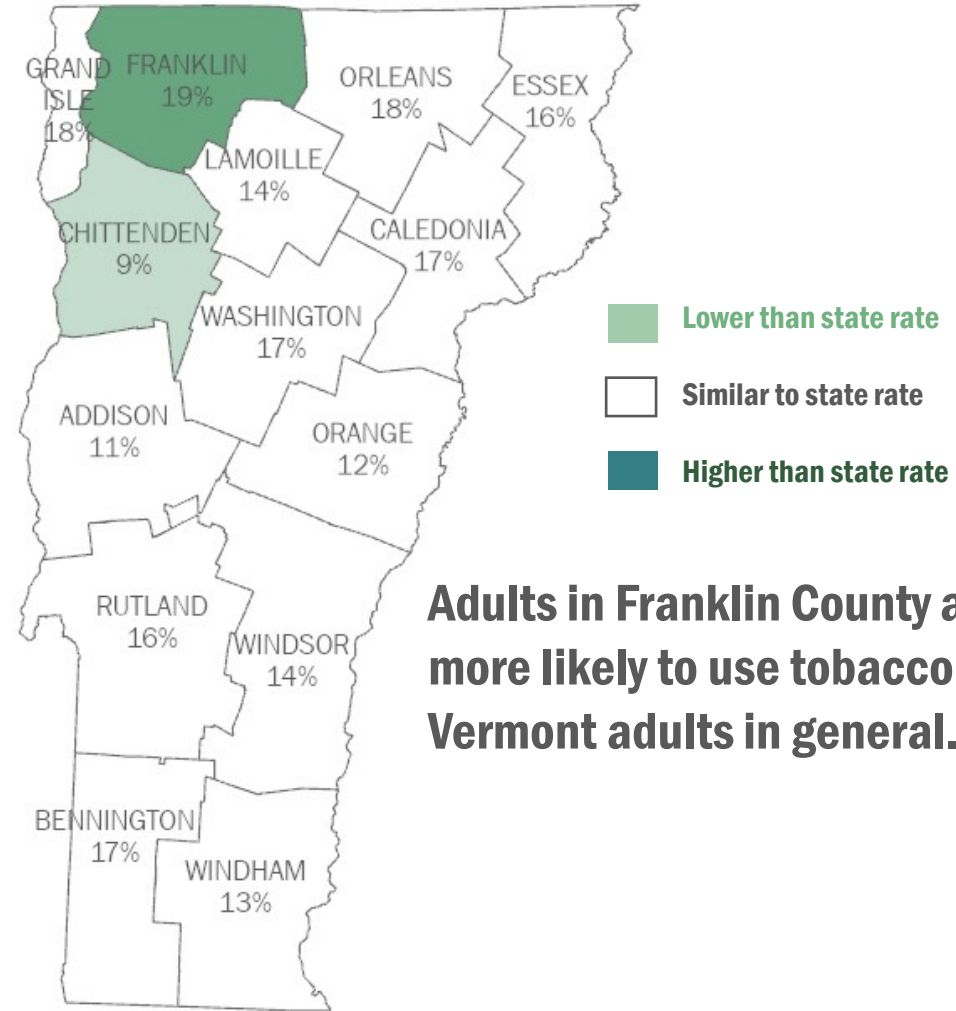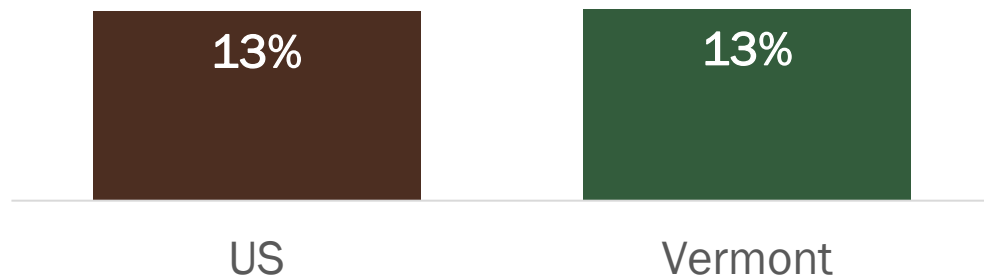Vermont

Risk Factors and Prevention

Tobacco-Use

Adults with a low income, those with a disability, and rural adults are more likely to use tobacco than a group of comparison.

All other groups have similar rates to a group of comparison.

Vermont 14%

Low Income 24%
Not Low Income 8%

BIPOC 16%
WnH 14%

LGBTQ+ 15%
Not LGBTQ+ 14%

Disability 21%
No Disability 11%

Rural 15%
Urban 12%

Risk Factors and Prevention
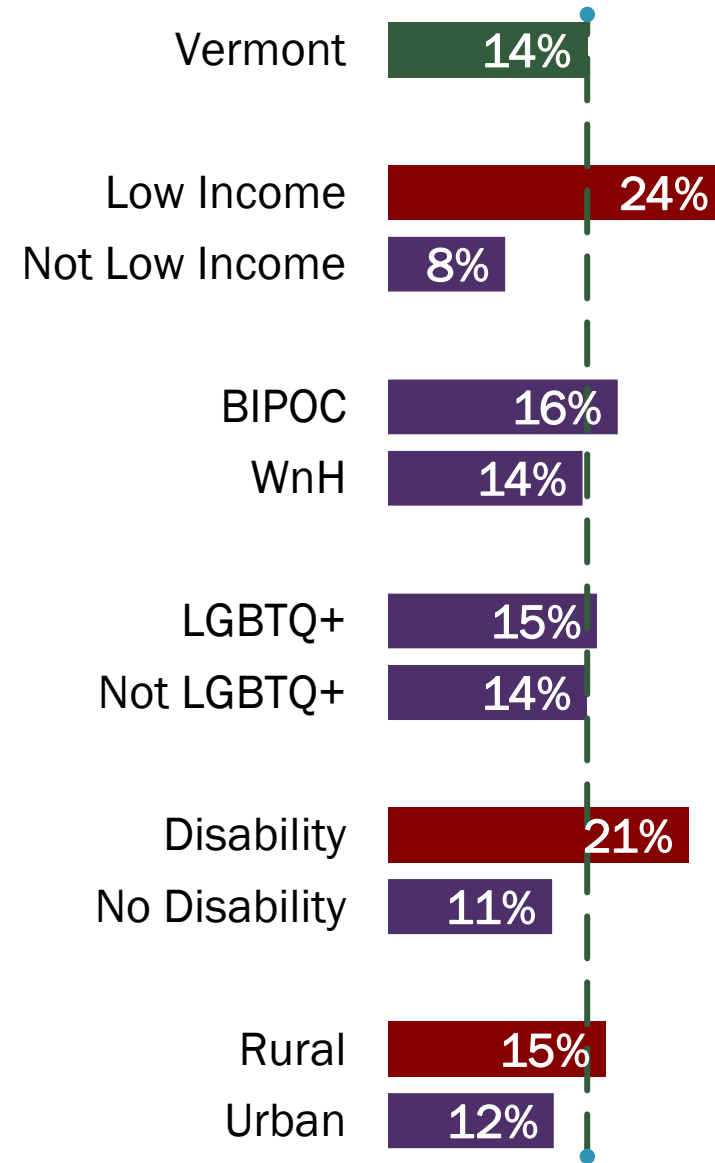
Quit Attempts

Vermont adults who smoke make quit attempts less than the US population.
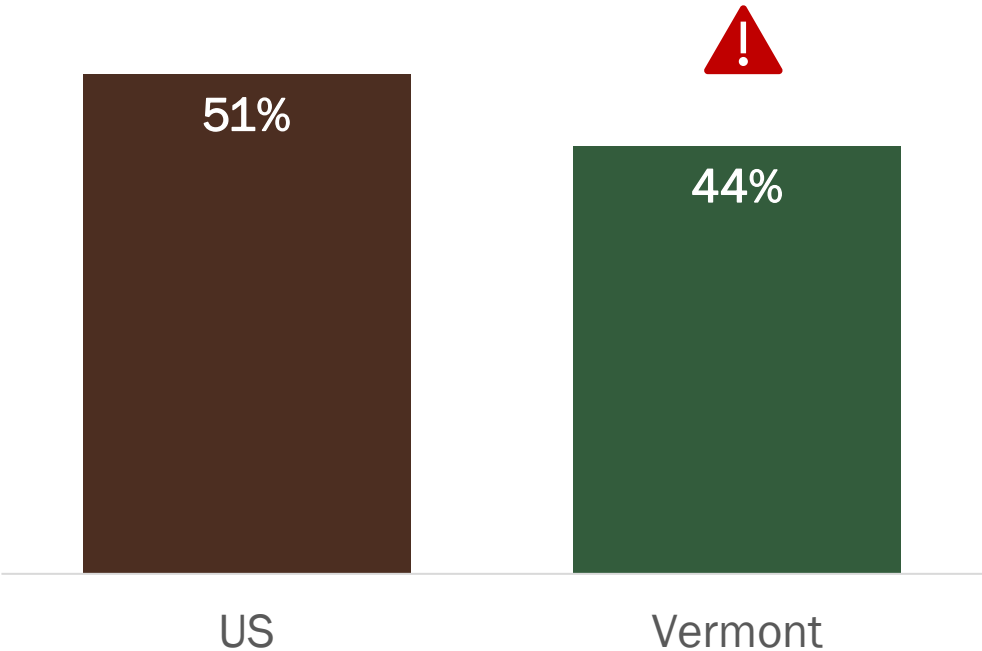
The % of adult smokers who make quit attempts in each county is like that of Vermont in general.
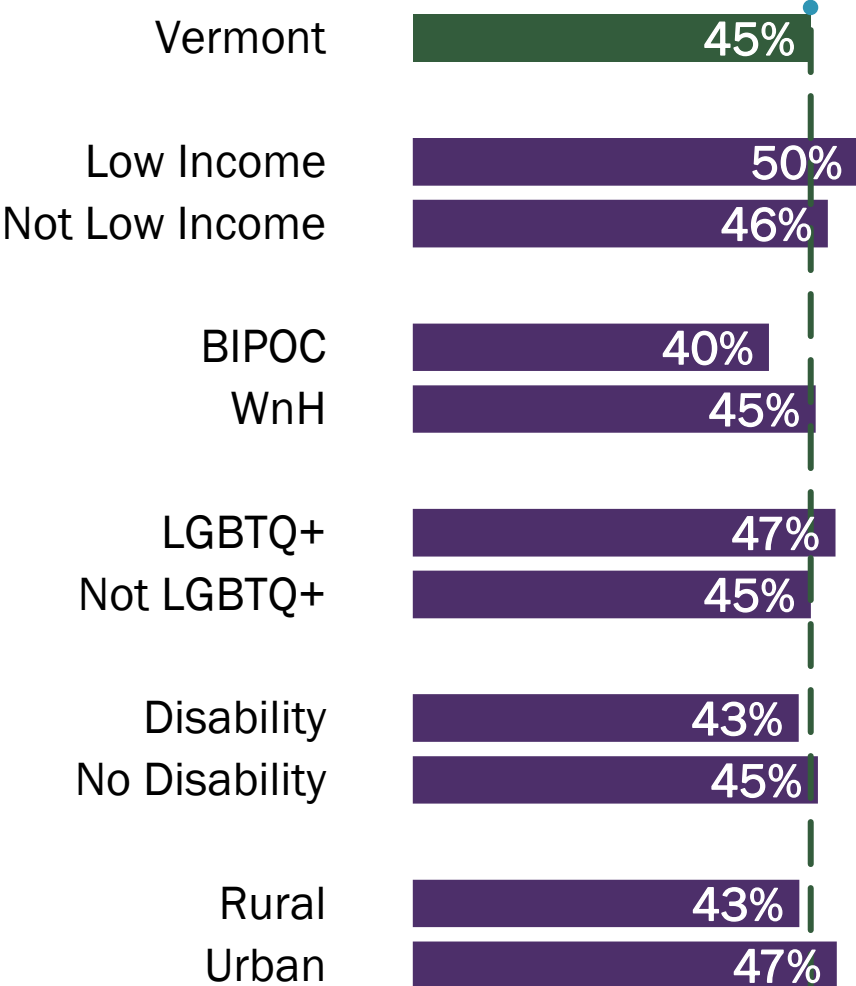
Heavy Drinking

Vermont adults are more likely to drink heavily than the US population.

US: 7%

Vermont: 10%

GRAND ISLE 9%
FRANKLIN 8%
ORLEANS 9%
ESSEX ***
LAMOILLE 11%
CHITTENDEN 9%
CALEDONIA 9%
WASHINGTON 11%
ADDISON 8%
ORANGE 9%
RUTLAND 10%
WINDSOR 8%
BENNINGTON 8%
WINDHAM 10%
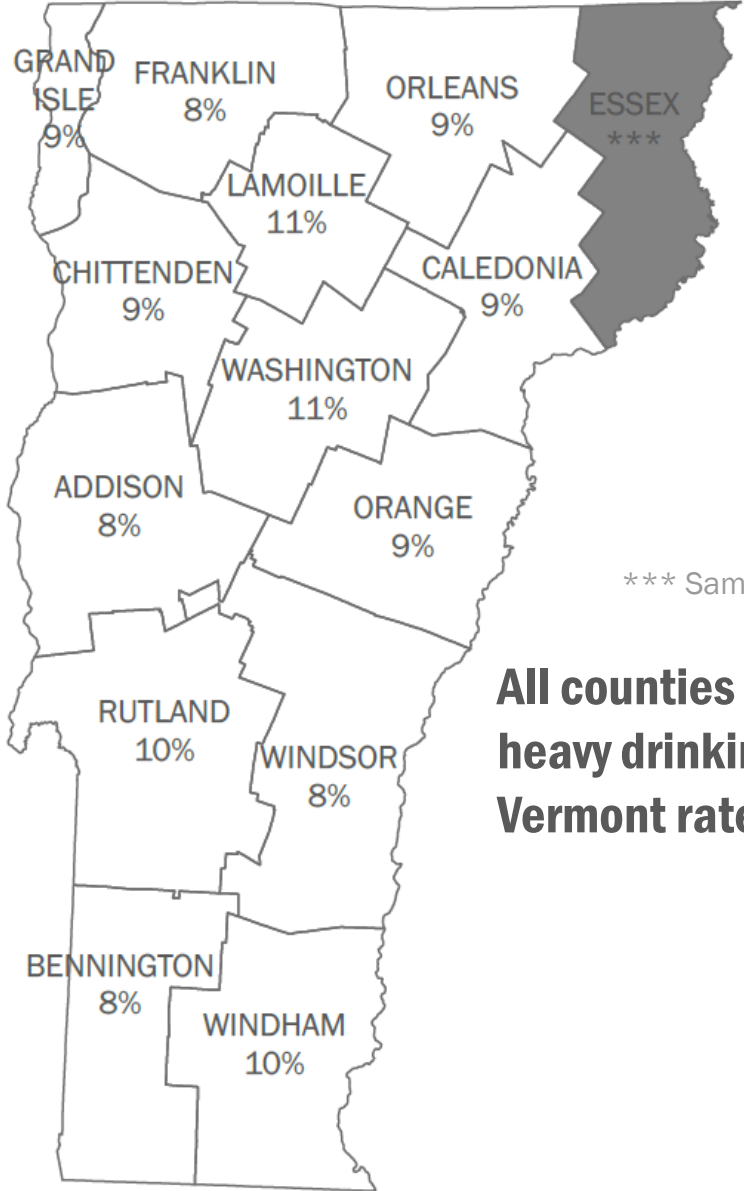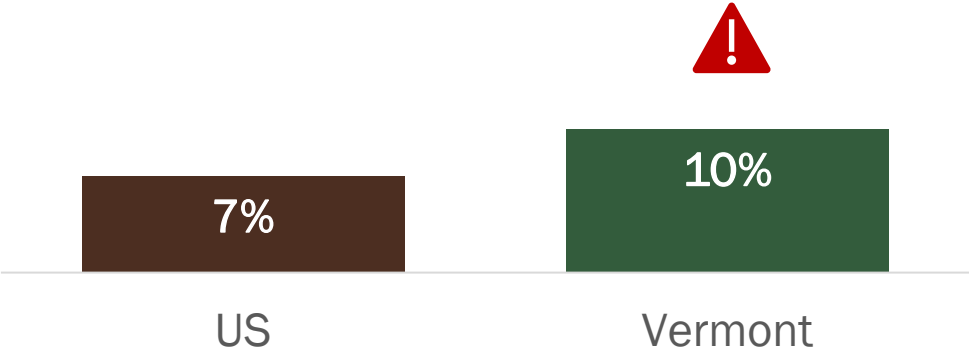
*** Sample size too small to report.

All counties have rates of heavy drinking similar to the Vermont rate.

Risk Factors and Prevention

Heavy Drinking

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

All other groups have similar rates to a group of comparison.

Group	Rate
Vermont	9%
Low Income	10%
Not Low Income	10%
BIPOC	8%
WnH	9%
LGBTQ+	13%
Not LGBTQ+	8%
Disability	9%
No Disability	9%
Rural	9%
Urban	9%

Risk Factors and Prevention
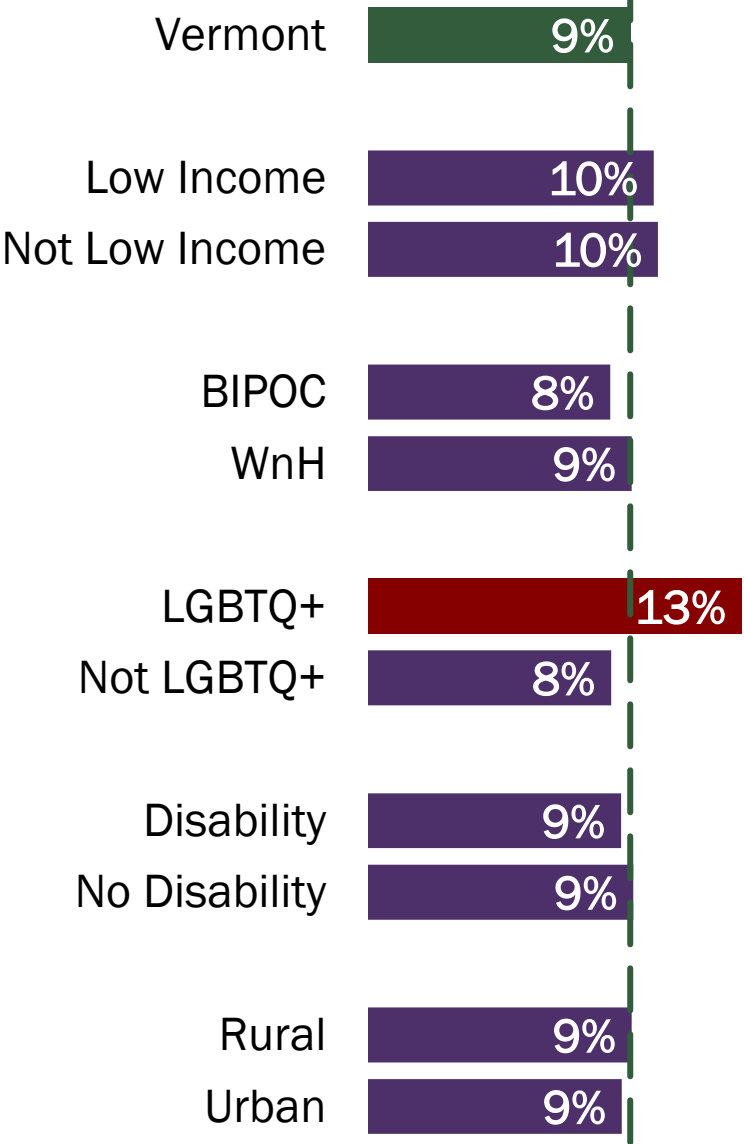
HPV Vaccination, Ages 13-17

The rate of adolescents who have completed the HPV vaccine series varies widely across the state, with six counties falling under the statewide rate.

Having completed the HPV vaccine series requires adolescents who received the first dose before their 15th birthday to receive two doses, and those that received the first dose after their 15th birthday to receive 3 doses.

GRAND ISLE 65%
FRANKLIN 60%
ORLEANS 62%
ESSEX 44%
LAMOILLE 58%
CHITTENDEN 69%
CALEDONIA 54%
WASHINGTON 64%
ADDISON 67%
ORANGE 68%
RUTLAND 60%
WINDSOR 53%
BENNINGTON 55%
WINDHAM 53%

Lower than state rate
Similar to state rate
Higher than state rate

Risk Factors and Prevention
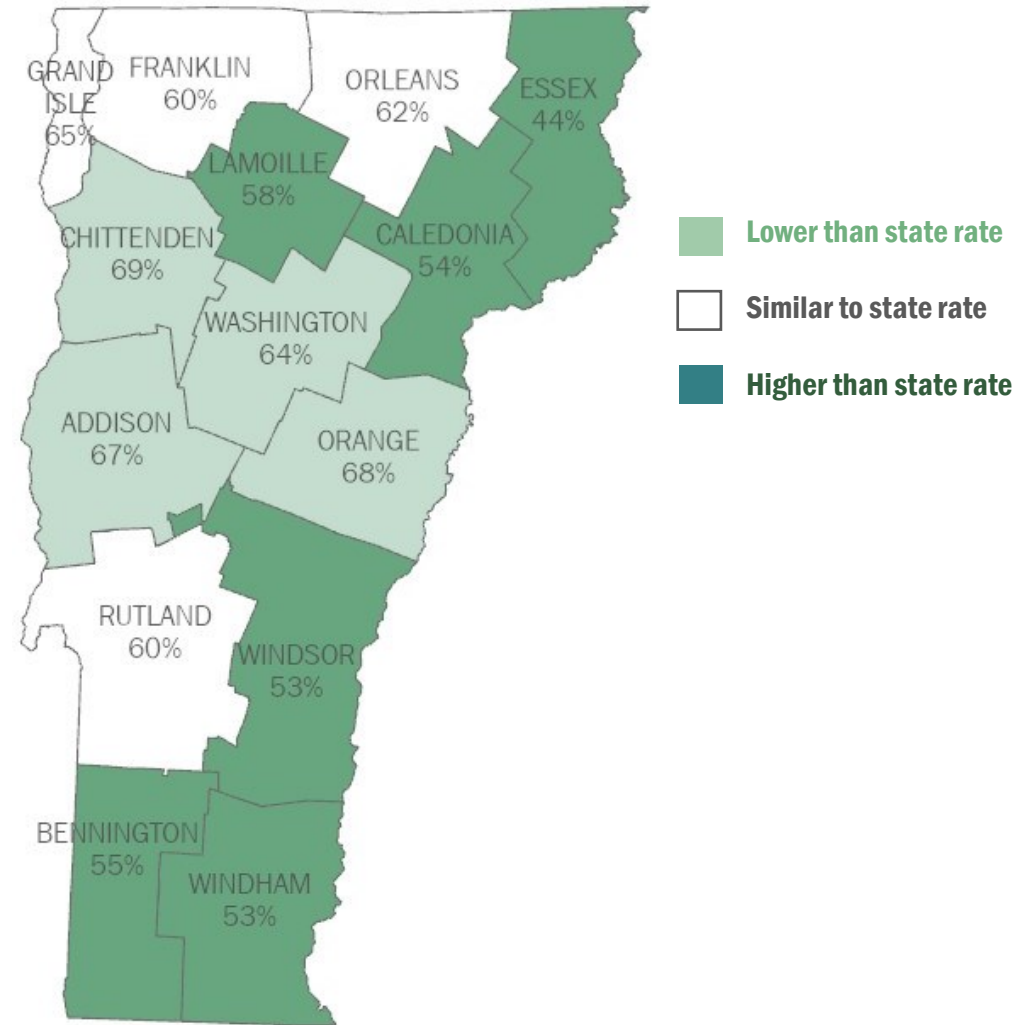
Chapter 2: Cancer Incidence

Published February 2023

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 [Vermont 2016-2020 Cancer Incidence and Mortality Report](#).

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.

Note: 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.

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

Prostate
24%

Lung and Bronchus
13%

Melanoma
8%

Urinary Bladder
8%

Colon and Rectum
8%

All Other Sites
39%
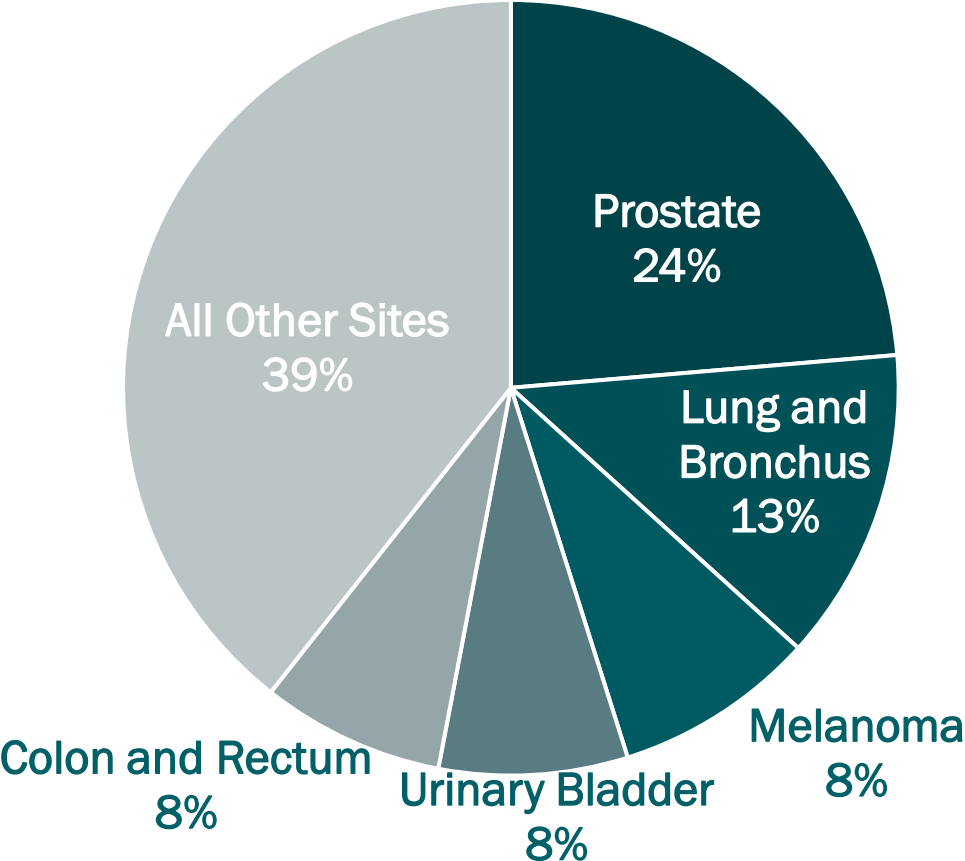
Cancer Incidence

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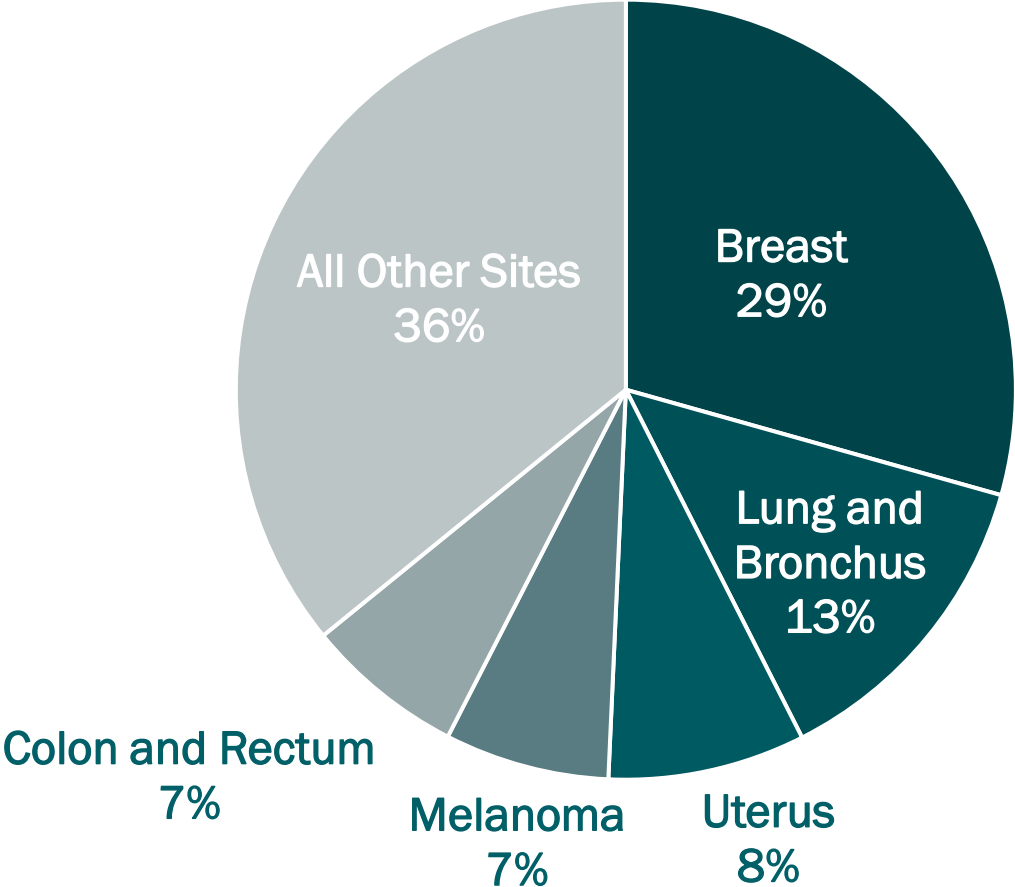
Cancer Incidence

Tobacco-Associated Cancers[+]

The incidence rate of tobacco-associated cancers in Vermont is similar to that of the US.

Incidence Rate per 100,000 people

180.8 | 179.7

US | VT

GRAND ISLE 197.9
FRANKLIN 187.9
ORLEANS 197.2
ESSEX 206.9
LAMOILLE 179.8
CHITTENDEN 160.2
CALEDONIA 191.4
WASHINGTON 188.4
ADDISON 161.9
ORANGE 169.5
RUTLAND 195.2
WINDSOR 182.9
BENNINGTON 179
WINDHAM 185.3

Lower than state rate
Similar to state rate
Higher than state rate
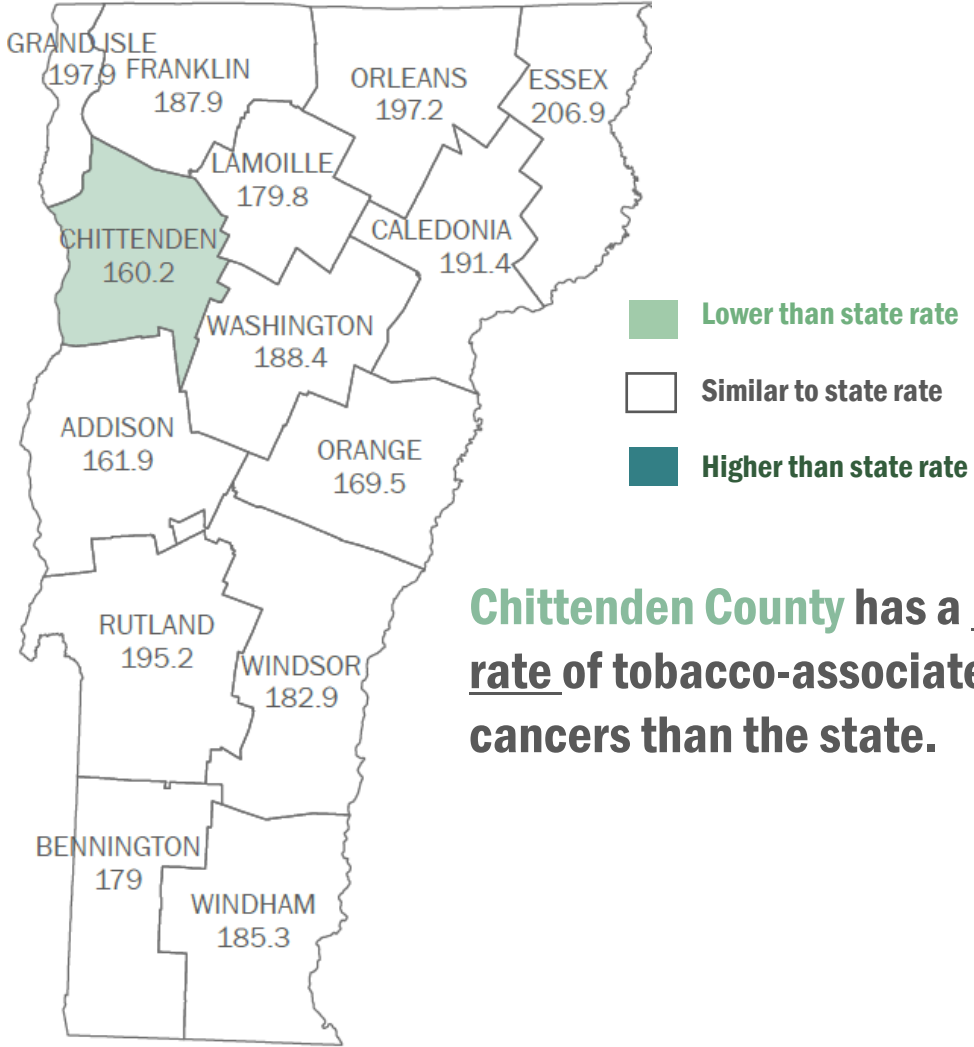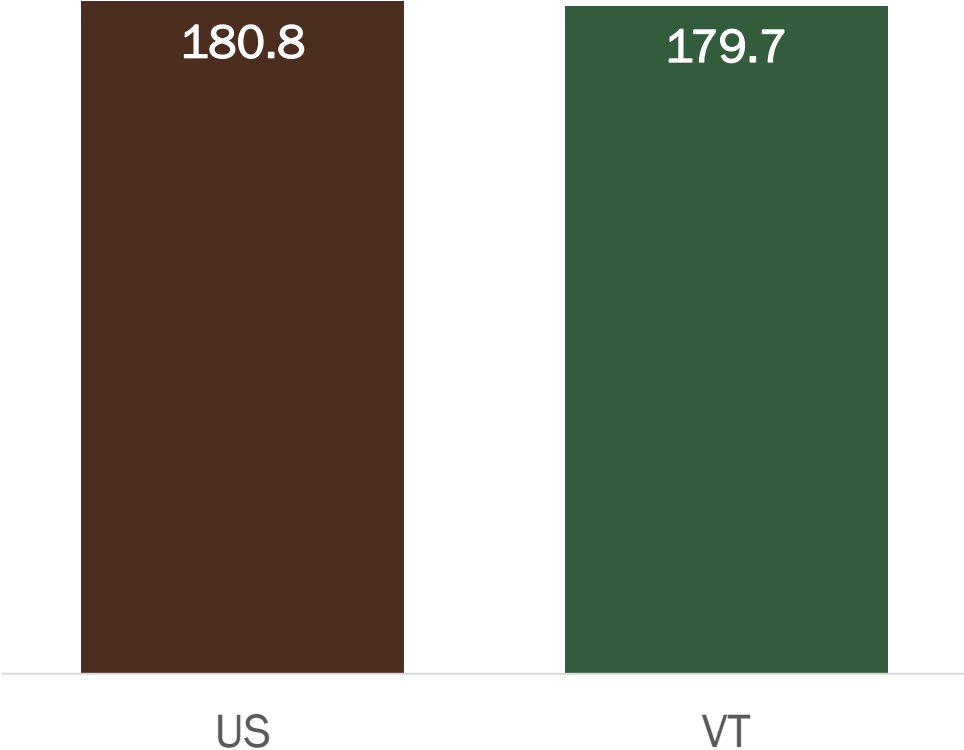
Chittenden County has a **lower rate** of tobacco-associated cancers than the state.

Cancer incidence

Ultraviolet (UV)-Associated Cancers[+]

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

Incidence Rate per 100,000 people

US 22.4

VT 36.6

All counties have an incidence rate of UV-associated cancers like the state rate.

GRAND ISLE 53.3
FRANKLIN 31.8
ORLEANS 35.8
ESSEX 31.5
LAMOILLE 40.5
CHITTENDEN 37.9
CALEDONIA 29.2
WASHINGTON 32.2
ADDISON 30.1
ORANGE 42.3
RUTLAND 39.3
WINDSOR 38.9
BENNINGTON 43.3
WINDHAM 29.8

Cancer Incidence

Obesity-Associated Cancers[+]

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

US	VT
169.3	165.9

GRAND ISLE 190.8
FRANKLIN 154.9
ORLEANS 158.5
ESSEX 153.9
LAMOILLE 143.3
CHITTENDEN 163.7
CALEDONIA 173.5
WASHINGTON 165.1
ADDISON 150.5
ORANGE 144.3
RUTLAND 178
WINDSOR 176
BENNINGTON 178.9
WINDHAM 171

All counties have an incidence rate of obesity-associated cancers like the state rate.

Cancer Incidence

Physical Inactivity-Associated Cancers+

The incidence rate of physical inactivity-associated cancers in Vermont is similar to that of the US.

Incidence Rate per 100,000

US 90.7

VT 91.4

Lower than state rate

Similar to state rate

Higher than state rate

GRAND ISLE 95.3
FRANKLIN 81.4
ORLEANS 86.4
ESSEX 81
LAMOILLE 80.1
CHITTENDEN 95.1
CALEDONIA 90.3
WASHINGTON 95.9
ADDISON 86.9
ORANGE 70.5
RUTLAND 99.1
WINDSOR 98.6
BENNINGTON 86.9
WINDHAM 93.5

Orange County has a lower rate of physical inactivity-associated cancers than the state.

Cancer Incidence

Human papillomavirus (HPV)-Associated Cancers[+]

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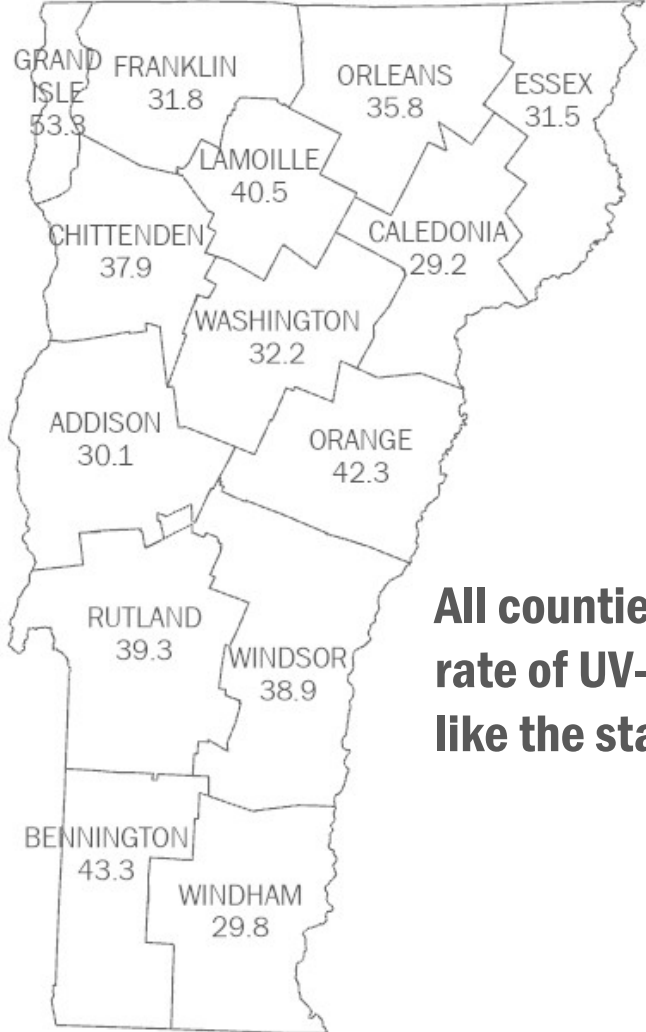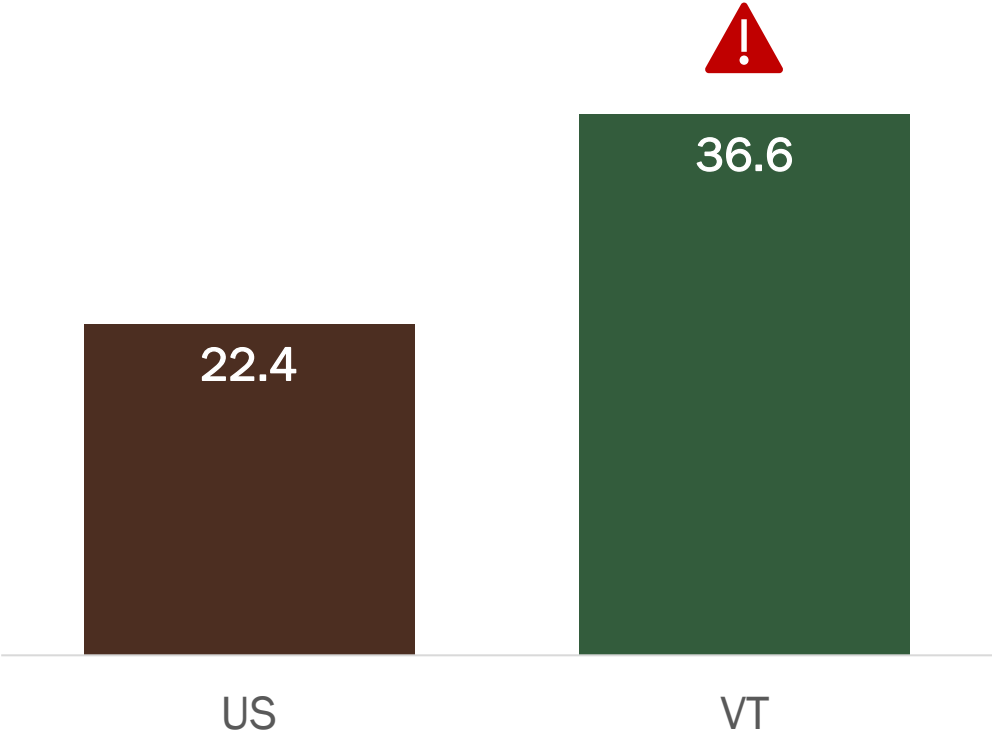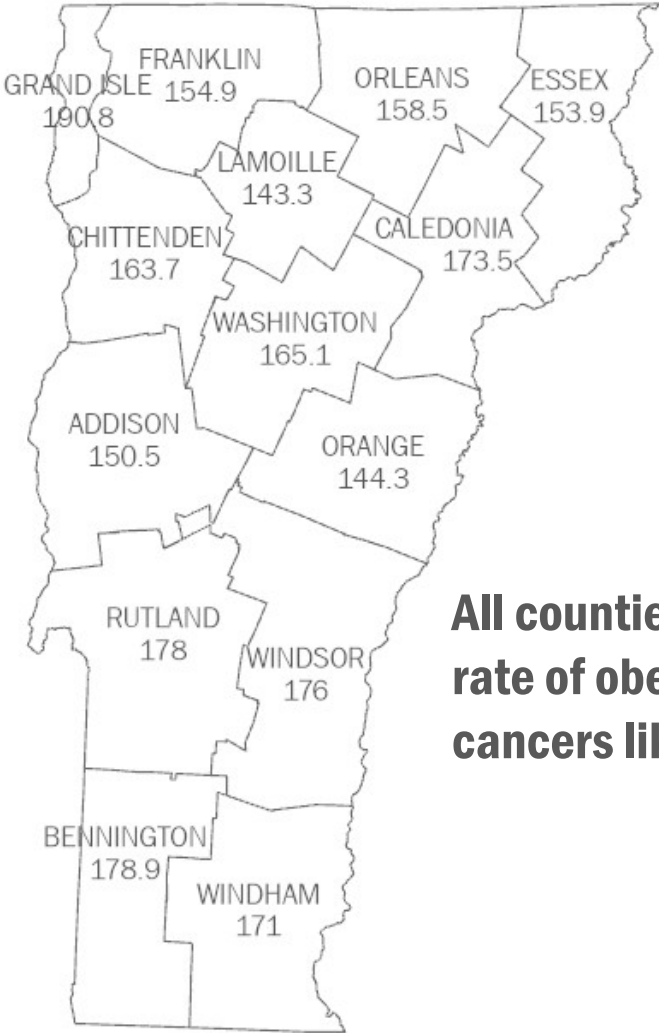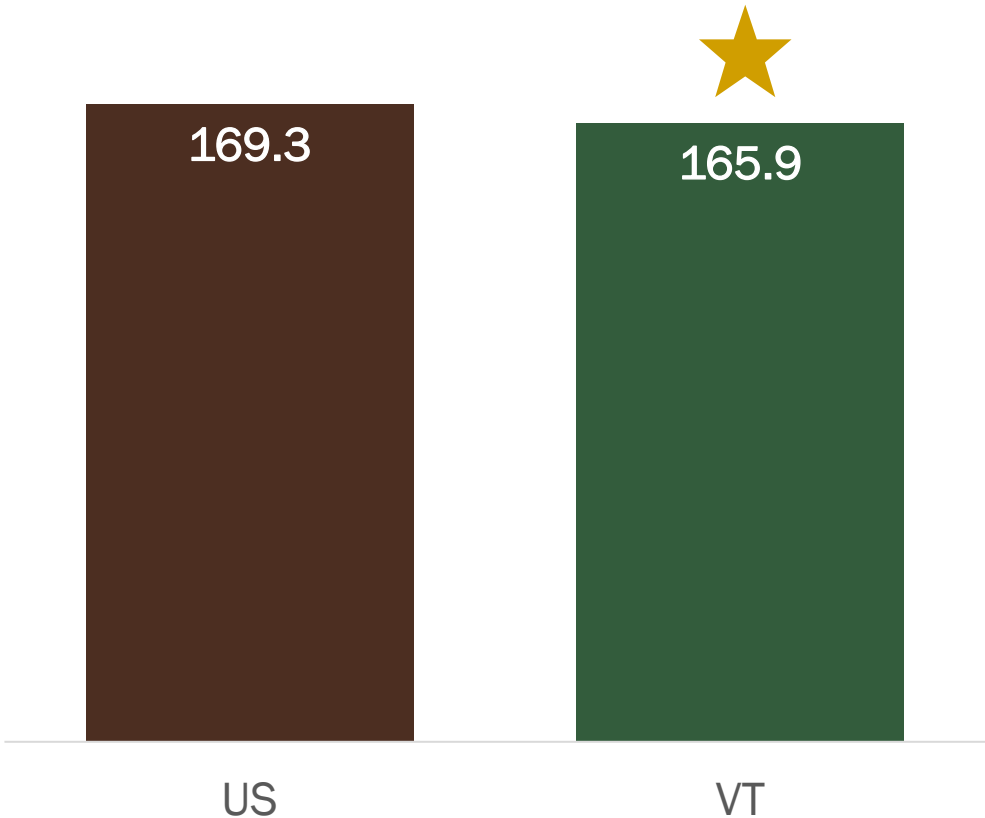
Incidence Rate per 100,000 people

US 12.5

VT 11.8

Map of Vermont counties with incidence rates:
- GRAND ISLE ***
- FRANKLIN 10.1
- ORLEANS 16.4
- ESSEX ***
- LAMOILLE 19.2
- CHITTENDEN 9.9
- CALEDONIA 11
- WASHINGTON 11.7
- ADDISON 10.3
- ORANGE 9.2
- RUTLAND 12.9
- WINDSOR 10.3
- BENNINGTON 16.3
- WINDHAM 13.7
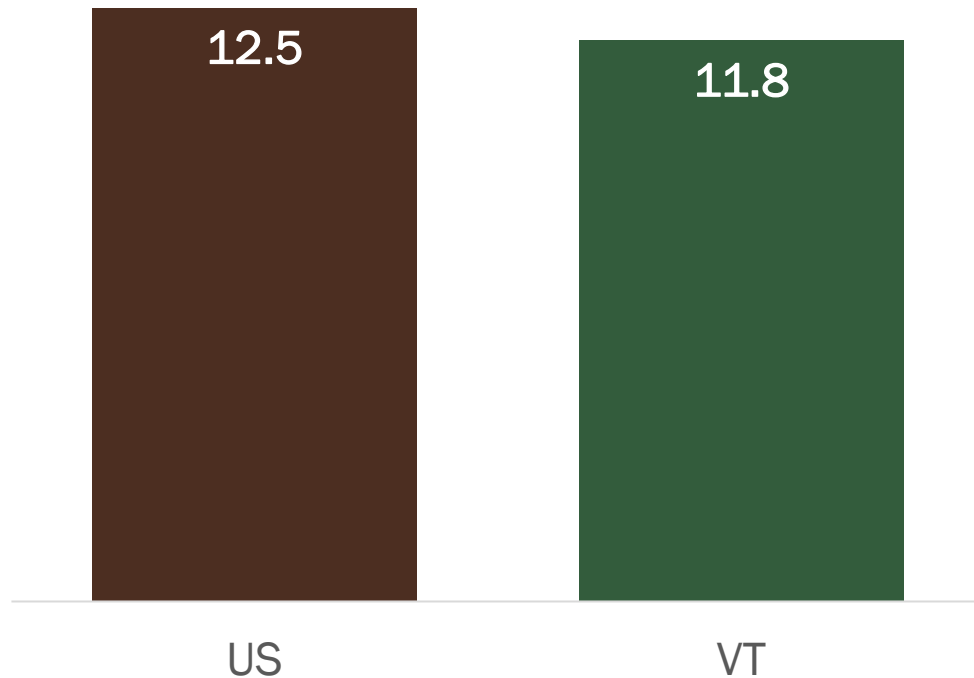
*** Sample size too small to report.

All counties with reportable estimates have an incidence rate of HPV-associated cancers like the state rate.

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

Vermont Department of Health Source: Vermont Cancer Registry 2016-2020   All estimates are age-adjusted to the 2000 U.S. standard population.   39

Cancer Incidence

Alcohol-Associated Cancers[+]

The incidence rate of alcohol-associated cancer in Vermont is similar to that in the US.
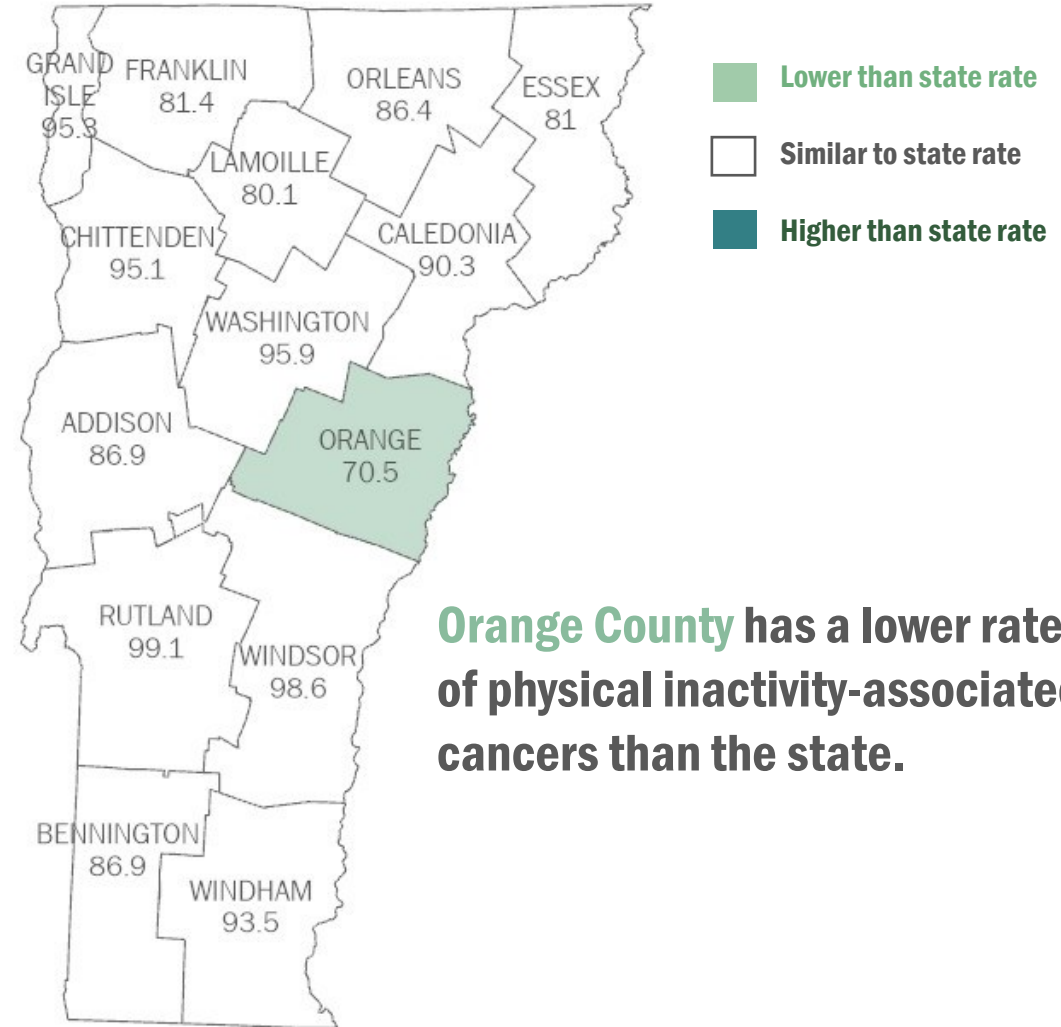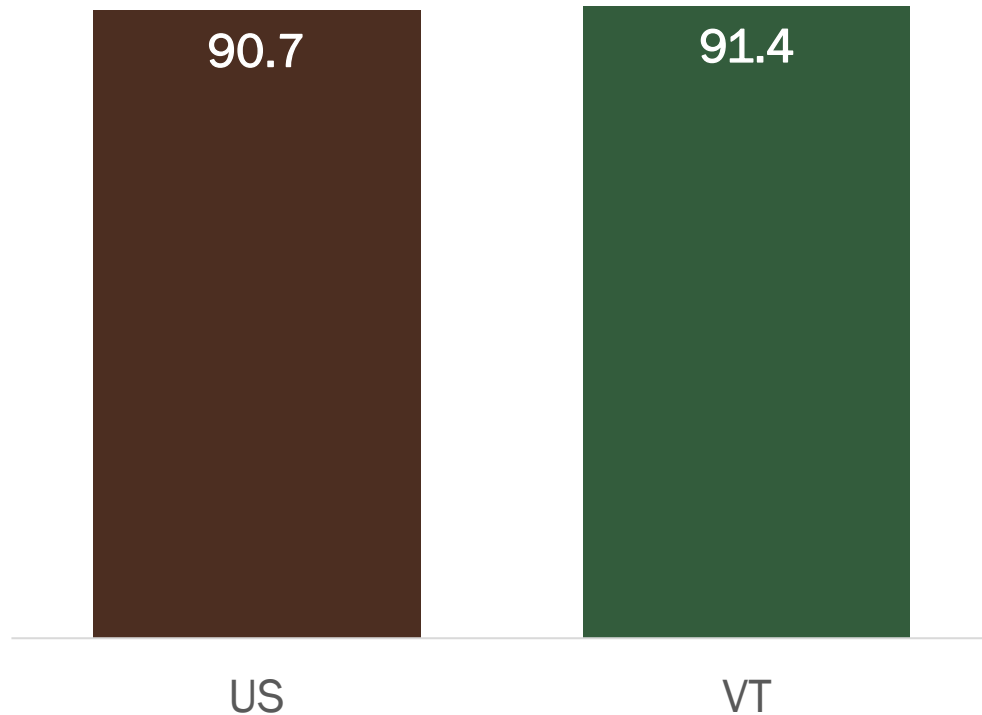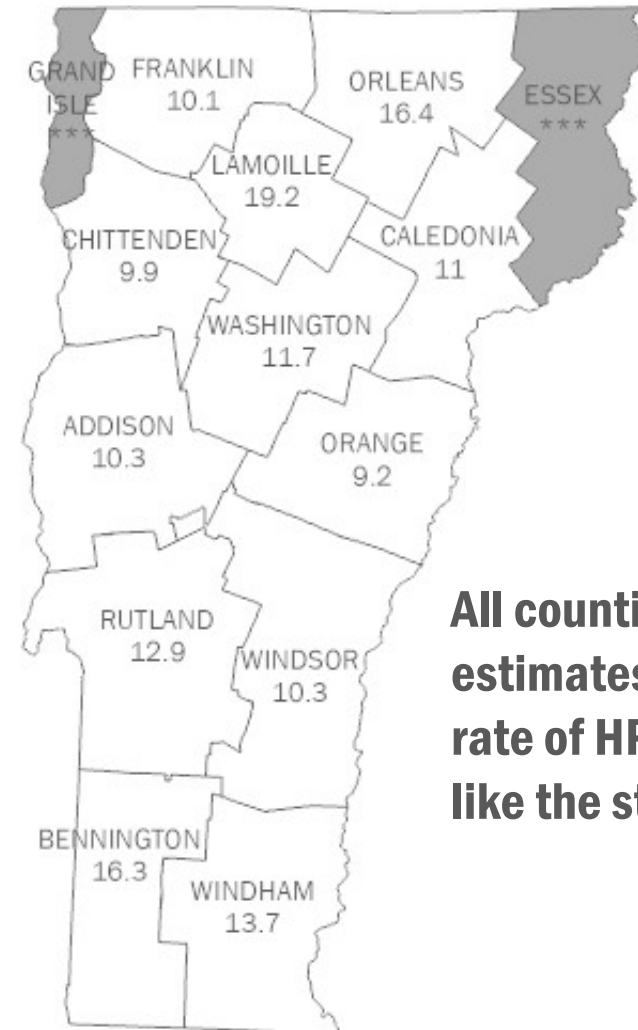
Incidence rate per 100,000 people

US 129.9

VT 127.7

GRAND ISLE 142.9

FRANKLIN 119.8

ORLEANS 126.8

ESSEX 143

LAMOILLE 119.1

CHITTENDEN 128

CALEDONIA 130.5

WASHINGTON 138.8

ADDISON 111.2

ORANGE 103.9

RUTLAND 135.7

WINDSOR 134.6

BENNINGTON 116.9

WINDHAM 130.7

☐ Similar to state rate

▢ Lower than state rate

Orange County has a lower rate of alcohol-associated cancers than the state.

Cancer Incidence

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

Cancers by Stage at Diagnosis
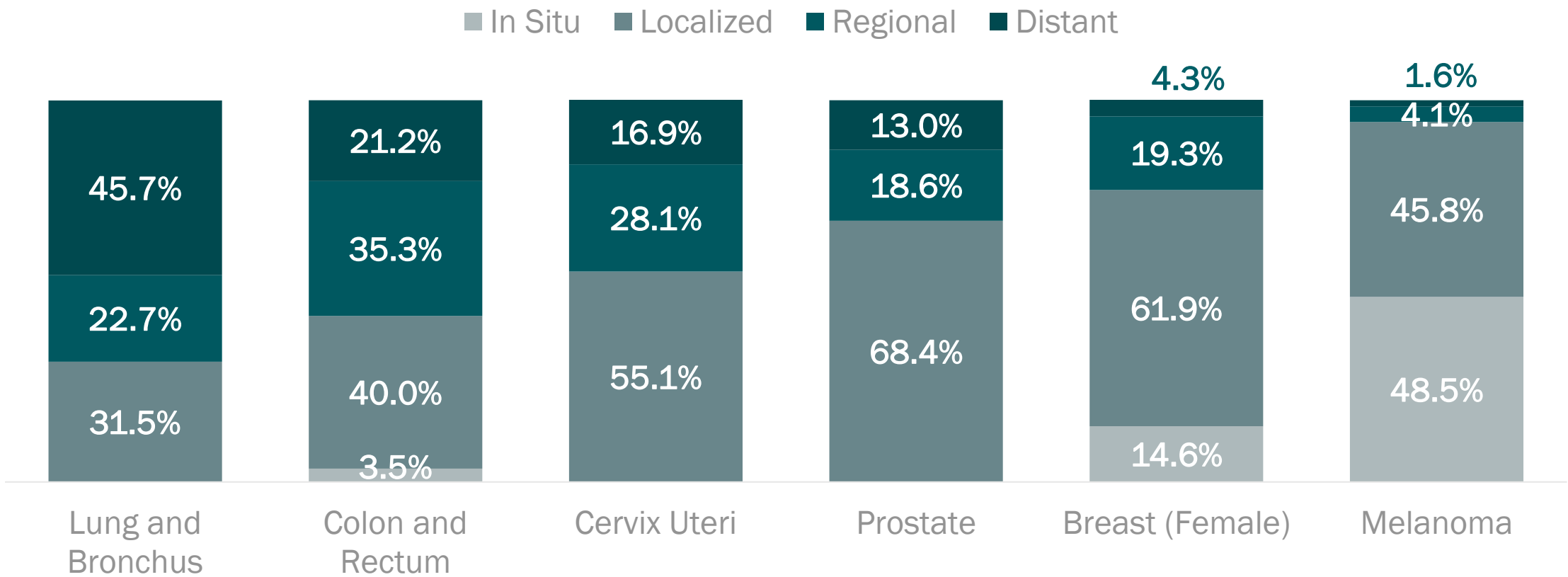
■ In Situ ■ Localized ■ Regional ■ Distant

	Lung and Bronchus	Colon and Rectum	Cervix Uteri	Prostate	Breast (Female)	Melanoma
Distant	45.7%	21.2%	16.9%	13.0%	4.3%	1.6%
Regional	22.7%	35.3%	28.1%	18.6%	19.3%	4.1%
Localized	31.5%	40.0%	55.1%	68.4%	61.9%	45.8%
In Situ		3.5%			14.6%	48.5%

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

Vermont Department of Health Source: Vermont Cancer Registry 2016-2020   All estimates are age-adjusted to the 2000 U.S. standard population.   41

Cancer Incidence

Tobacco- and obesity-associated cancers have the highest incidence rates in Vermont.
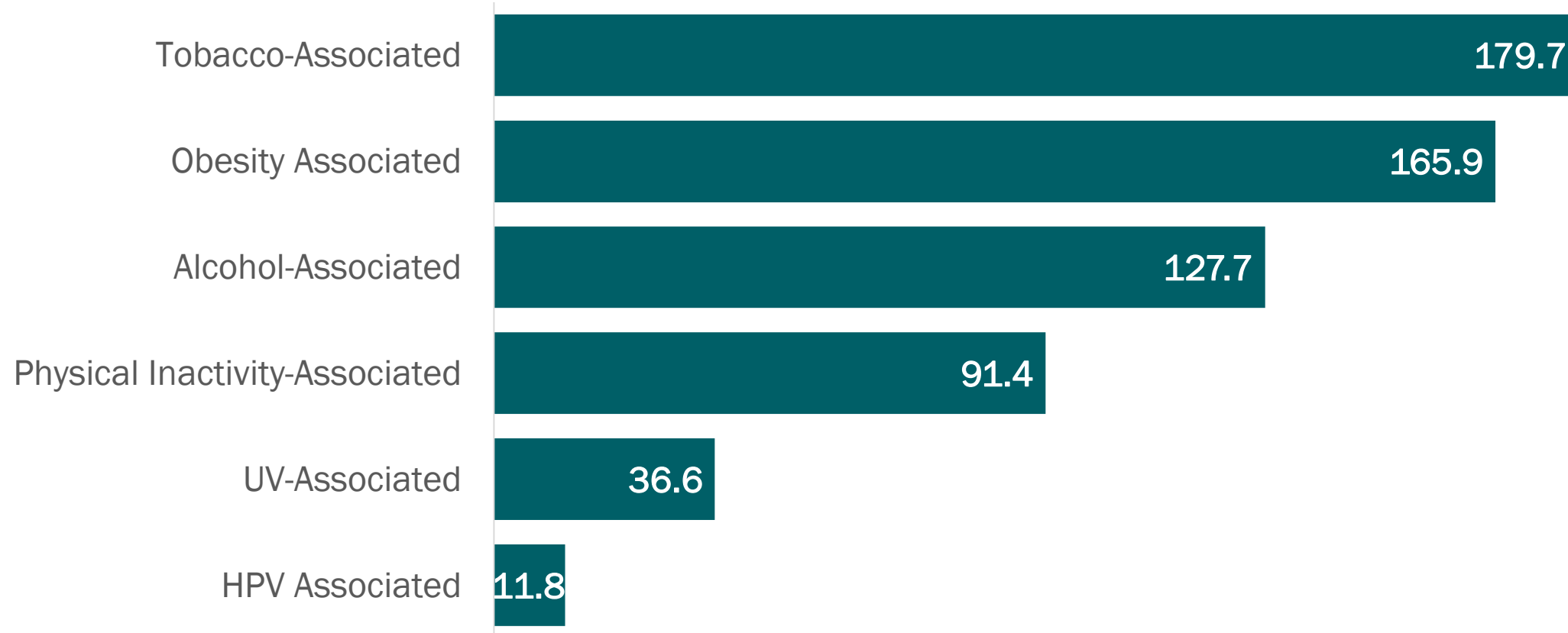
Category	Rate
Tobacco-Associated	179.7
Obesity Associated	165.9
Alcohol-Associated	127.7
Physical Inactivity-Associated	91.4
UV-Associated	36.6
HPV Associated	11.8

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

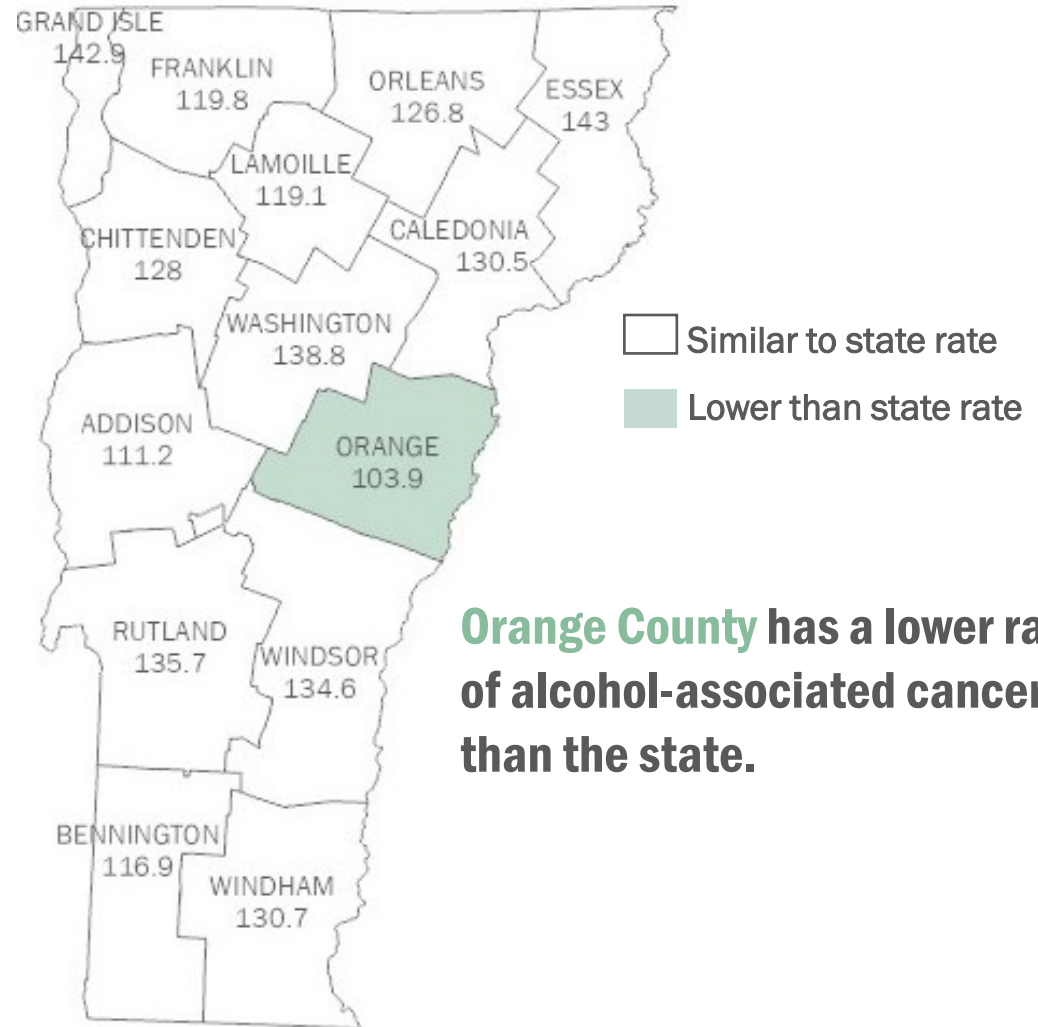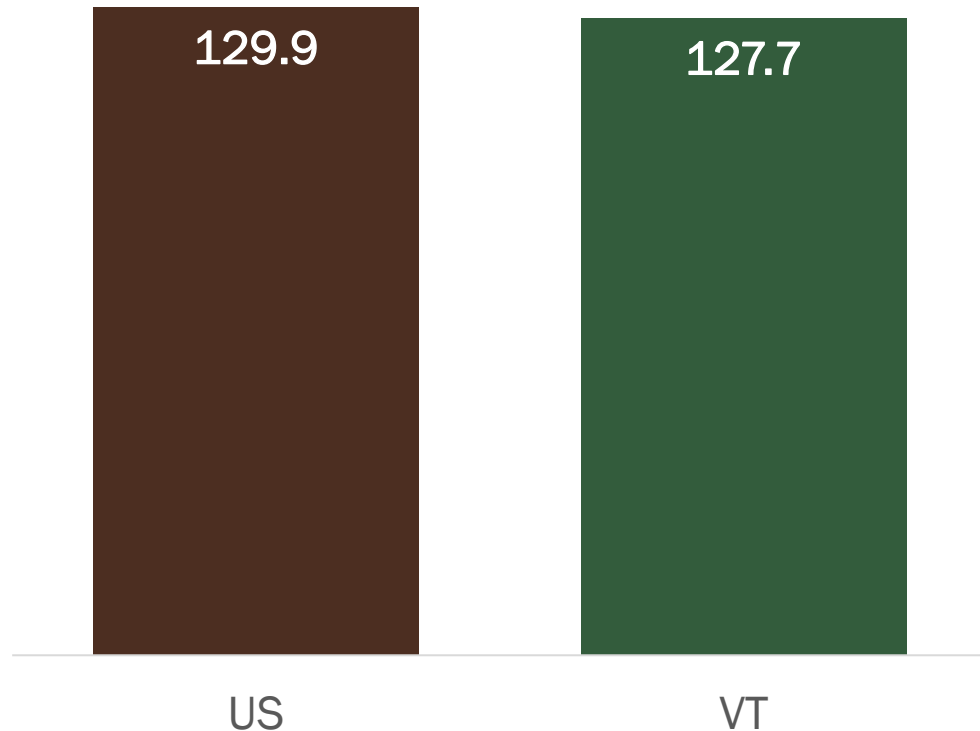Vermont Department of Health Source: Vermont Cancer Registry 2016-2020   All estimates are age-adjusted to the 2000 U.S. standard population.   42

Cancer Incidence

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

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

US: 99.3
VT: 89.5

GRAND ISLE 73.7
FRANKLIN 78.7
ORLEANS 82.2
ESSEX 110.2
LAMOILLE 70.5
CHITTENDEN 98.5
CALEDONIA 91.5
WASHINGTON 103.7
ADDISON 80.6
ORANGE 53.5
RUTLAND 100.4
WINDSOR 83.5
BENNINGTON 100.2
WINDHAM 83.9

☐ Similar to state rate
▨ Lower than state rate
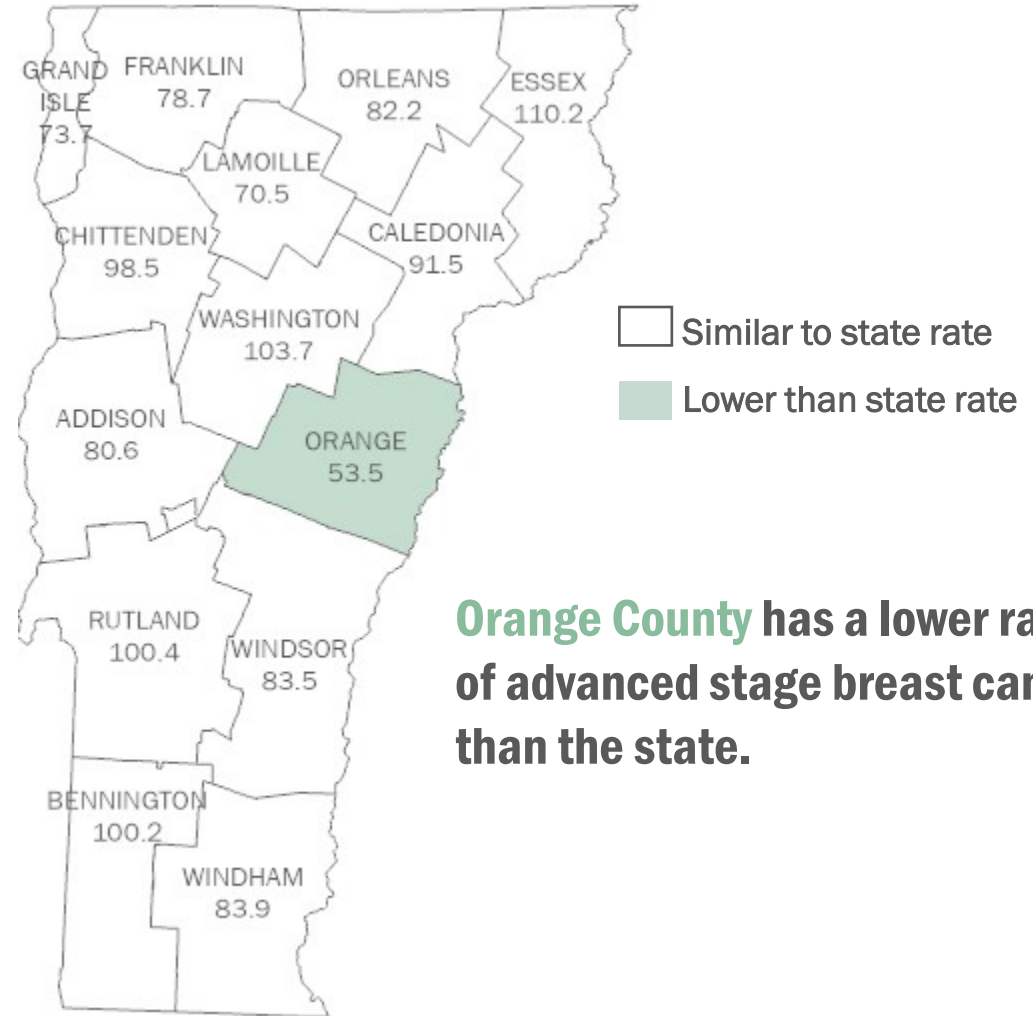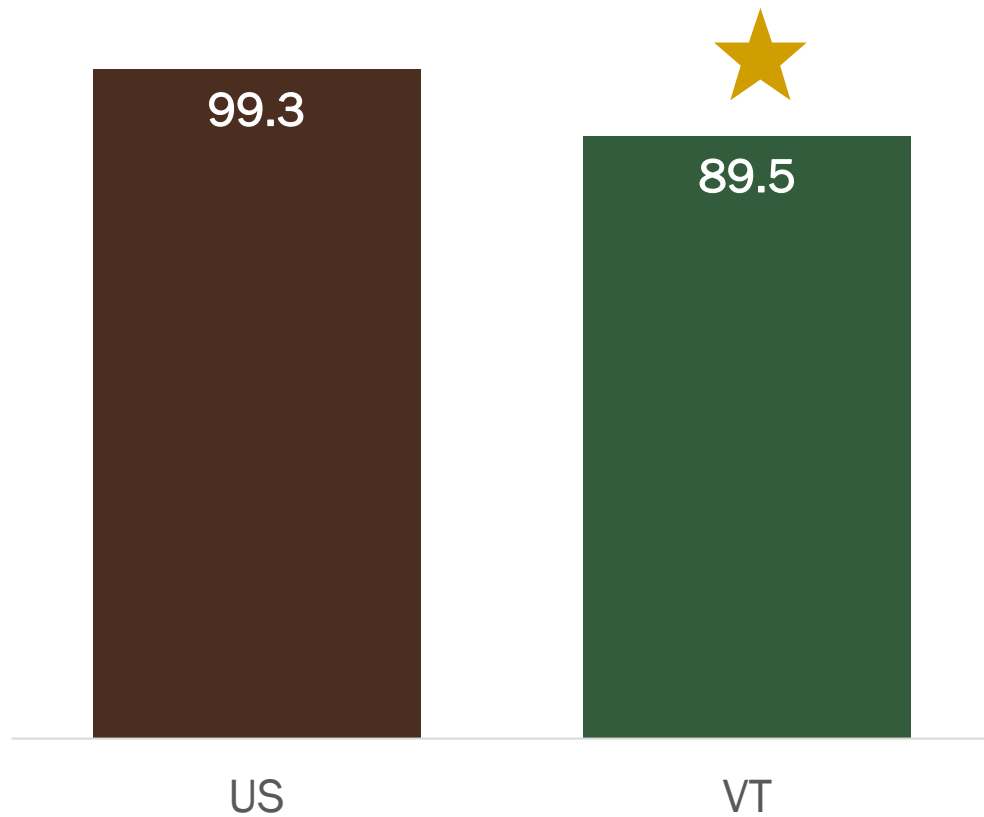
Orange County has a lower rate of advanced stage breast cancer than the state.

Cancer Incidence

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

The incidence rate of advanced stage cervical cancer is lower in Vermont than in the US.
Incidence Rate per 100,000 people
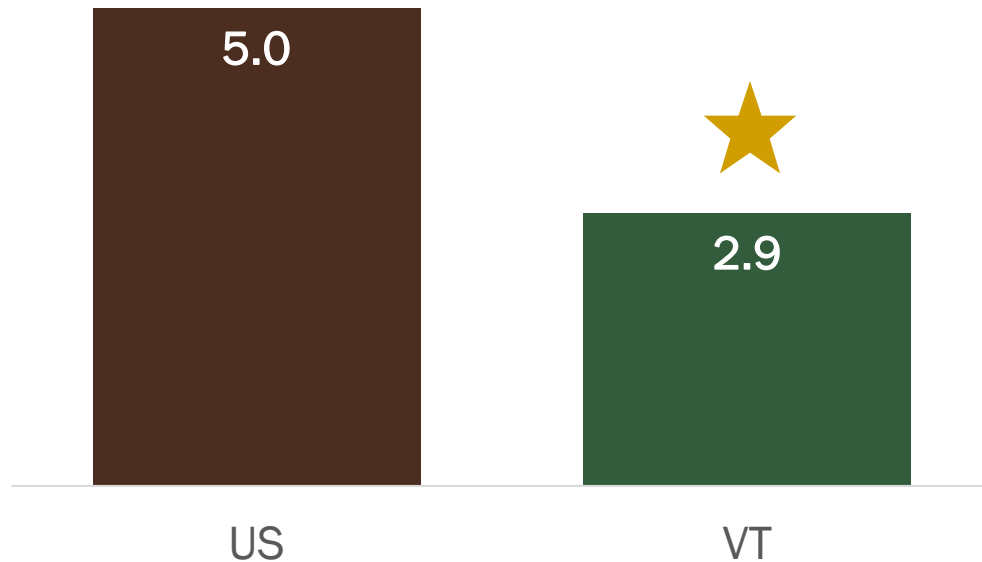
Due to the low number of cases of advanced stage cervical cancer in Vermont, comparisons cannot be made between counties.

US 5.0
VT 2.9

Cancer Incidence

Advanced Stage Diagnosis: Colorectal Cancer (Ages 50+)

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

US — 64.0
VT — 54.4 ★

GRAND ISLE 51
FRANKLIN 61.2
ORLEANS 59.6
ESSEX 71.6
LAMOILLE 50.6
CHITTENDEN 52.3
CALEDONIA 50.5
WASHINGTON 60.6
ADDISON 52.9
ORANGE 50.7
RUTLAND 52.7
WINDSOR 55.5
BENNINGTON 45.9
WINDHAM 55.5
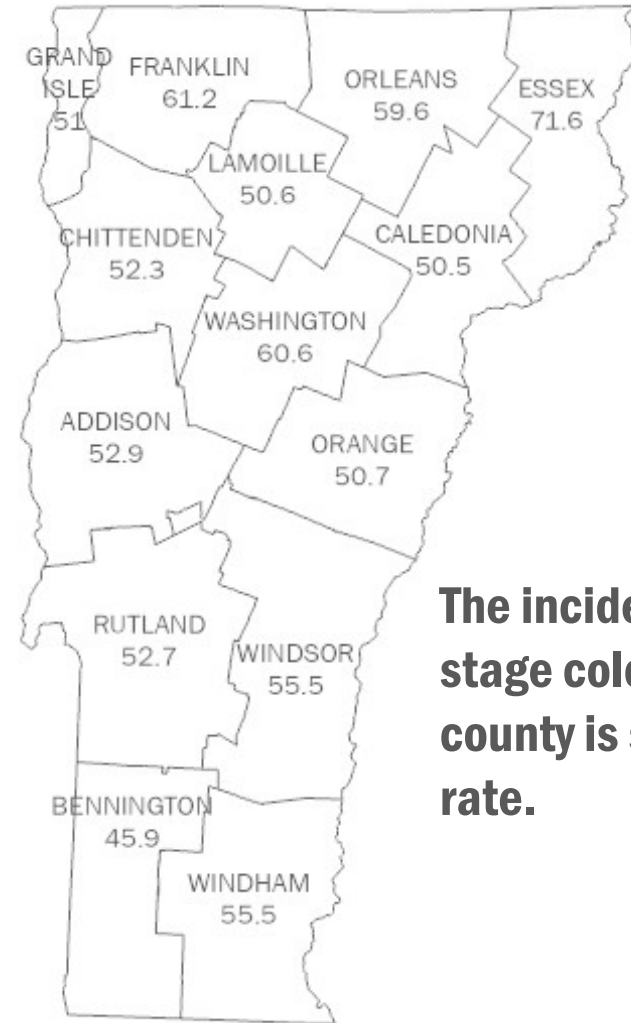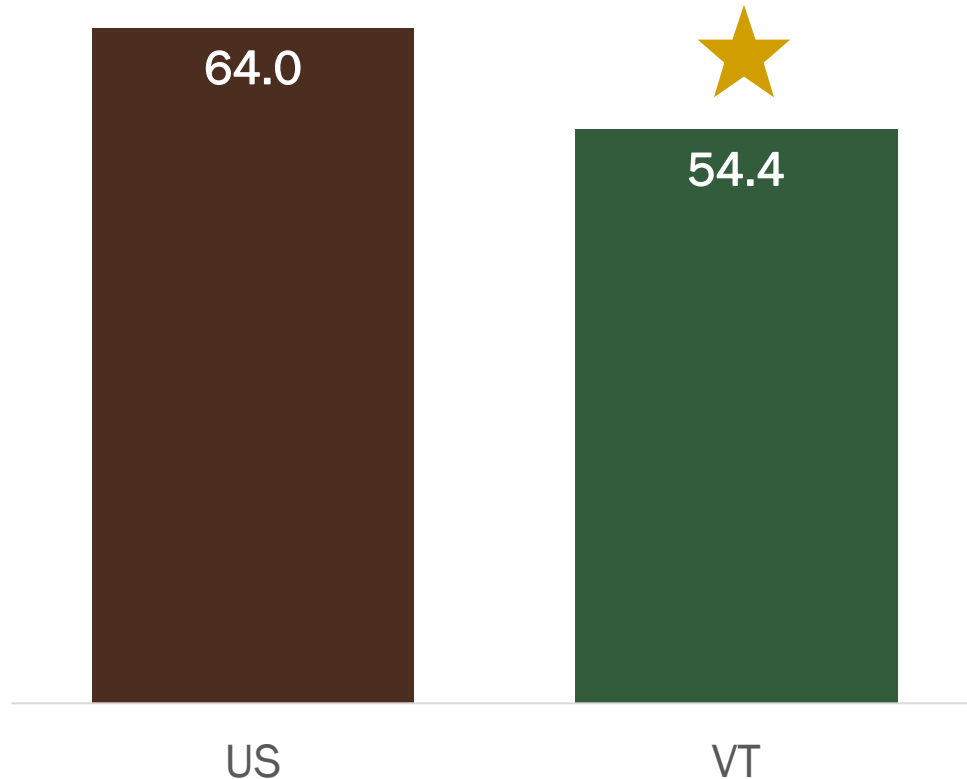
The incidence rate of advanced stage colorectal cancer in each county is similar to the state rate.

Cancer Incidence

Advanced Stage Diagnosis: Lung Cancer (Ages 50+)

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

Incidence Rate per 100,000 people

US: 122.5

VT: 126.0

GRAND ISLE 134.3

FRANKLIN 143.8

ORLEANS 139

ESSEX 212.2

LAMOILLE 136.4

CHITTENDEN 111.9

CALEDONIA 105.2

WASHINGTON 143.1

ADDISON 111.9

ORANGE 120.8

RUTLAND 139.7

WINDSOR 124.3

BENNINGTON 128.7

WINDHAM 112.3

Similar to state rate

Higher than state rate
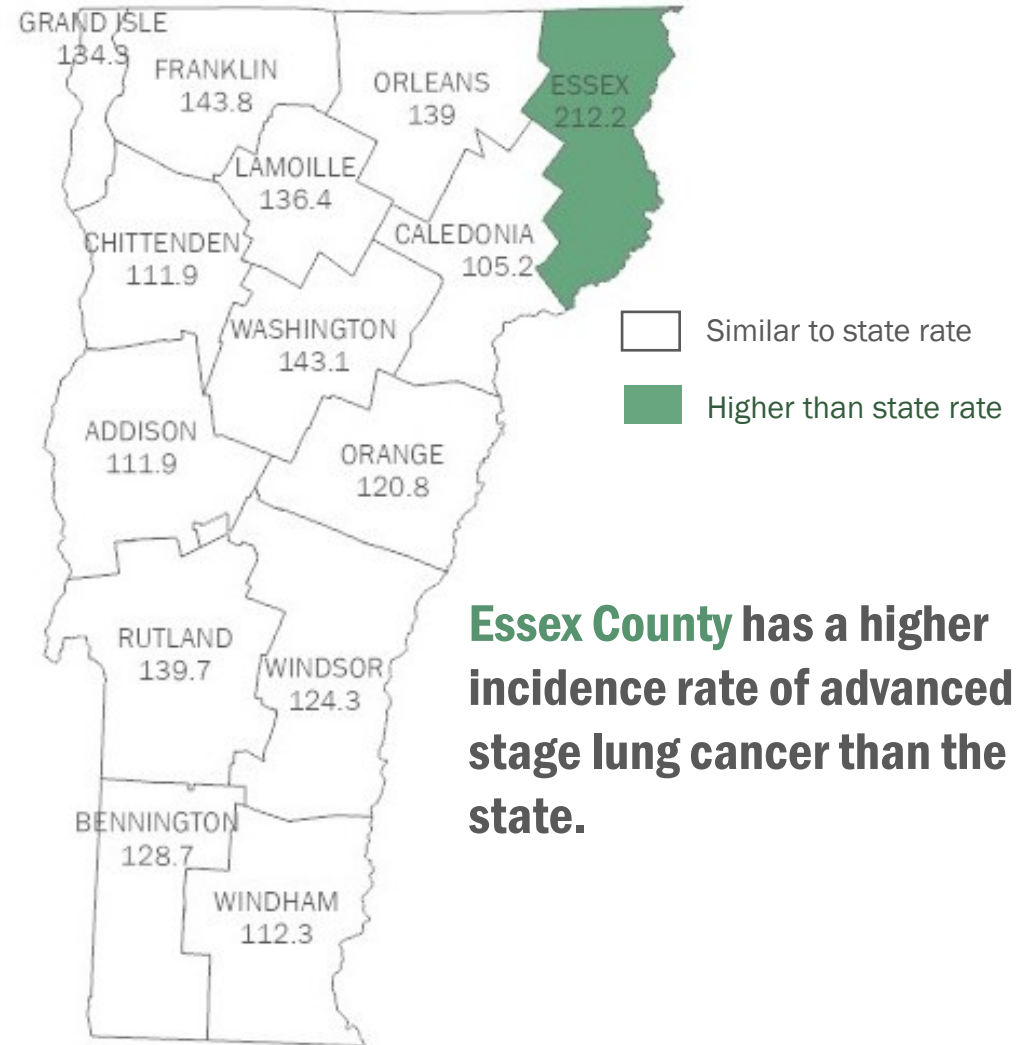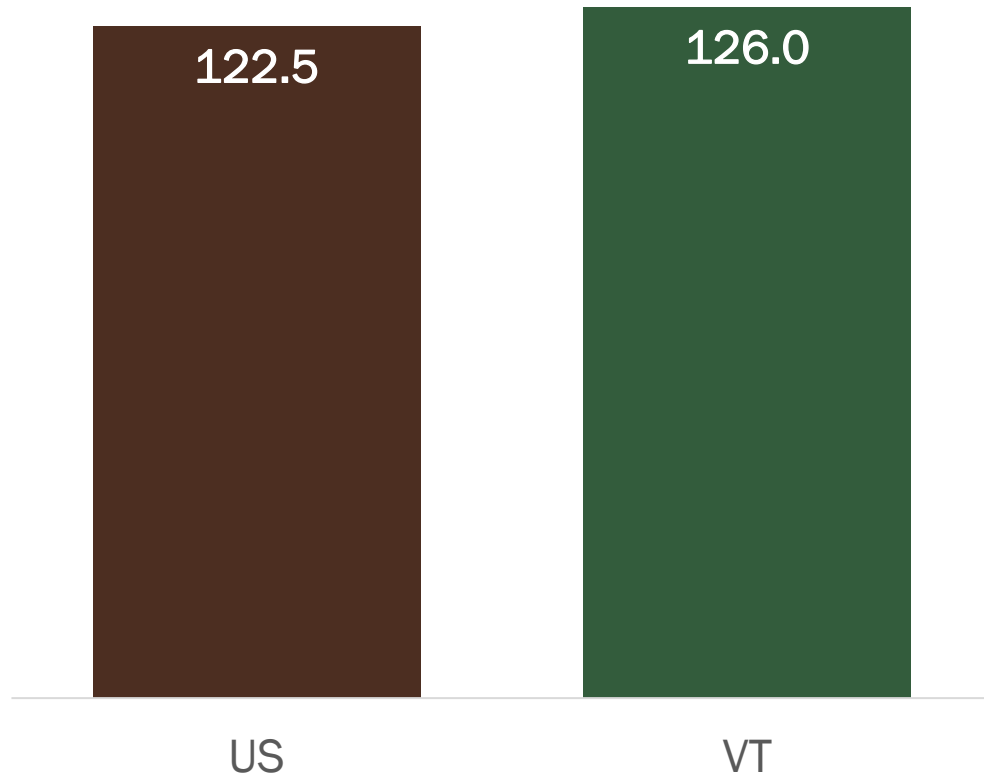
Essex County has a higher incidence rate of advanced stage lung cancer than the state.

Cancer Incidence

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, where the 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.

Cancer Screening

Breast Cancer Screening

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

76% VT

77% US
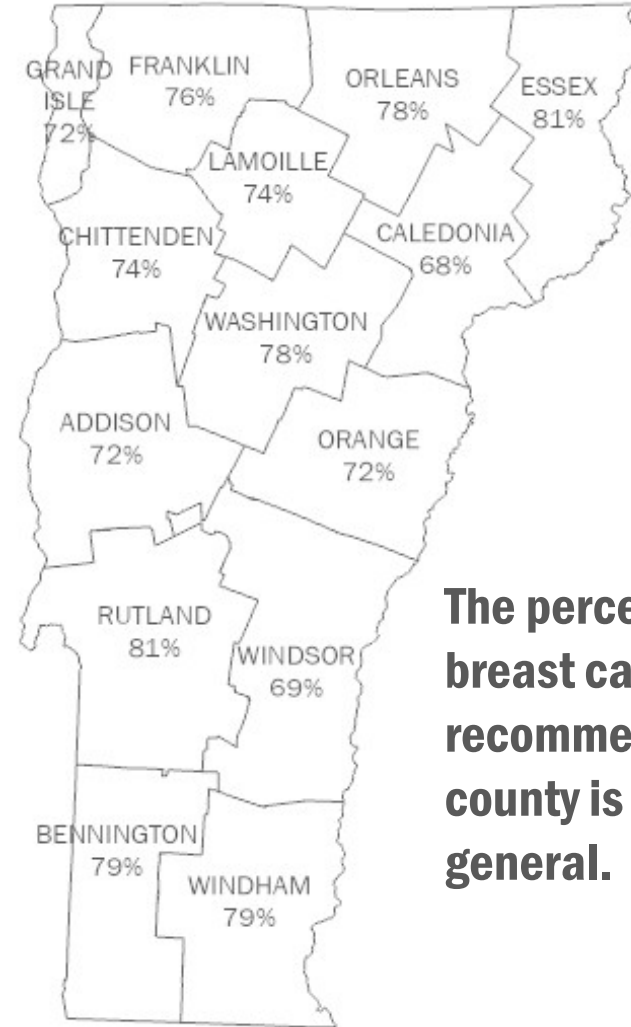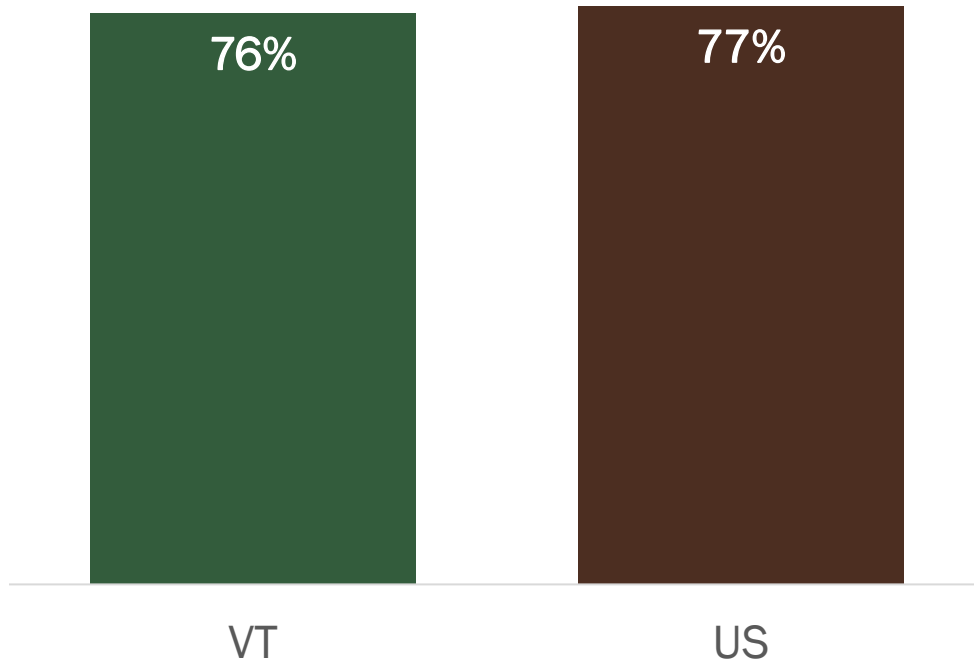
The percent of adults who meet breast cancer screening recommendations in each county is like that of Vermont in general.

Map of Vermont counties:
- GRAND ISLE 72%
- FRANKLIN 76%
- ORLEANS 78%
- ESSEX 81%
- LAMOILLE 74%
- CHITTENDEN 74%
- CALEDONIA 68%
- WASHINGTON 78%
- ADDISON 72%
- ORANGE 72%
- RUTLAND 81%
- WINDSOR 69%
- BENNINGTON 79%
- WINDHAM 79%

Cancer Screening

Breast Cancer Screening

Vermonters with a disability are less likely to be screened for breast cancer than those without a disability.

All other rates are similar to a group of comparison.

Vermont Department of Health Source: BRFSS 2020 and 2022
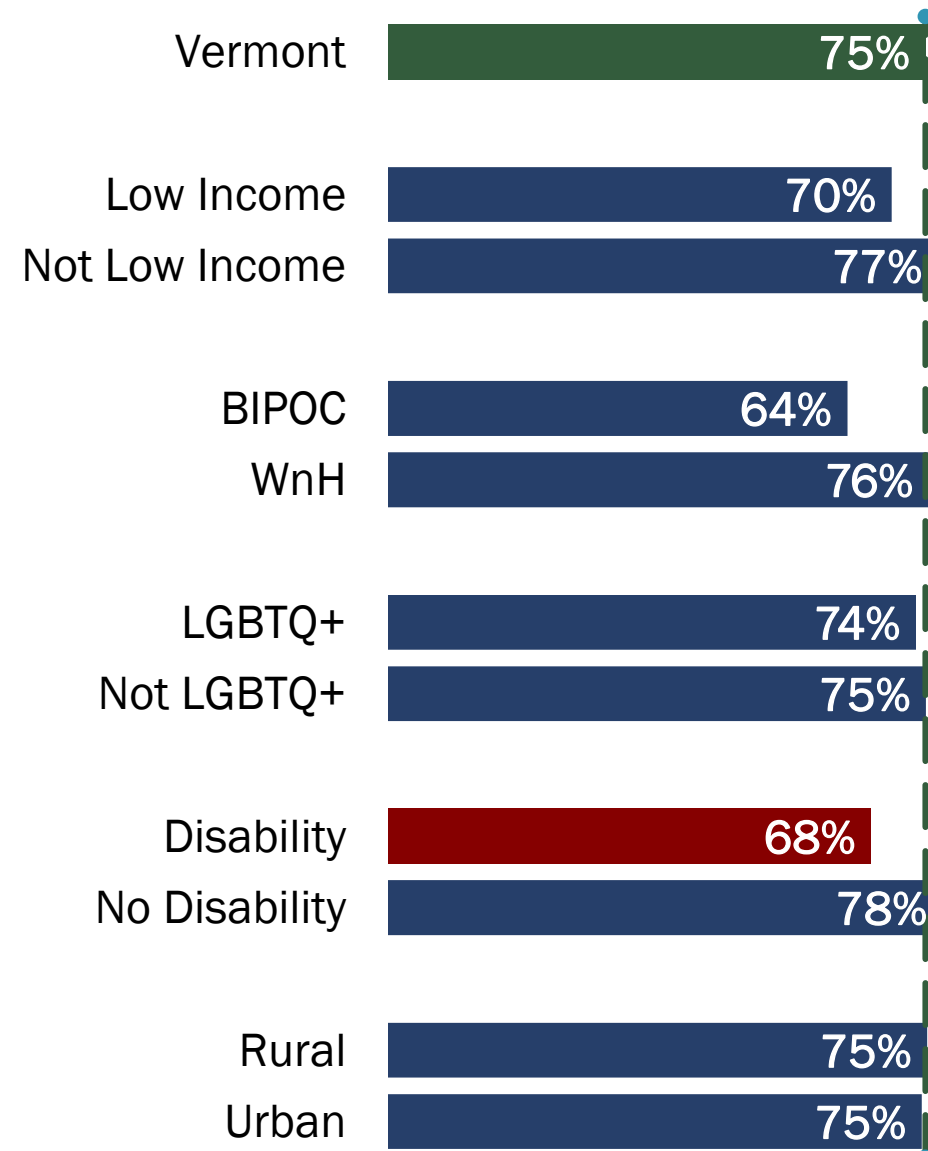
Cancer Screening

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.

79% 79% 77% 75% 76%

2014 2016 2018 2020 2022
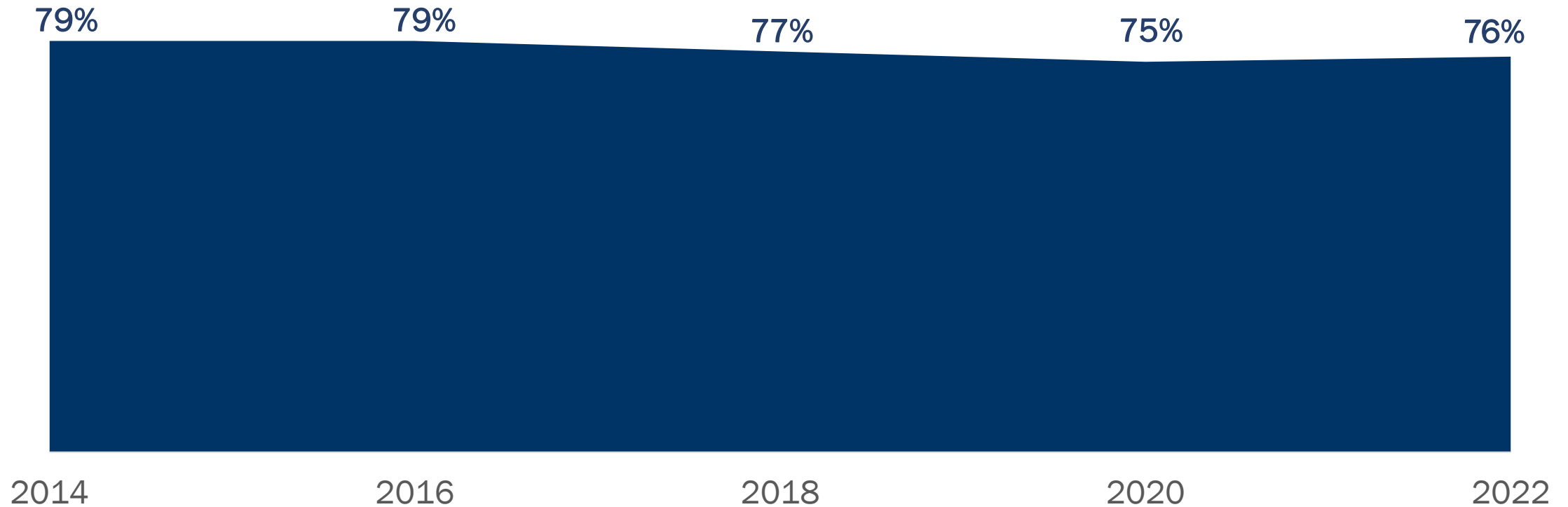
Cancer Screening

Colorectal Cancer Screening 45-75

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

VT — 70%
US — 66%
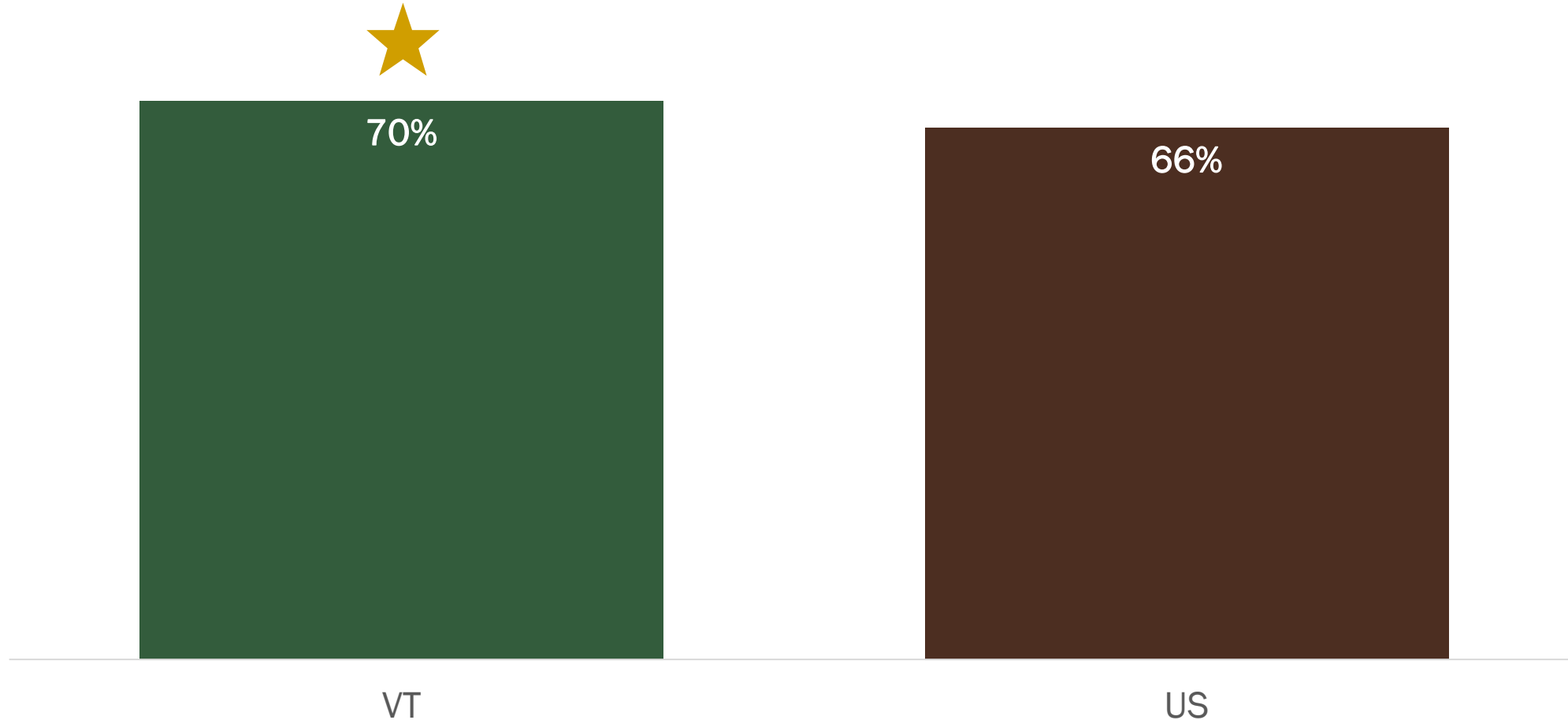
2022 is the first year data were collected for this measure among adults ages 45-75, so county-level data are not available.

Vermont Department of Health Source: BRFSS 2022

Cancer Screening

Colorectal Cancer Screening 45-75

Vermont adults with a low-income, BIPOC adults and those living in rural areas are less likely to be screening for colorectal cancer than a group of comparison.

LGBTQ+ Vermonters and those with a disability are screening for colorectal cancer at rates similar to a group of comparison.

All VT	70%
Low Income	63%
Not Low Income	72%
BIPOC	54%
WnH	71%
LGBTQ+	68%
Not LGBTQ+	70%
Disability	69%
No Disability	69%
Rural	67%
Urban	74%
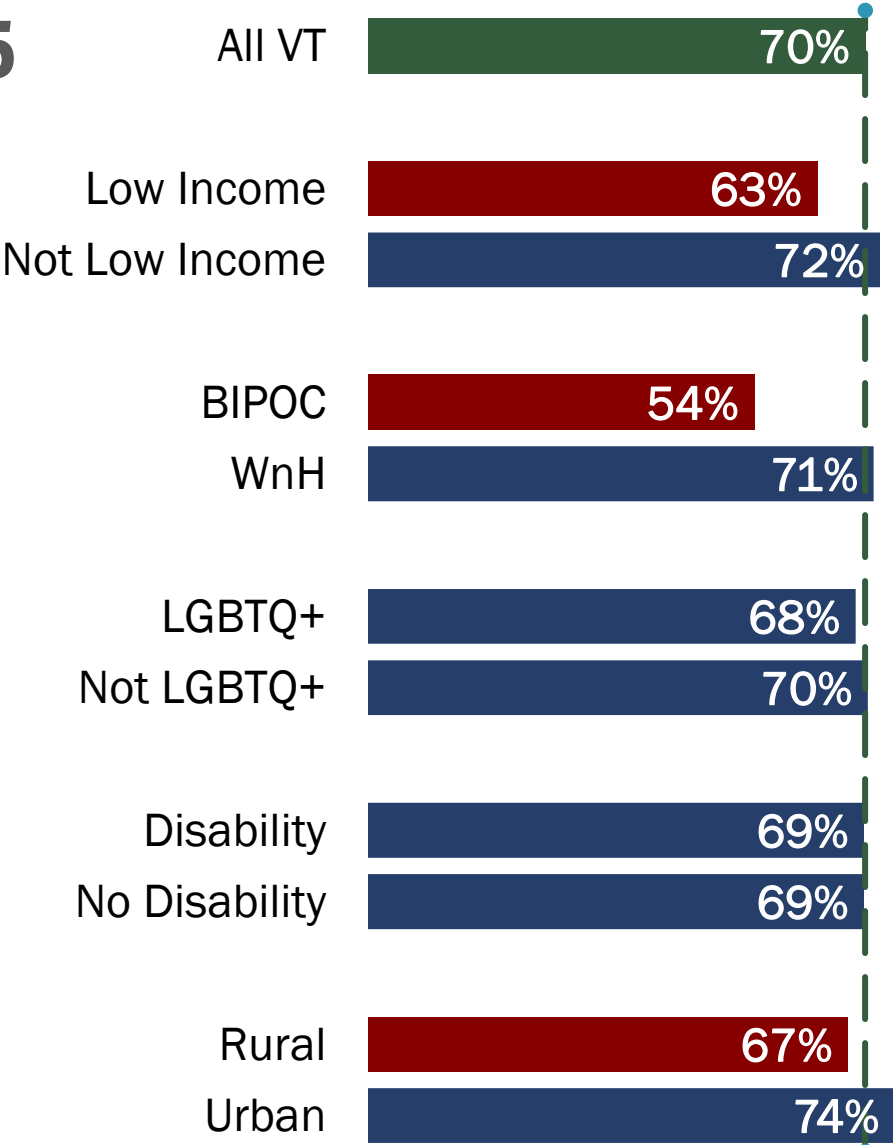
Cancer Screening

Colorectal Cancer Screening 45-75

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

Colonoscopy in past 10 years — 87%

Stool test past year — 6%

Sigmoidoscopy in past 5 years — 4%

Stool DNA test in past 3 years — 2%

Vermont Department of Health Source: BRFSS 2022
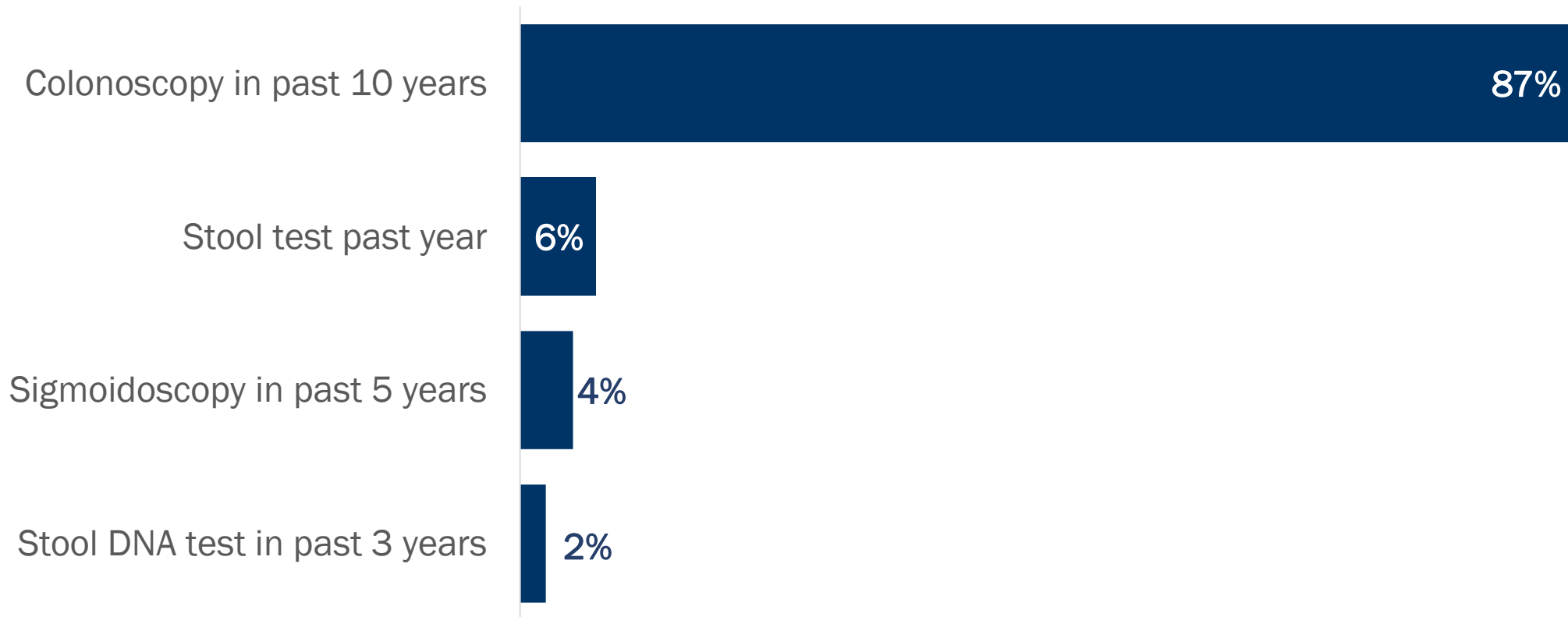
Cancer Screening

Colorectal Cancer Screening 50-75 (out-of-date recommendations)

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

76% VT

72% US

Note: the USPSTF now recommends colorectal cancer screening for adults ages 45-75.

GRAND ISLE 86%

FRANKLIN 82%

ORLEANS 73%

ESSEX 73%

LAMOILLE 70%

CHITTENDEN 80%

CALEDONIA 73%

WASHINGTON 78%

ADDISON 80%

ORANGE 75%

☐ Similar to state rate

▢ Higher than state rate

RUTLAND 74%

WINDSOR 75%
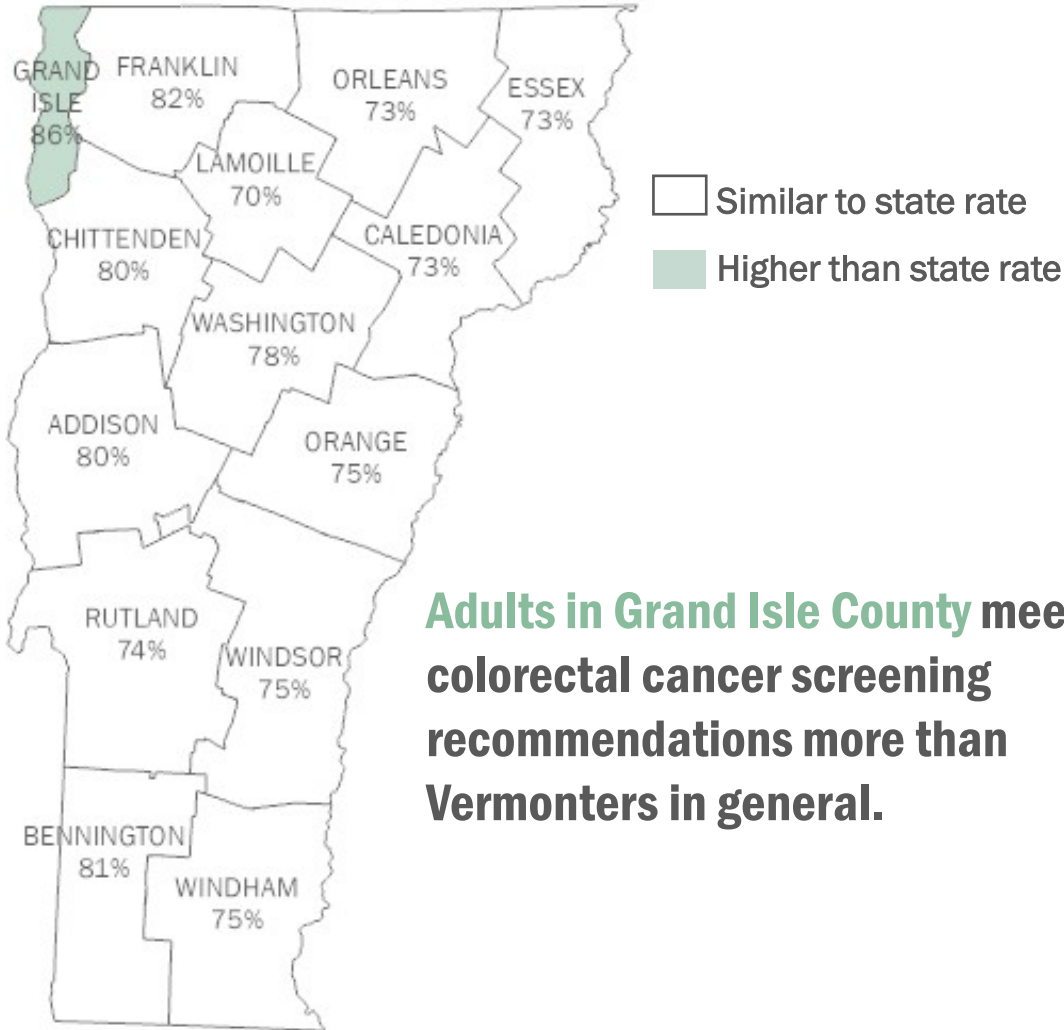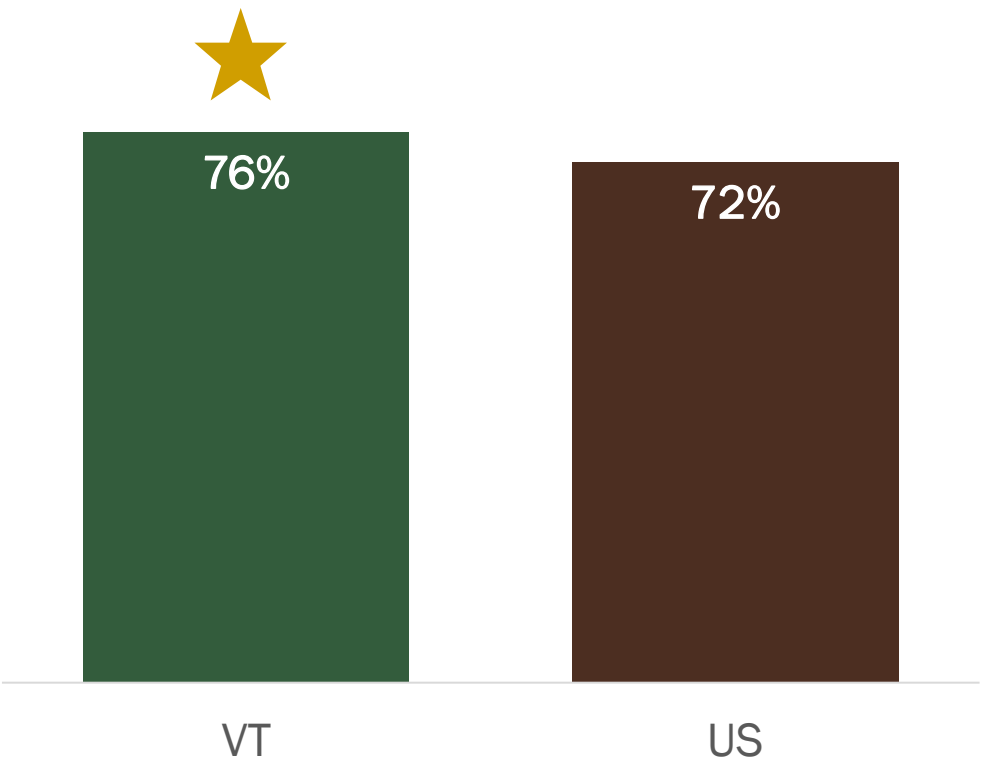
Adults in Grand Isle County meet colorectal cancer screening recommendations more than Vermonters in general.

BENNINGTON 81%

WINDHAM 75%

Cancer Screening

Lung Cancer Screening (current recommendations)

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

U.S. — 18%

VT — 23%
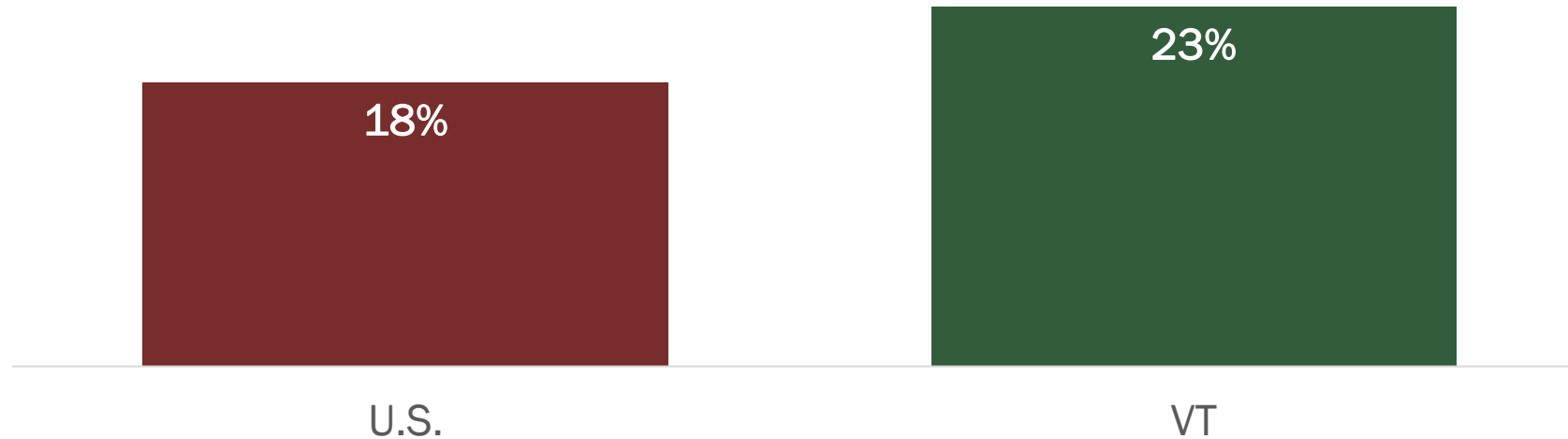
2022 was the first-year data were collected for this measure based on the 2021 USPSTF recommendations, so county-level data are not yet available.

Vermont Department of Health Source: BRFSS 2022

See slide 49 for current USPSTF recommendations

Cancer Screening

Lung Cancer Screening (current recommendations)

Differences between groups in meeting lung cancer screening recommendations are not statistically significant.

Group	Value
Vermont	23%
Low Income	20%
Not Low Income	16% ***
BIPOC	***
WnH	23%
LGBTQ+	***
Not LGBTQ+	25%
Disability	24%
No Disability	23%
Rural	18%
Urban	29%

***: value suppressed due to small sample size

Vermont Department of Health Source: BRFSS 2022

Lung Cancer Screening (out-of-date recommendations)

Differences between groups in meeting lung cancer screening recommendations are not statistically significant.

See [archived USPSTF recommendations](#) for previous (until 2021) eligibility criteria.
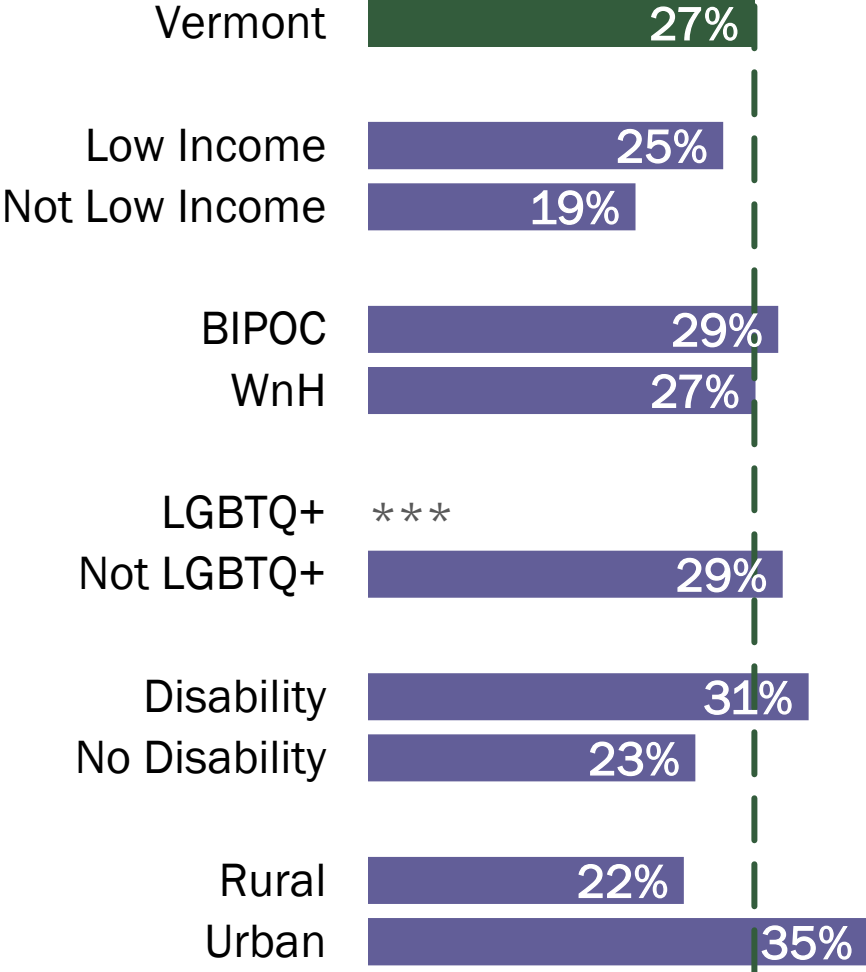
Vermont	27%
Low Income	25%
Not Low Income	19%
BIPOC	29%
WnH	27%
LGBTQ+	***
Not LGBTQ+	29%
Disability	31%
No Disability	23%
Rural	22%
Urban	35%

Vermont Department of Health Source: BRFSS 2019, 2022

***: value suppressed due to small sample size

Cancer Screening

Lung Cancer Screening Eligibility, Ages 50-80 (current recommendations)

Vermonters ages 50 to 80 are eligible for lung cancer screening at a similar rate as the U.S. population.
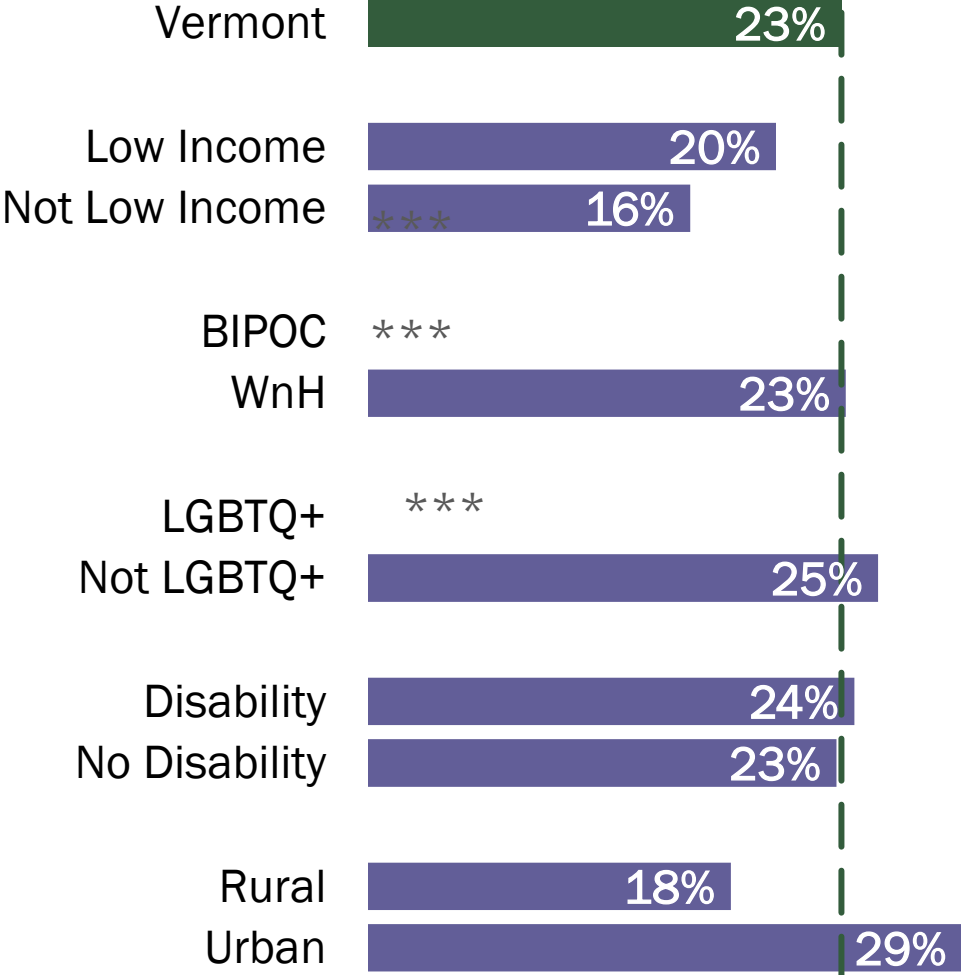

13% — U.S.

15% — VT

2022 is the first-year data were collected for this measure based on the 2021 USPSTF recommendations, so county-level data are not available yet.

Vermont Department of Health Source: BRFSS 2022

See slide 49 for current USPSTF recommendations

Cancer Screening

Lung Cancer Screening Eligibility, Ages 50-80 (current recommendations)

Vermont adults in homes with a low income, those with a disability and those that live in rural areas are more likely to be eligible for lung cancer screening (i.e. smoke heavily) than adults in homes without a low income, those without a disability and urban adults.

Other differences between groups are not statistically significant.

Group	%
VT	15%
Low Income	24%
Not Low Income	8%
BIPOC	15%
WnH	15%
LGBTQ+	15%
Not LGBTQ+	15%
Disability	27%
No Disability	10%
Rural	17%
Urban	11%

Vermont Department of Health Source: BRFSS 2022

Cancer Screening
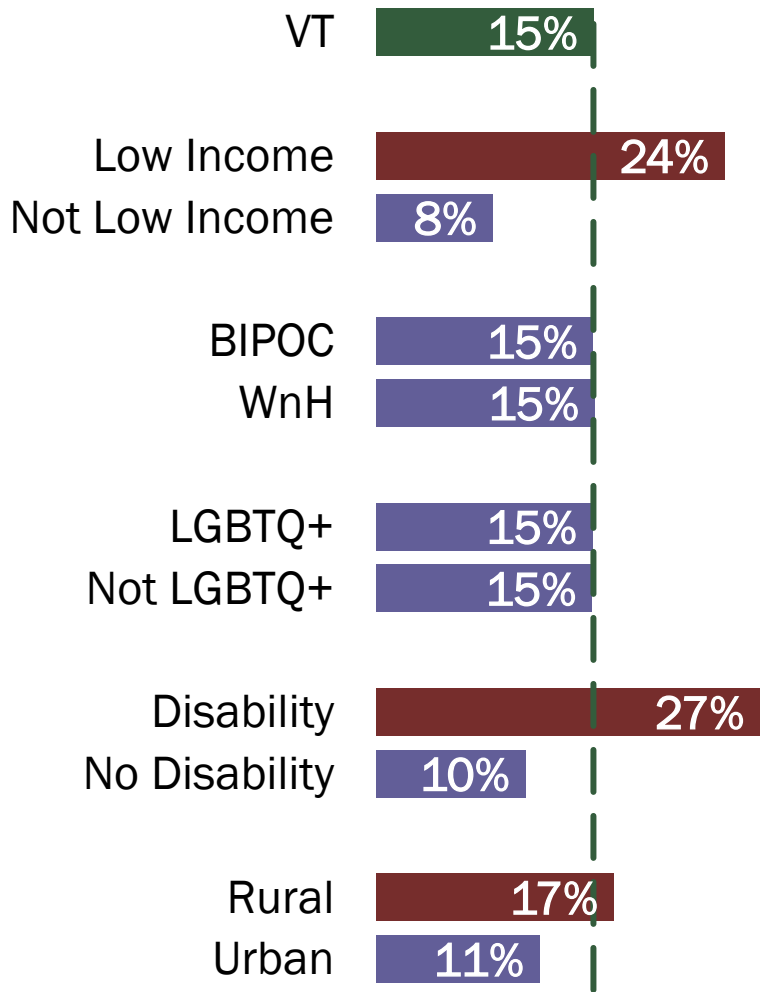
Chapter 4: Cancer Mortality

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

Diseases of the Heart	Malignant Neoplasms	Accidents	Alzheimer's Disease	Chronic Lower Respiratory Disease
245.5	224	82.7	52.2	46.9
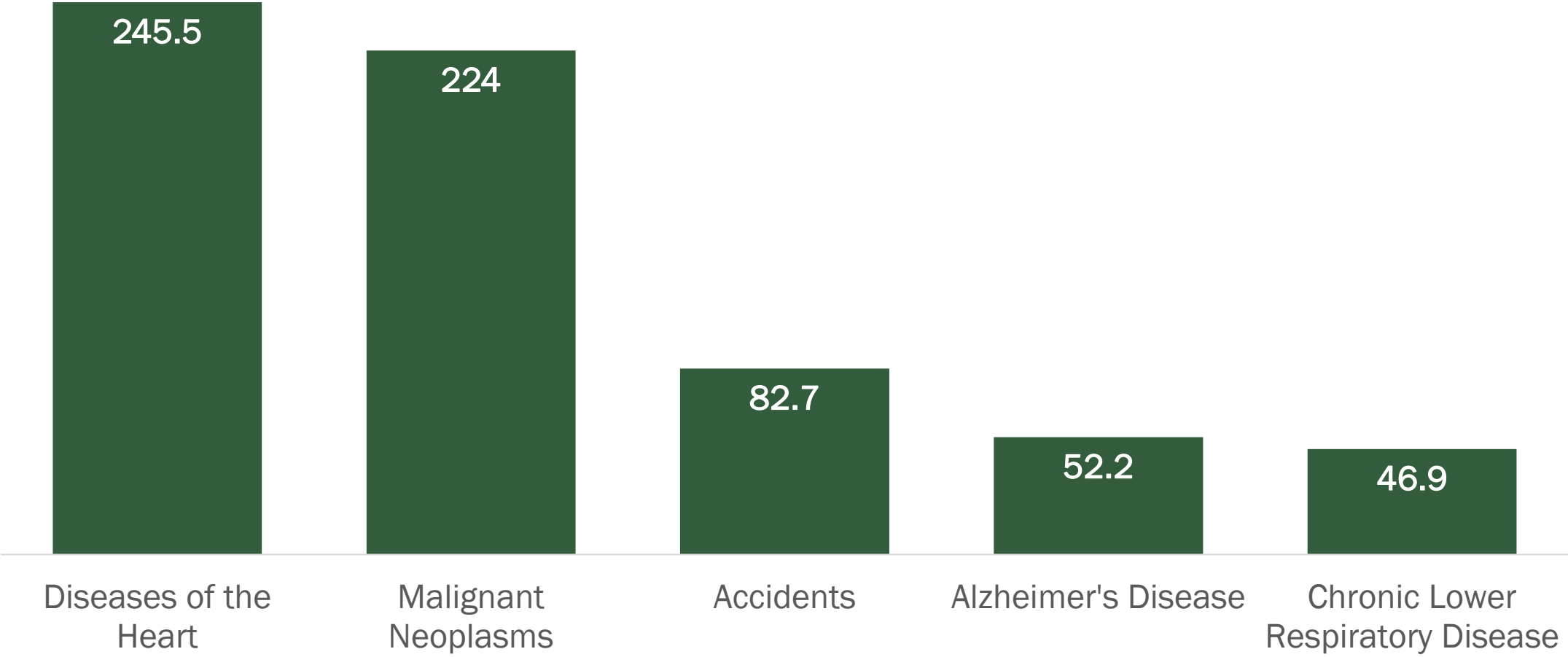
Cancer Mortality

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

Rates per 100,000 persons

■ US   ■ VT

Cancer	US	VT
Lung and Bronchus	35.0	36.2
Colon and Rectum	13.1	14.1
Pancreas	11.1	11.0
Leukemia	6.0	5.9
Non-Hodgkin Lymphoma	5.1	5.7

VCR 2016-2020, NPCR & SEER 2016-2020, Vermont Vital Statistics 2016-2020

All rates are age-adjusted to the 2000 U.S. standard population
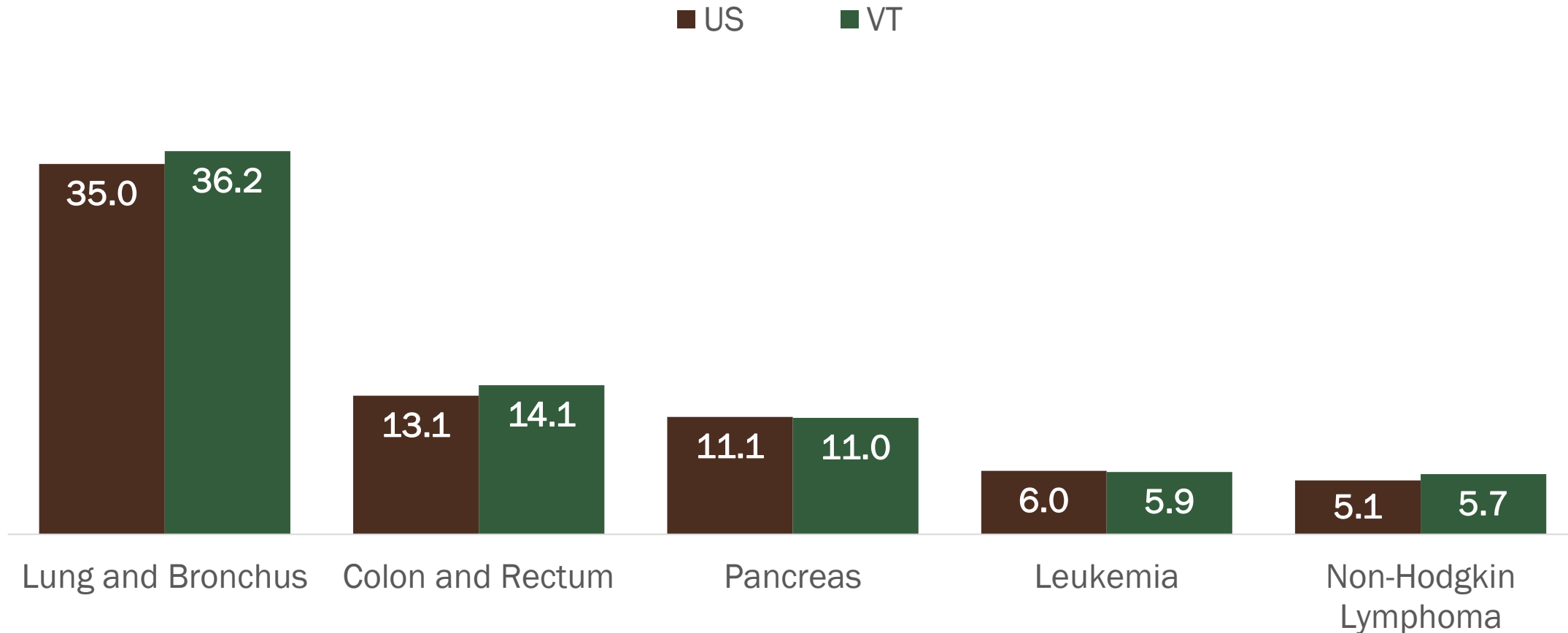
Cancer Mortality

Vermont females have a higher mortality rate of lung and bronchus, colon and rectum and uterus cancers than US females.

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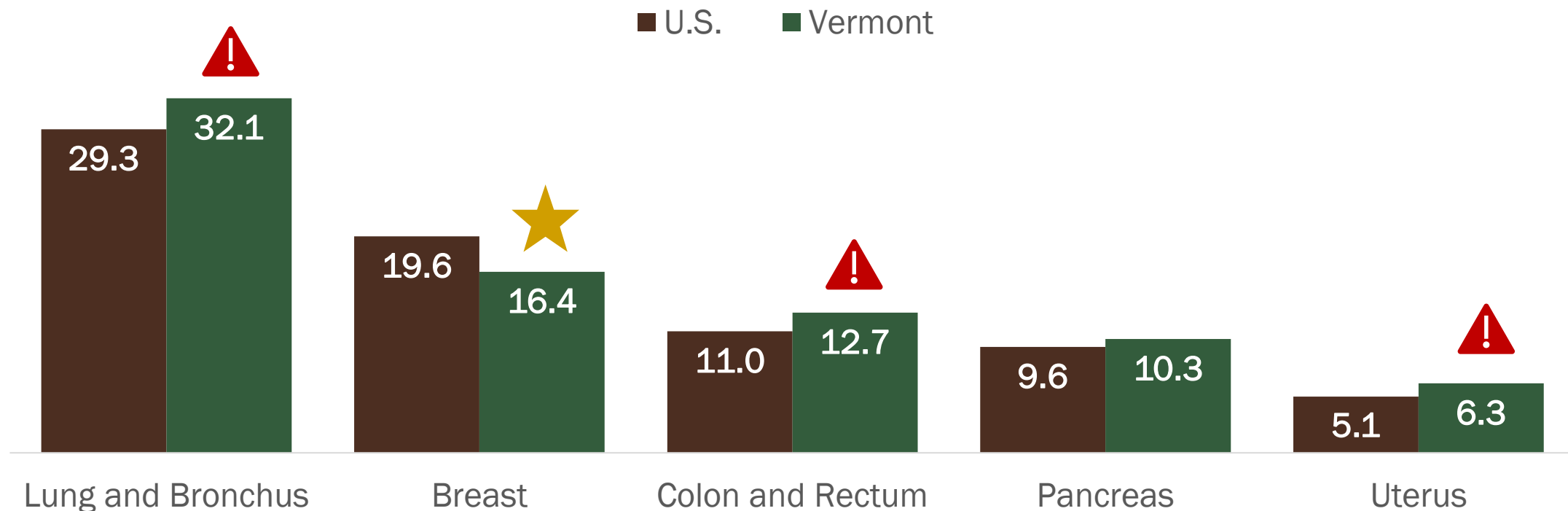
Rates per 100,000 persons

■ U.S. ■ Vermont

	Lung and Bronchus	Breast	Colon and Rectum	Pancreas	Uterus
U.S.	29.3	19.6	11.0	9.6	5.1
Vermont	32.1	16.4	12.7	10.3	6.3

* indicates significant difference between groups

All rates are age-adjusted to the 2000 U.S. standard population

Cancer Mortality

66

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

Rates per 100,000 persons

■ U.S. ■ Vermont

Cancer	U.S.	Vermont
Lung and Bronchus	42.2	41.4
Prostate	18.8	21.1 ⚠
Colon and Rectum	15.7	15.7
Pancreas	12.7	11.8
Esophagus	6.7	9.2 ⚠

Cancer Mortality

VCR 2016-2020, NPCR & SEER 2016-2020, Vermont Vital Statistics 2016-2020

All rates are age-adjusted to the 2000 U.S. standard population
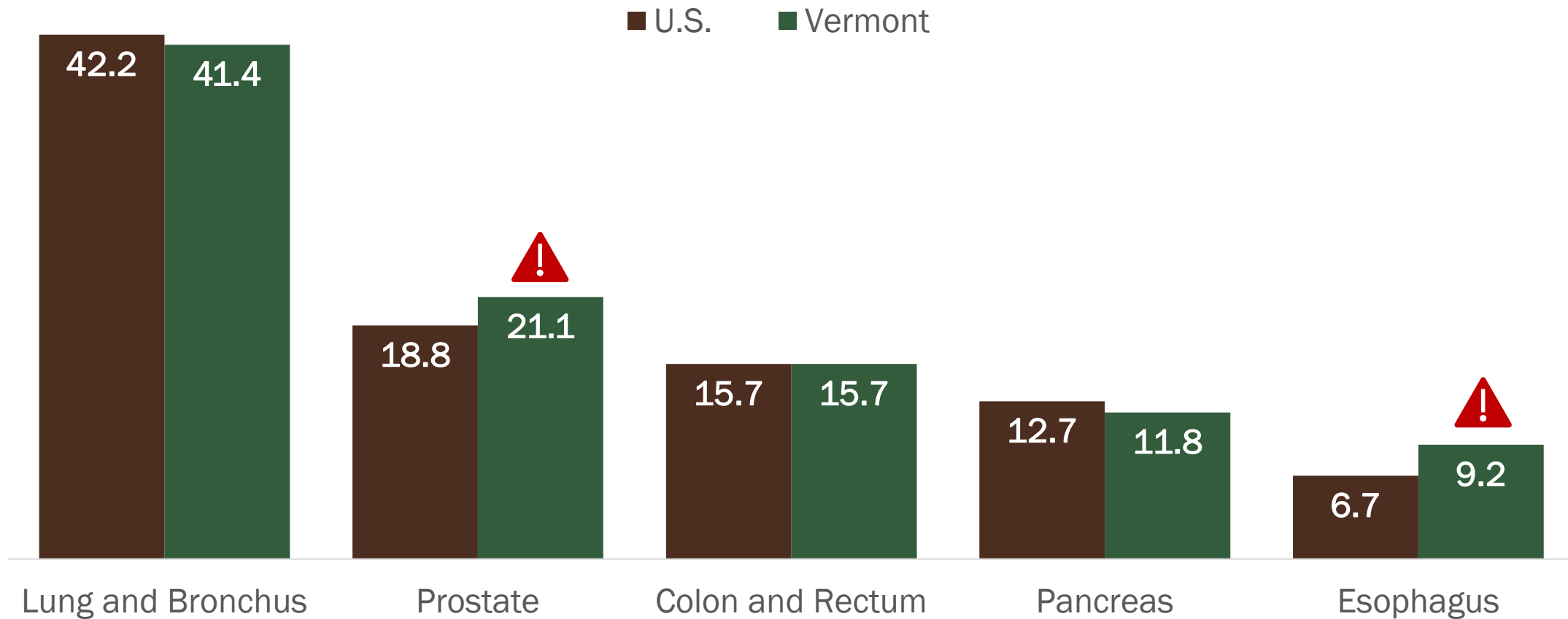
Lung and breast cancers are the leading causes of cancer death for Vermont females.

Lung and Bronchus 24%

Breast 12%

Colon and Rectum 9%

Pancreas 8%

Uterus 5%

All Other Sites 42%
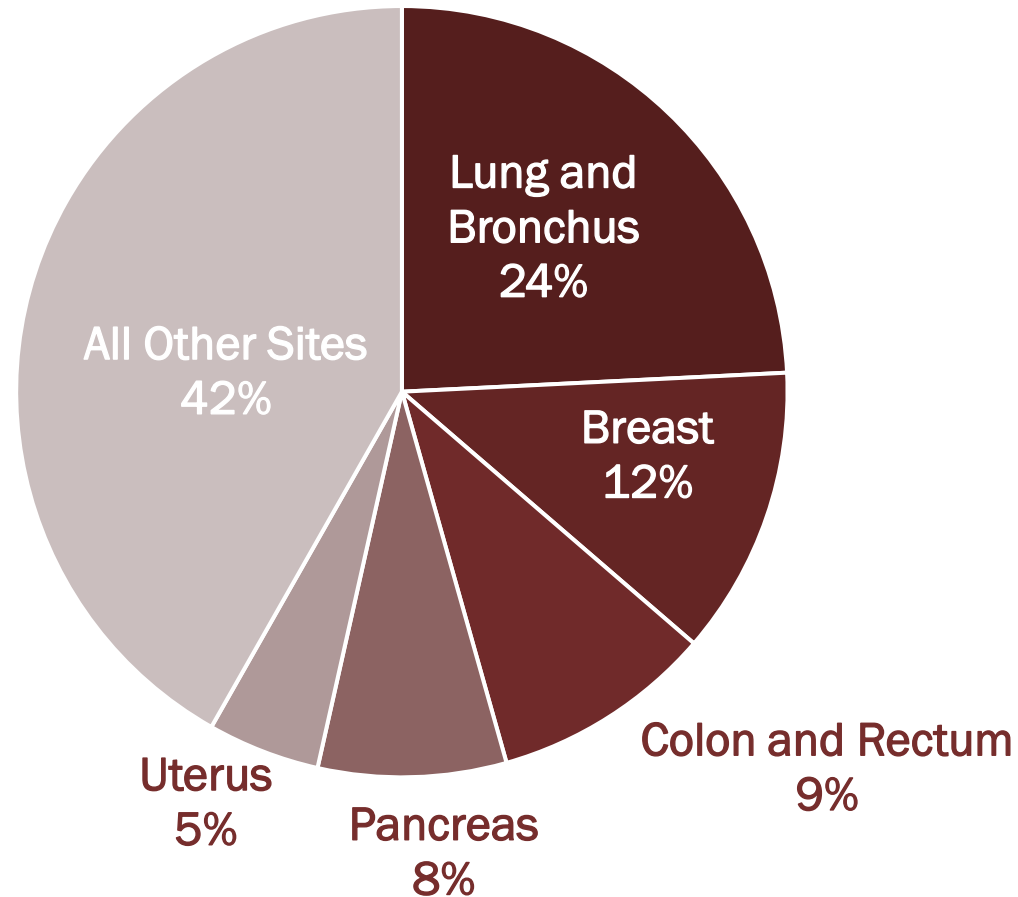
Lung cancer and prostate cancers are the leading causes of cancer death for Vermont males.
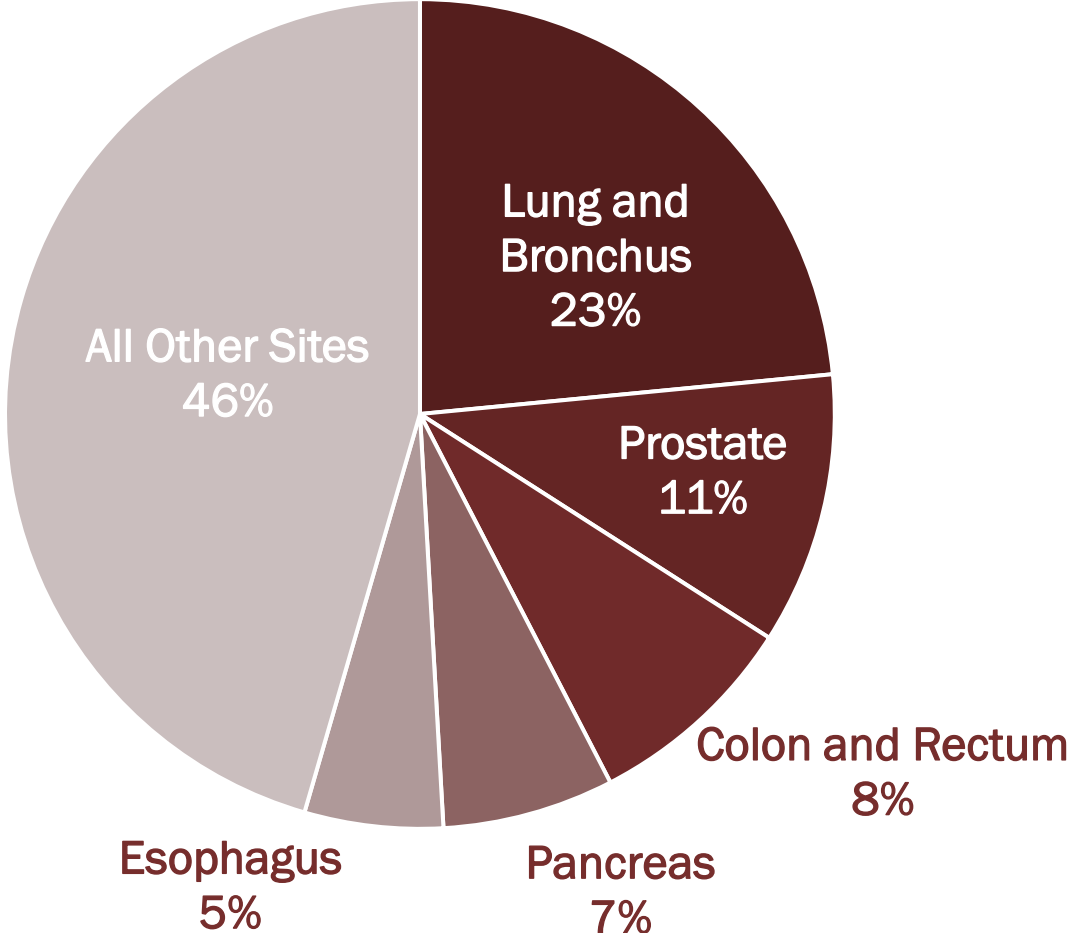
Pie chart:
- Lung and Bronchus 23%
- Prostate 11%
- Colon and Rectum 8%
- Pancreas 7%
- Esophagus 5%
- All Other Sites 46%

Cancer Mortality

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 most 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 attributable to the fact that 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.

Cancer Survivorship

Skin Cancer Prevalence

Vermont adults have been diagnosed with skin cancer at rates similar to **US adults**.

6%

5%

VT

US

Cancer Survivorship

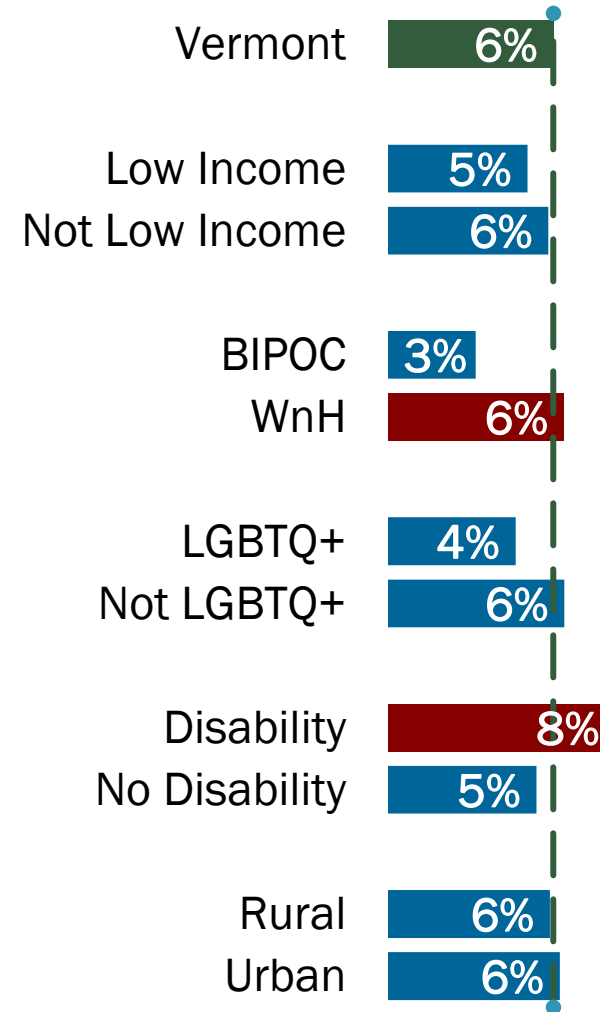Vermont Department of Health Source: BRFSS 2022

Non-melanoma Skin Cancer Prevalence

White, non-Hispanic adults and those with a disability are more likely to have skin cancer than a group of comparison.

All other groups have similar rates to a group of comparison.

Vermont **6%**

Low Income **5%**
Not Low Income **6%**

BIPOC **3%**
WnH **6%**

LGBTQ+ **4%**
Not LGBTQ+ **6%**

Disability **8%**
No Disability **5%**

Rural **6%**
Urban **6%**

Vermont Department of Health Source: BRFSS 2022

Cancer Survivorship

Cancer Prevalence

Vermonters have been diagnosed with cancer at a higher rate the US population.

10%

8%

VT

US

Vermont Department of Health Source: BRFSS 2022

Cancer Survivorship

Cancer Prevalence

Adults with a disability are more likely to have cancer than a group of comparison.

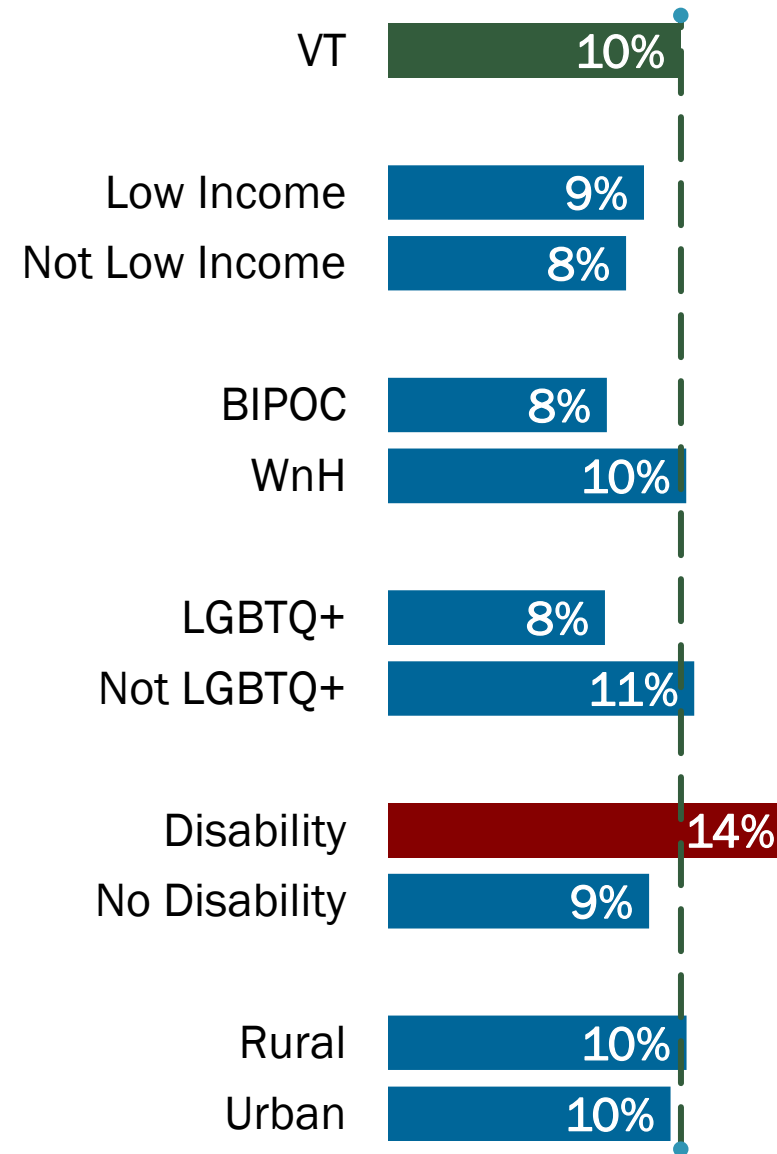All other groups have similar rates to a group of comparison.

VT **10%**

Low Income **9%**
Not Low Income **8%**

BIPOC **8%**
WnH **10%**

LGBTQ+ **8%**
Not LGBTQ+ **11%**

Disability **14%**
No Disability **9%**

Rural **10%**
Urban **10%**

Vermont Department of Health Source: BRFSS 2022

Cancer Survivorship

The prevalence of cancer increases as age increases.

**Vermonters ages 65+** have been diagnosed with cancer more than Vermonters in general.
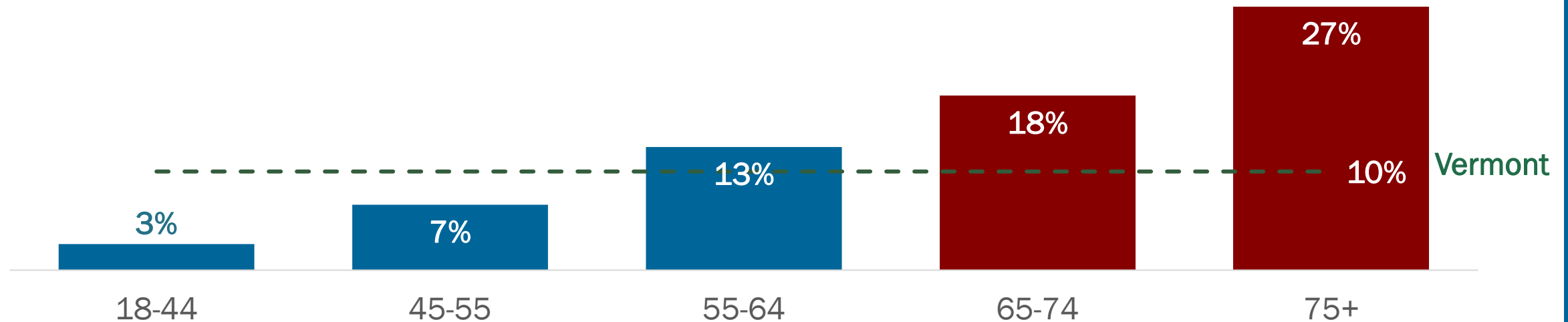
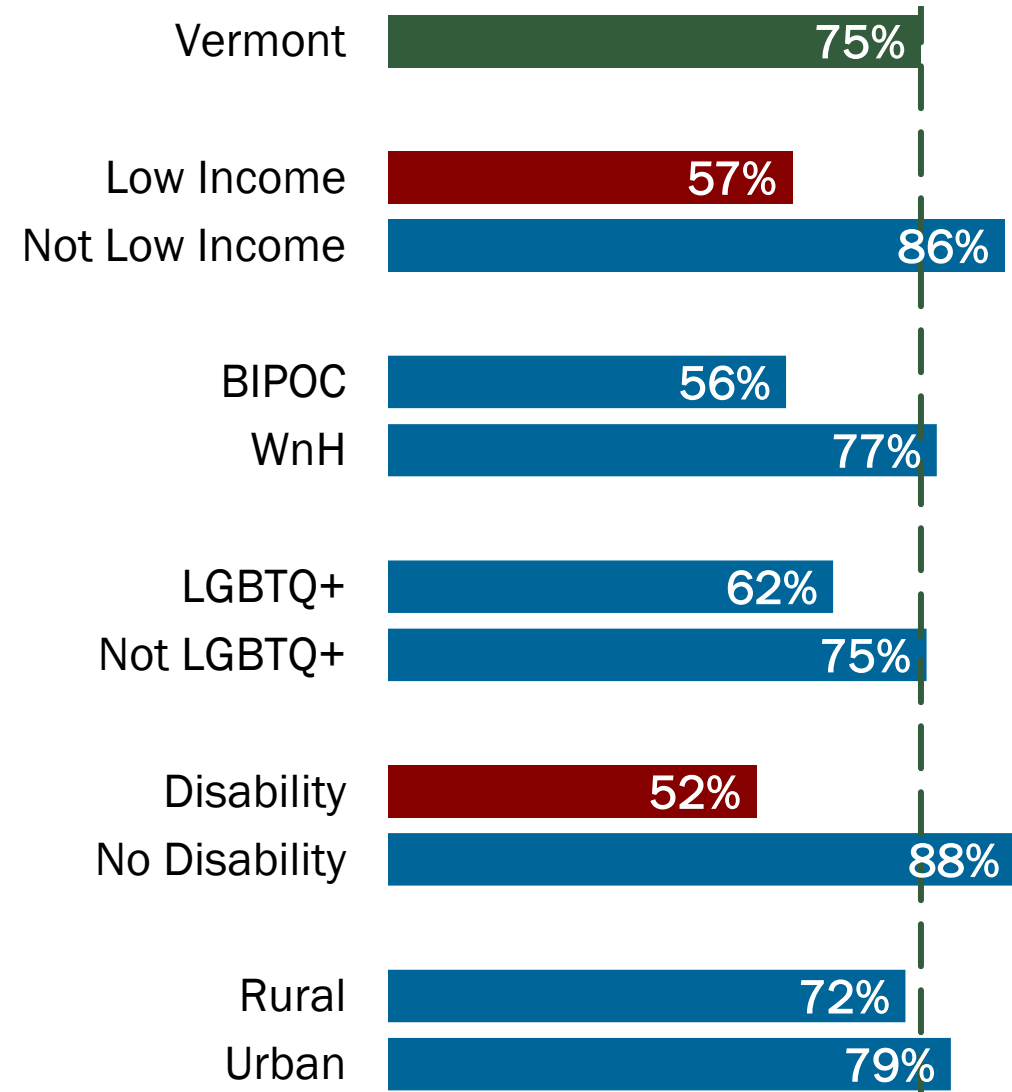Vermont Department of Health Source: BRFSS 2022

Cancer Survivorship
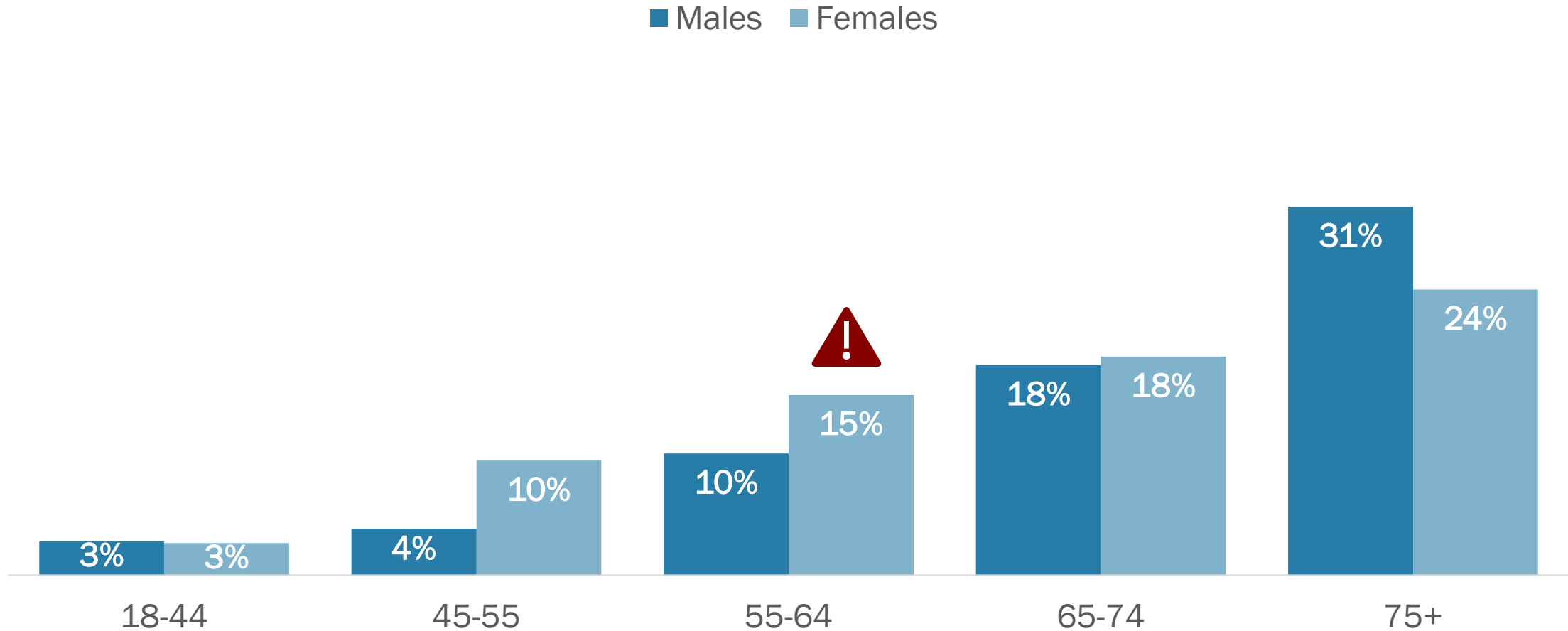
General Health

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

■ Survivor   ▦ No Cancer Diagnosis

	Good to Excellent	Fair	Poor
Survivor	75%	18%	8%
No Cancer Diagnosis	87%	10%	3%

Cancer Survivorship
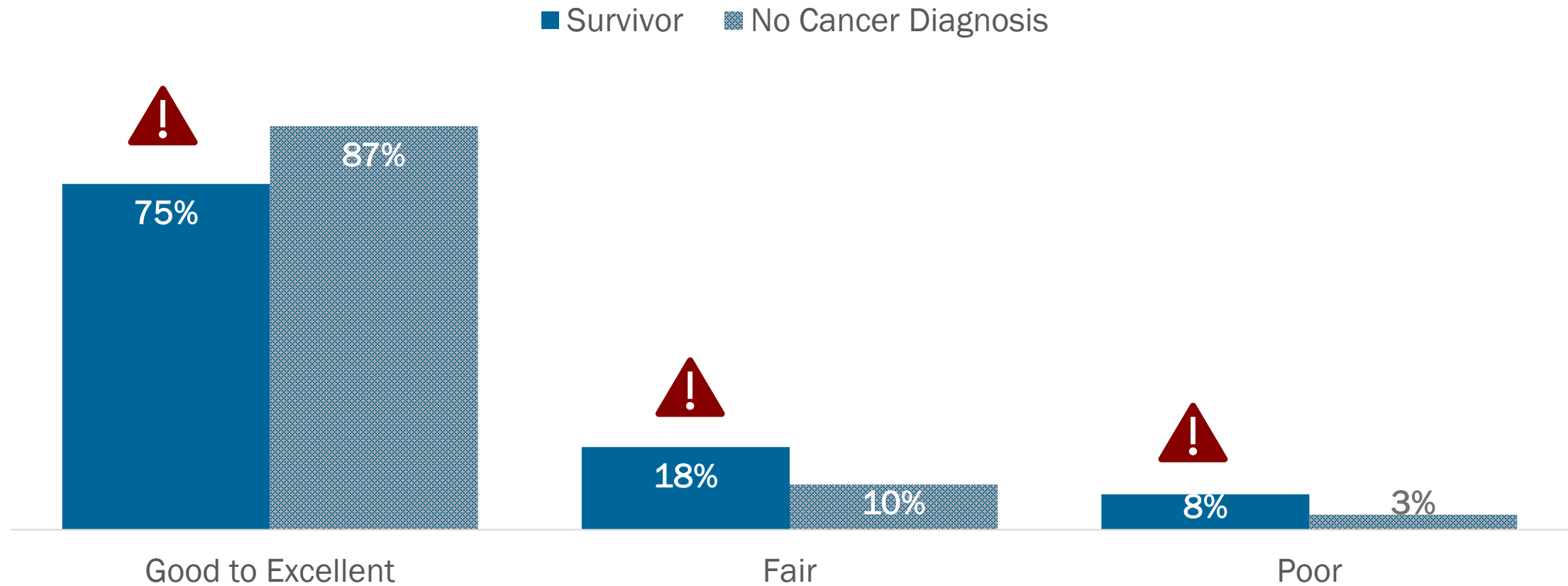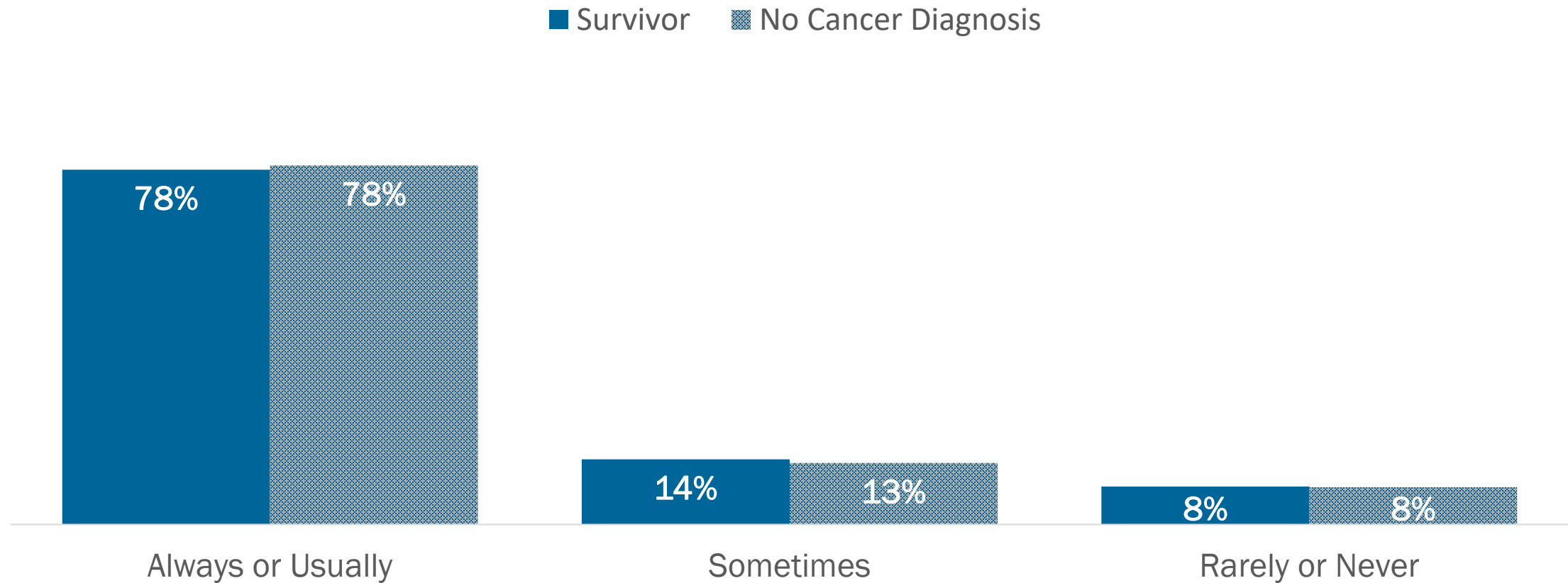
General Health Among Survivors

Adults with a low income and those with a disability are less likely to report good to excellent general health than a group of comparison.

All other groups have similar rates to a group of comparison.

Cancer Survivorship

Group	%
Vermont	75%
Low Income	57%
Not Low Income	86%
BIPOC	56%
WnH	77%
LGBTQ+	62%
Not LGBTQ+	75%
Disability	52%
No Disability	88%
Rural	72%
Urban	79%

Emotional or Social Support

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

■ Survivor   ▦ No Cancer Diagnosis

	Always or Usually	Sometimes	Rarely or Never
Survivor	78%	14%	8%
No Cancer Diagnosis	78%	13%	8%

Cancer Survivorship
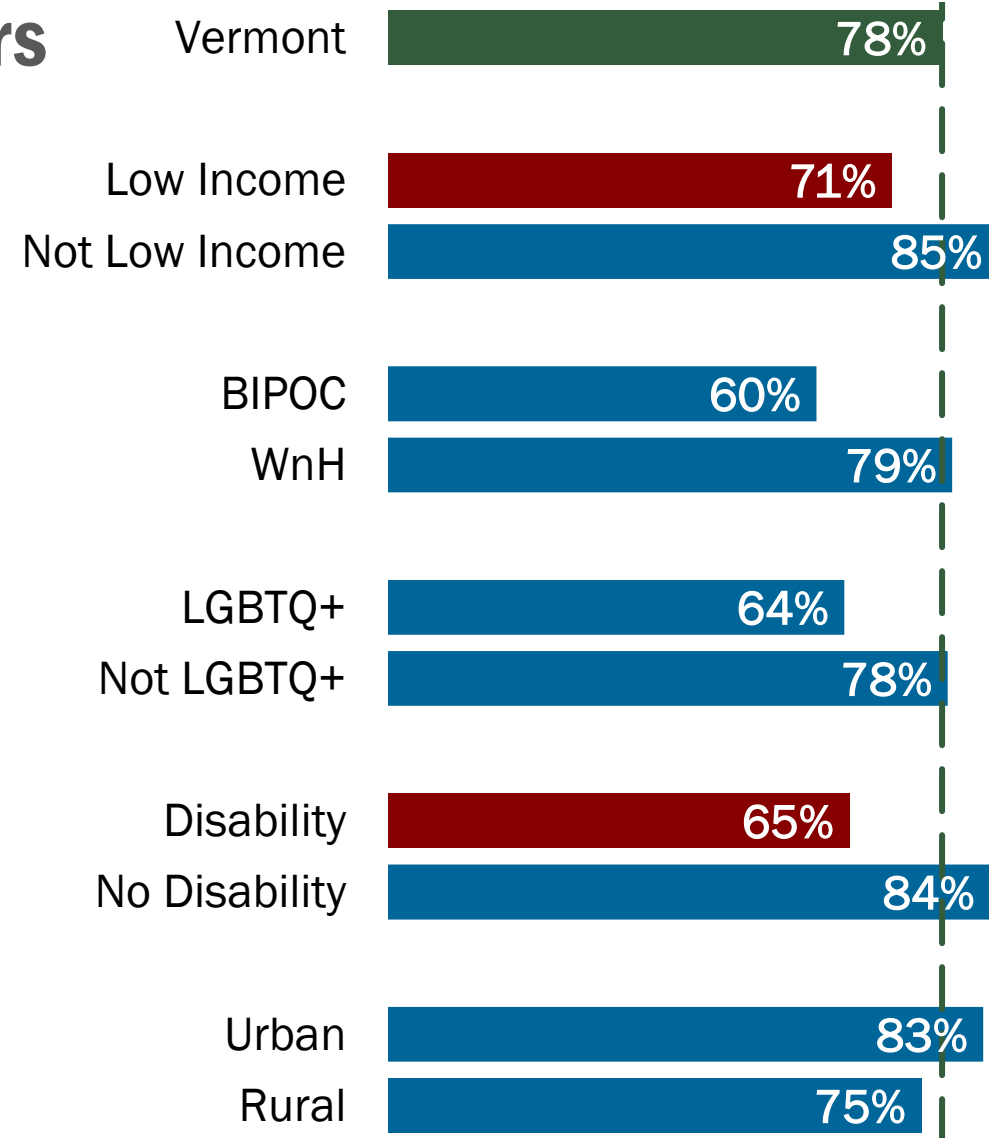
Vermont Department of Health Source: BRFSS 2022

Emotional Support Among Survivors

Adult survivors with a low income and those with a disability are less likely to report good to excellent general health than a group of comparison.

All other groups have similar rates to a group of comparison.

Vermont — 78%

Low Income — 71%
Not Low Income — 85%

BIPOC — 60%
WnH — 79%

LGBTQ+ — 64%
Not LGBTQ+ — 78%

Disability — 65%
No Disability — 84%

Urban — 83%
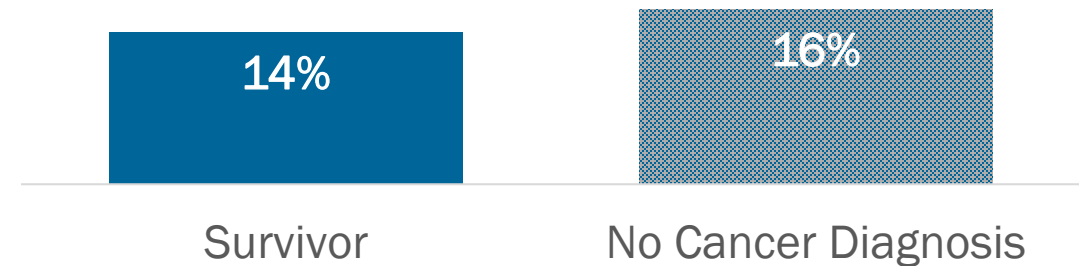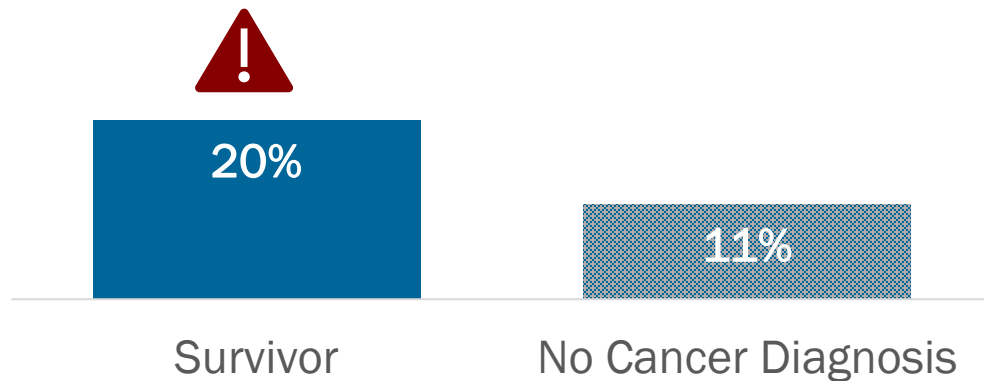Rural — 75%

Cancer Survivorship
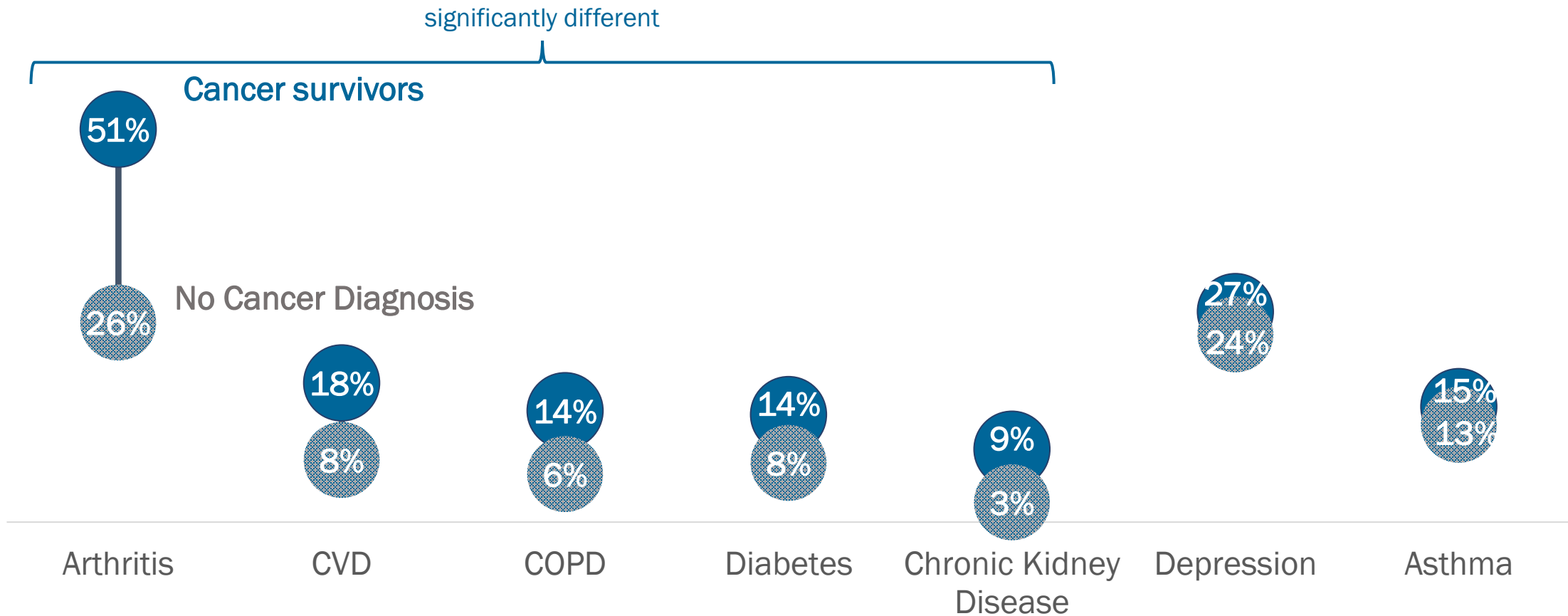
Poor Physical and Mental Health

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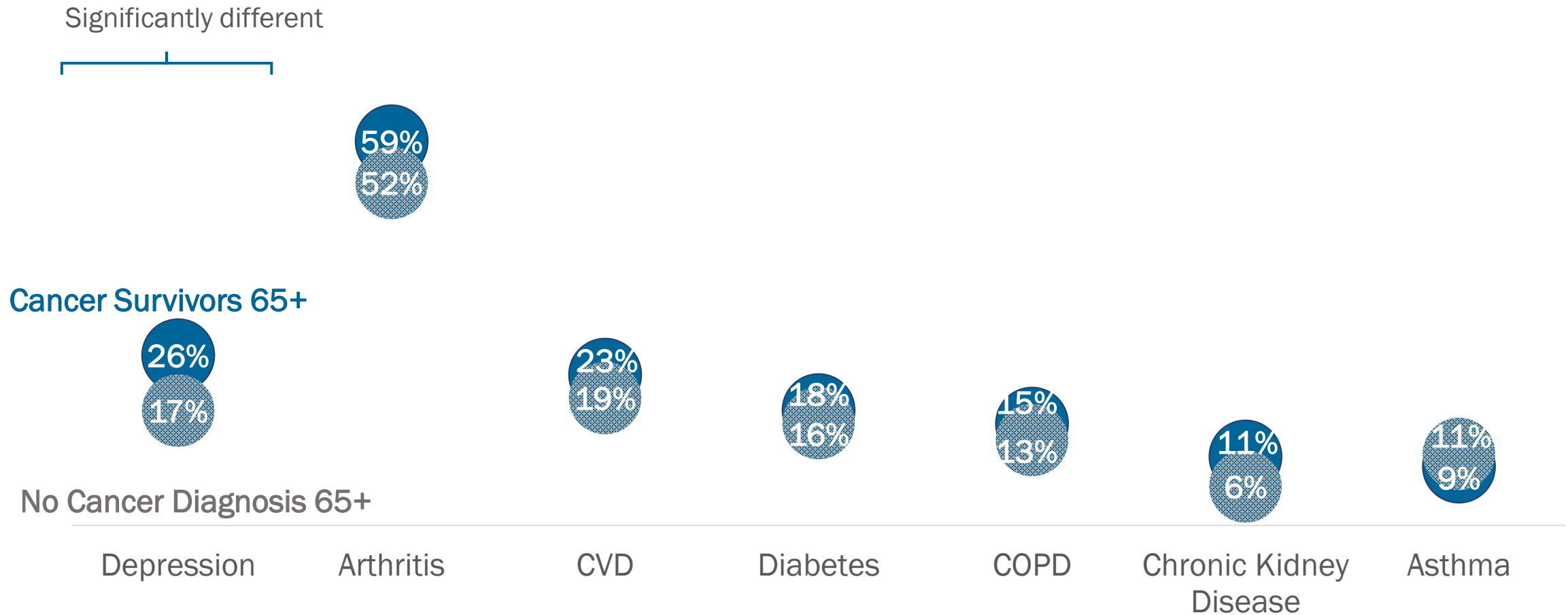
Cancer survivors and those never diagnosed with cancer report poor mental health more than 13 days a month at a similar rate.

20%

11%

Survivor

No Cancer Diagnosis

14%

16%

Survivor

No Cancer Diagnosis

Cancer Survivorship

Vermont Department of Health Source: BRFSS 2022

*Indicates significant difference between groups.

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

significantly different

Cancer survivors

51%

No Cancer Diagnosis

26%

18%

8%

14%

6%

14%

8%

9%

3%

27%

24%

15%

13%

Arthritis   CVD   COPD   Diabetes   Chronic Kidney Disease   Depression   Asthma

Cancer Survivorship

CVD: Cardiovascular Disease; COPD: Chronic Obstructive Pulmonary Disease

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

Significantly different

Cancer Survivors 65+

No Cancer Diagnosis 65+

Depression	**Arthritis**	**CVD**	**Diabetes**	**COPD**	**Chronic Kidney Disease**	**Asthma**
26% / 17%	59% / 52%	23% / 19%	18% / 16%	15% / 13%	11% / 6%	11% / 9%

CVD: Cardiovascular Disease; COPD: Chronic Obstructive Pulmonary Disease

Cancer Survivorship

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.

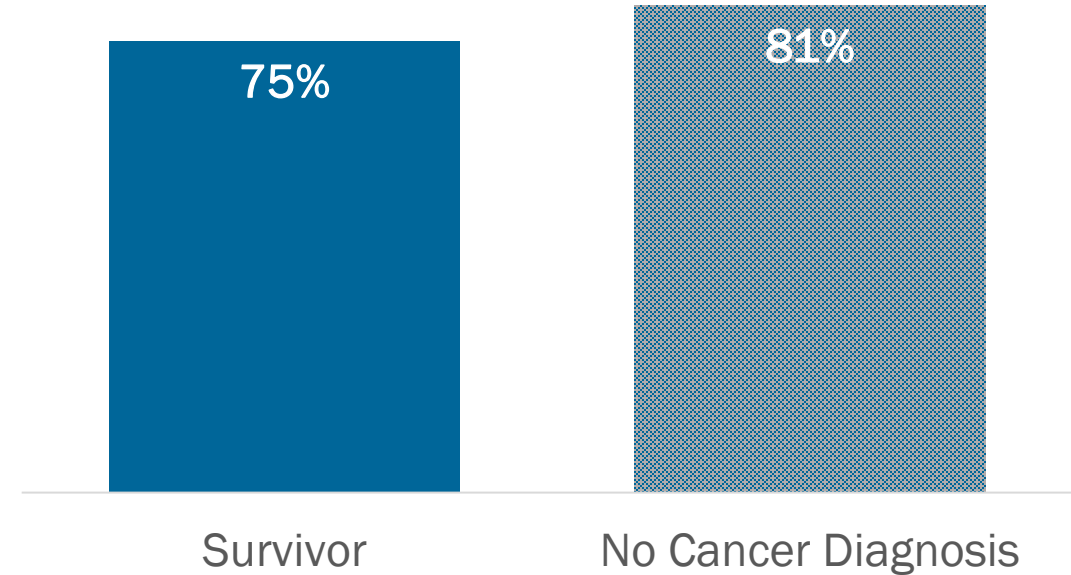**Cancer survivors are more likely to have a primary care provider than those never diagnosed with cancer.**

98% (Survivor)	96% (No Cancer Diagnosis)

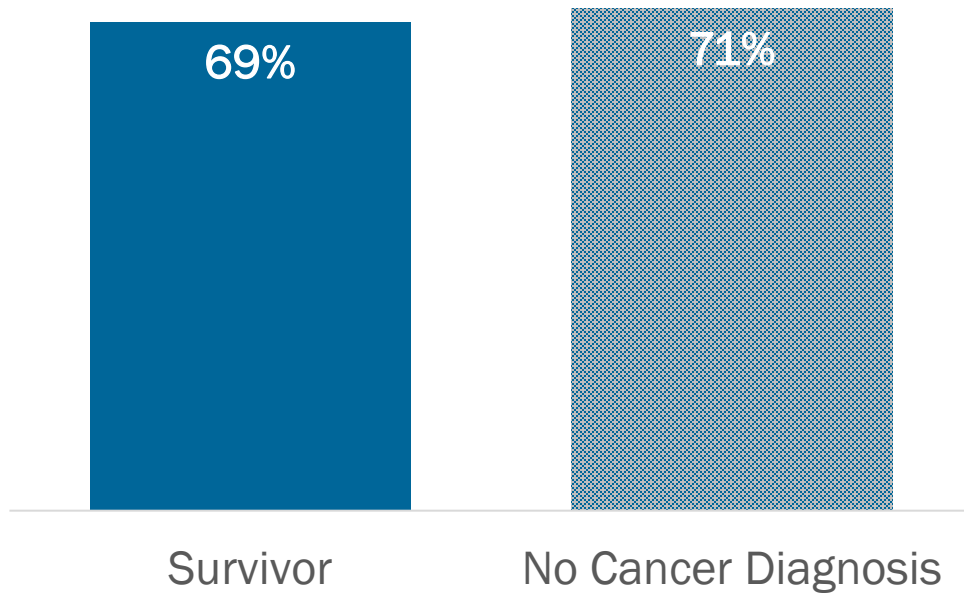|	
97% (Survivor)	88% (No Cancer Diagnosis)

Cancer Survivorship
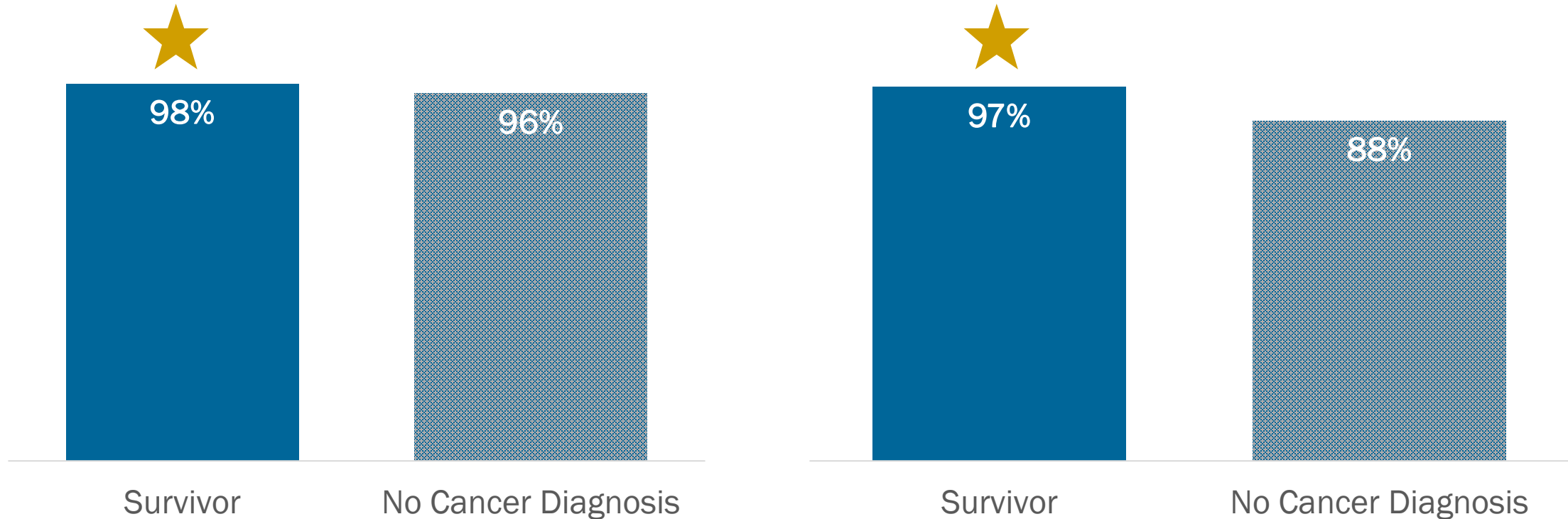
Prevention

Cancer survivors sleep 7 or more hours 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.

69%	71%
Survivor	No Cancer Diagnosis

75%	81%
Survivor	No Cancer Diagnosis

Vermont Department of Health Source: BRFSS 2022
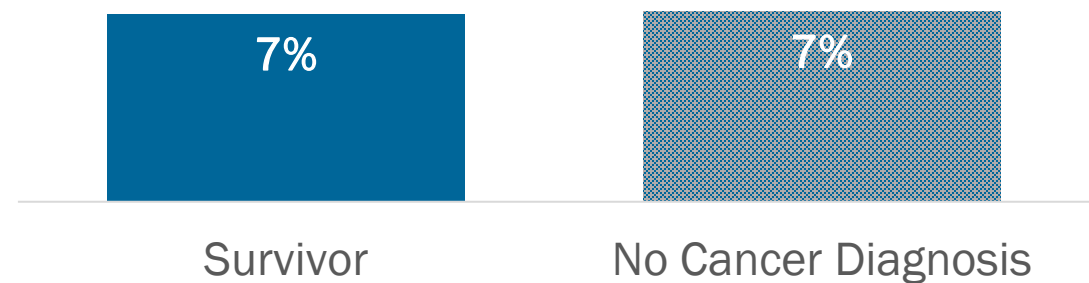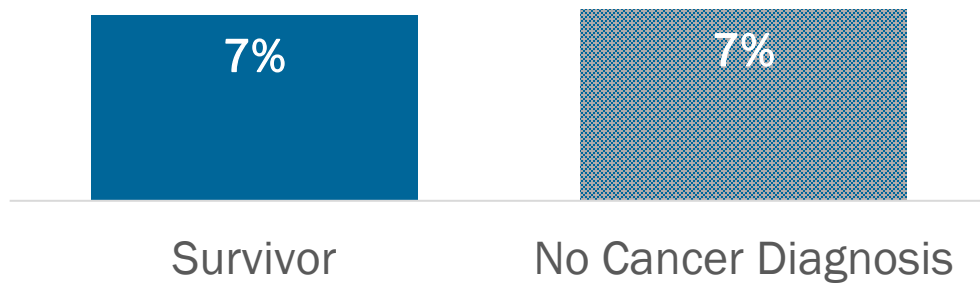
Cancer Survivorship

Social Determinants of Health

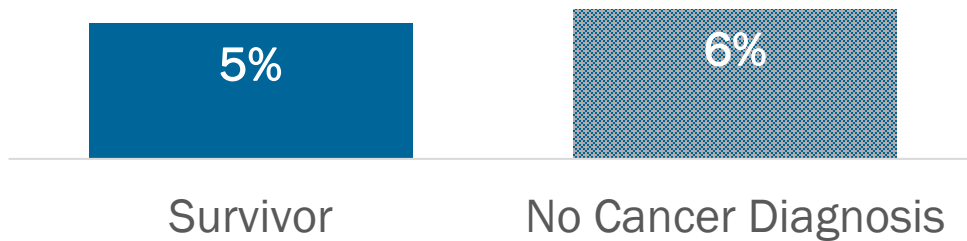Survivors and those with no cancer diagnosis report not having enough food in the past month at the same rate.

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

Survivor	No Cancer Diagnosis
7%	7%

Survivor	No Cancer Diagnosis
7%	7%

Vermont Department of Health Source: BRFSS 2021
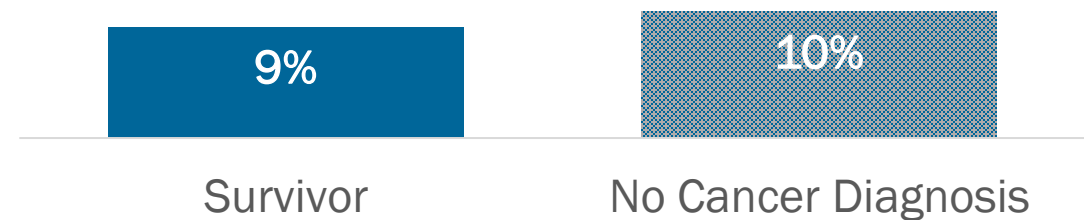
Cancer Survivorship

Social Determinants of Health

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

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

5%	**6%**
Survivor	No Cancer Diagnosis

9%	**10%**
Survivor	No Cancer Diagnosis

Cancer Survivorship

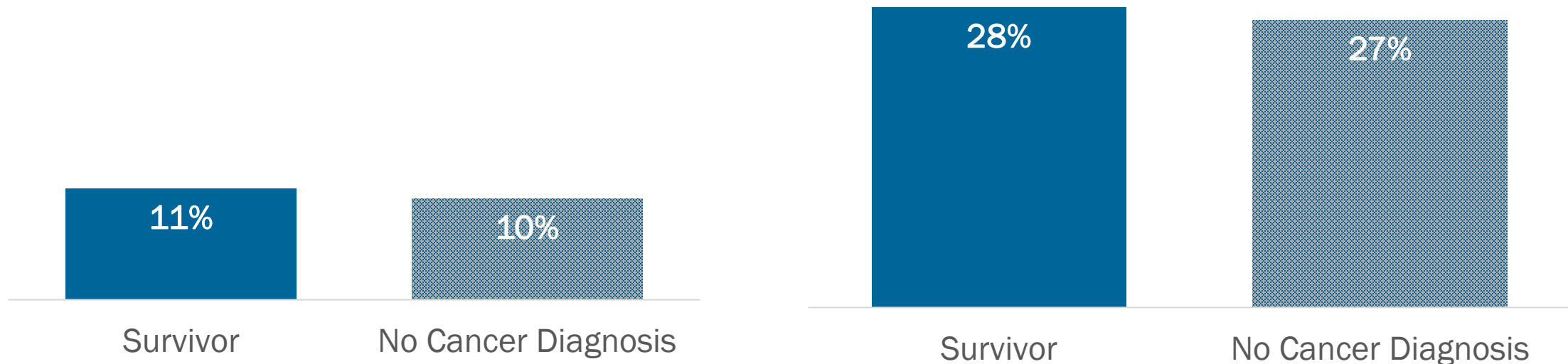Vermont Department of Health Source: BRFSS 2022

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 use tobacco 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.

Left chart:
- Survivor: 16%
- No Cancer Diagnosis: 13%

Right chart:
- Survivor: 45%
- No Cancer Diagnosis: 43%

Cancer Survivorship
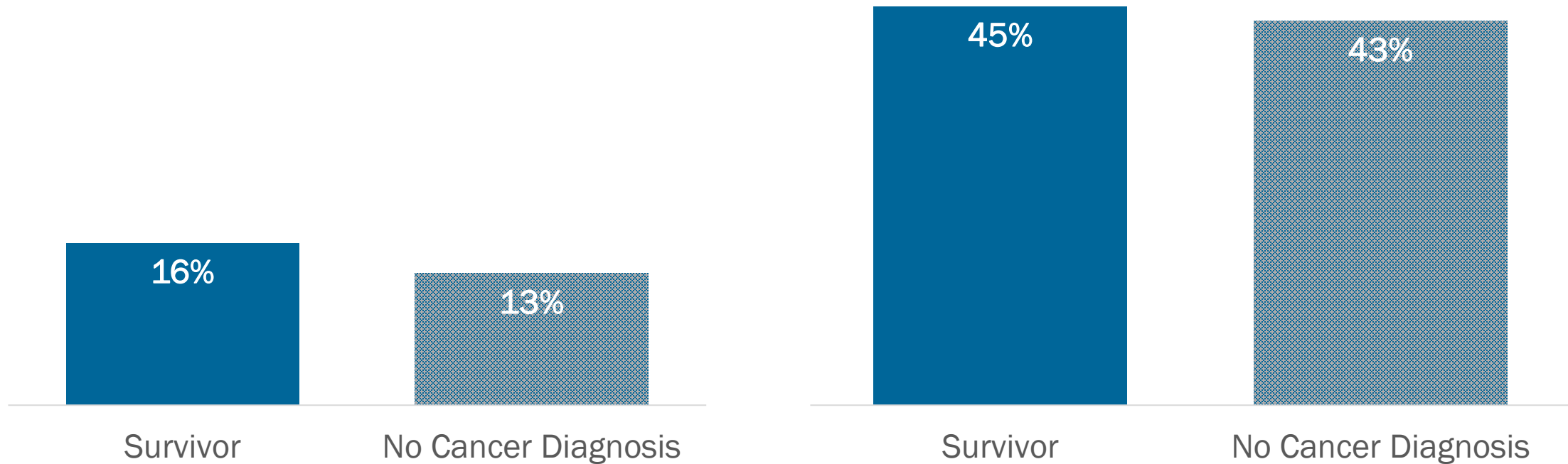
Data Sources

Behavioral Risk Factor Surveillance System (BRFSS): Vermont tracks risk behaviors 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.

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

Data Notes

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