Cancer Data Pages: Cancer Prevalence and Health of Survivors

VERMONT DEPARTMENT OF HEALTH

February 2018

Introduction

Cancer is a group of more than 100 different diseases that often develop gradually as the result of a complex mix of lifestyle, environment, and genetic factors. People are at higher risk for certain cancers due to factors related to personal behaviors such as: tobacco use, alcohol use, diet, physical inactivity, and overexposure to sunlight. Vaccination with the HPV vaccine prior to exposure to the virus can decrease the risk of certain cancers. Cancer becomes more survivable when found and treated early, which can be accomplished through the use of available cancer screening tests including those for lung, breast, cervical, and colorectal cancers.

The purpose of this report is to present cancer-related data from the Behavioral Risk Factor Surveillance System (BRFSS) about survivorship, quality of life, associated disparities, known cancer-related risk factors, and co-morbidities.

Note: *Throughout this report, data comparisons presented as "higher," "lower," "larger," "smaller," "better," "worse," or as "significantly different" are all considered statistically significant differences.*

Confidence intervals were used for statistical comparisons between groups. A confidence interval represents the range in which a parameter estimate would fall which is calculated based on the observed data. For this analysis, we used a 95% confidence interval, meaning that we are 95% confident that the true value of the parameter being examined falls within the specified confidence interval. Statistical significance is assessed by comparing the confidence intervals of different groups. If the confidence intervals from two groups, do not overlap we consider the estimates to be significantly different from one another.

Cancer Survivor Demographics

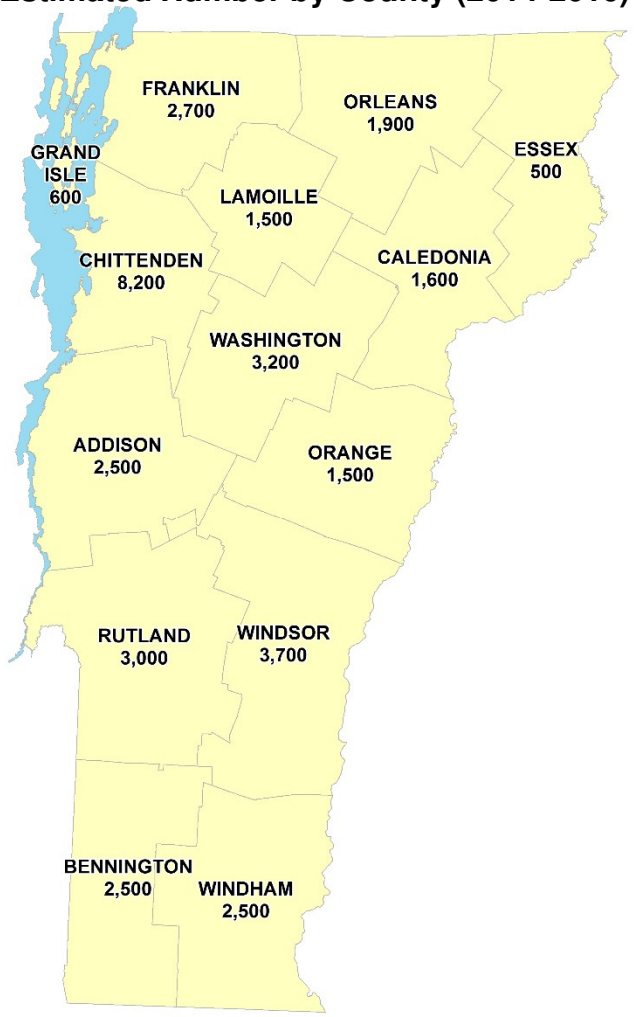
Note: The definition, in this report, for both "cancer survivor" and "prevalence" includes those who have ever been diagnosed with cancer, excluding those whose only form of cancer was skin cancer.

Statewide and County Rates

In this report, a cancer survivor is defined as someone who has been diagnosed with cancer (other than skin cancer), from the time of diagnosis through the rest of his or her life. In this report, “cancer prevalence” and “survivorship” are used interchangeably, as the Behavioral Risk Factor Surveillance System (BRFSS) data represents both definitions.

There are approximately 39,000 adult Vermonters, 8% of the adult population, who report they have ever been diagnosed with cancer (2016).

Adult Cancer Survivors (Prevalence)
Estimated Number by County (2014-2016)



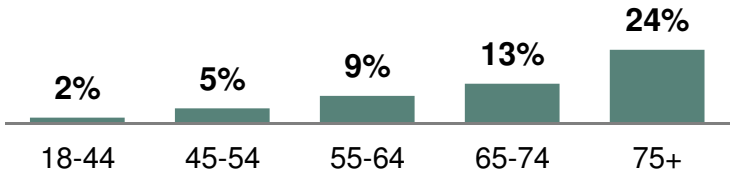
Note: The number in each county, shown in the map, is the average number of cancer survivors (using data from 2014-2016).

Sex and Age

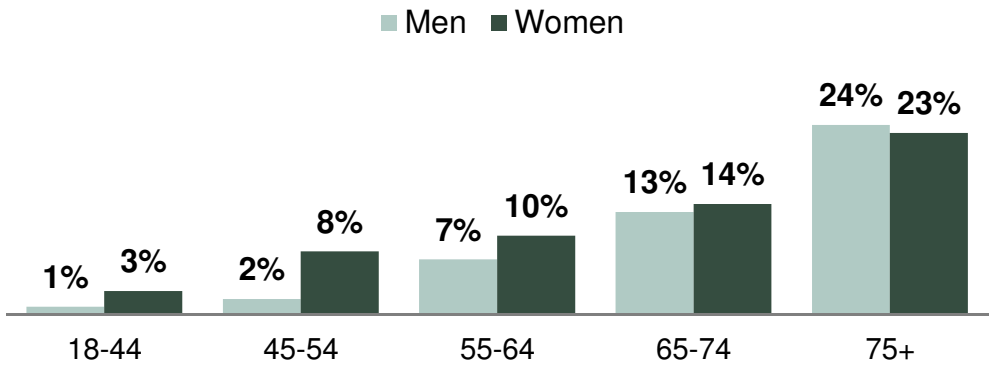
Cancer survivorship (prevalence) increases with age. With each increase in age group, there was an increase in the percentage of Vermonters that reported ever having been diagnosed with cancer (2014-2016).

When broken down by age and sex, some interesting differences can be seen. A higher percentage of women reported being a cancer survivor than men among those aged 18-44, 45-54, and 55-64 years (2014-2016). A similar percentage of men and women, however, reported being a cancer survivor among those aged 65-74 and 75 years and over (2014-2016).

Cancer Survivorship (Men and Women) by Age (2014-2016)



Cancer Survivorship by Age and Sex (2014-2016)



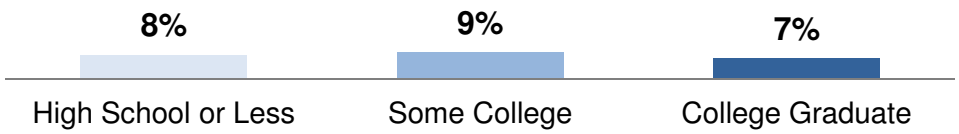
Education, Federal Poverty Level, and Racial and Ethnic Minorities

Vermont adults diagnosed with cancer (aged 25 and older) were more likely to have not completed college than to have completed their degree (2014-2016).

There was no difference in the percentage of cancer survivors (aged 18 and older) when comparing those above and below 250% of the federal poverty level (2015-2016).

Racial and ethnic minorities were less likely to have reported being cancer survivors compared to adult white non-Hispanics in VT (data not shown, 2014-2016).

Cancer Survivorship: Ages 25+
By Educational Attainment (2014-2016)



Cancer Survivorship: Ages 18+ by
Federal Poverty Level (2015-2016)

Note: Federal poverty level (FPL) is a federal measure calculated from both annual household income and family size. FPL is used to determine eligibility for government assistance programs. People living below 250% FPL, for example, are still considered low income, often lacking sufficient income to meet basic needs.

Health Disparities between Cancer Survivors and Those Never Diagnosed with Cancer

In this section, comparisons are made between Vermont adults with and without cancer for a variety of risk factors, health measures, and other chronic diseases. Due to the nature of the BRFSS survey methodology, any differences do not indicate a cause-and-effect relationship. It is not possible to know if the risk factor, health status, or other chronic disease preceded the cancer diagnosis or whether the factor in question caused or was a result of having cancer.

For example, the obesity rate is compared for Vermont adults with and without cancer. A higher percentage of people with cancer reported being obese compared to people without cancer. There is an association between obesity and cancer. We are unable to tell whether people surveyed were obese at the time of cancer diagnosis or developed obesity after being diagnosed with cancer. Therefore, we are unable to determine if the obesity caused the cancer, the cancer caused the obesity, or even if there is any causal relationship between these two things.

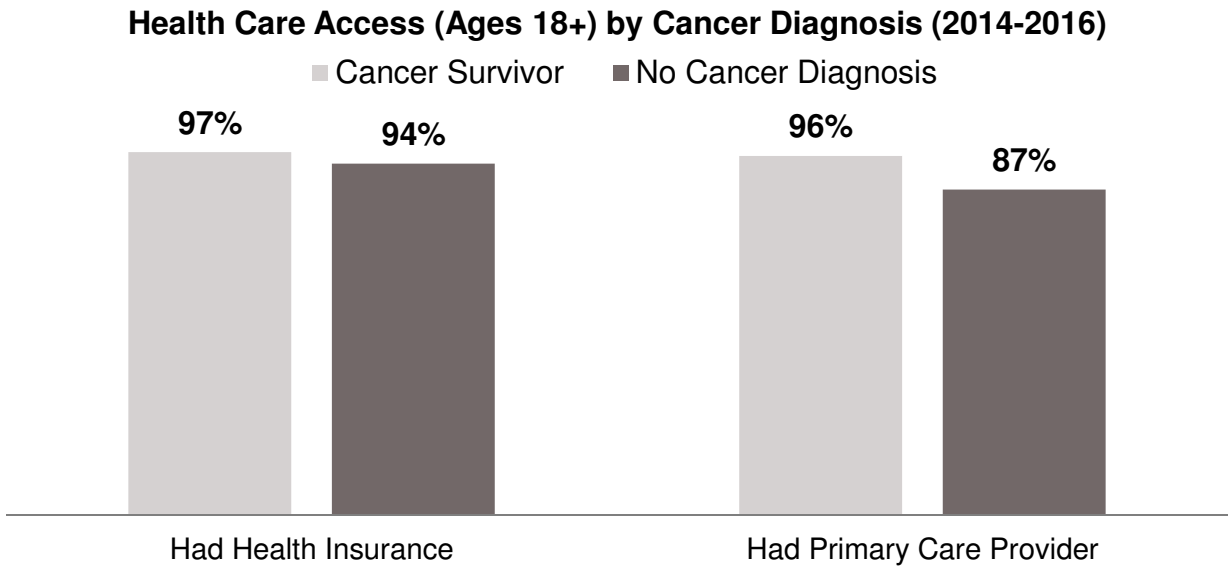
Phrases such as “more likely,” “twice as likely,” and “three times as likely” are used to describe the strength of an association. For example, cancer survivors were more likely to have reported being diagnosed with cardiovascular disease than those without cancer. This means that, among people with cancer, the rate of cardiovascular disease is higher than the rate of cardiovascular disease among people without cancer. A cause-and-effect relationship cannot be determined.

Note: The definition, in this report, for both cancer survivor and prevalence includes those who have ever been diagnosed with cancer, excluding those whose only form of cancer was skin cancer.

Health Care Access

Adult Vermont cancer survivors (under age 65) were more likely to report having health insurance compared to those never diagnosed with cancer (2014-2016).

Cancer survivors were more likely to report having a primary care provider than those never diagnosed with cancer (2014-2016). However, when broken down by race and ethnicity, racial and ethnic minorities diagnosed with cancer were equally as likely to report having a primary care provider than those never diagnosed with cancer (data not shown, 2014-2016).

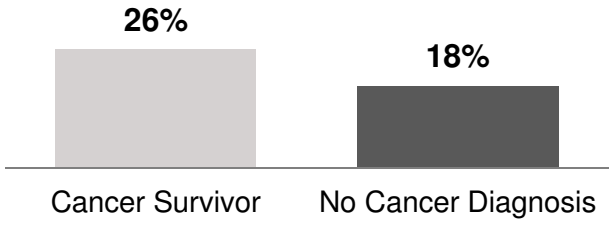


Tobacco and Quit Attempts

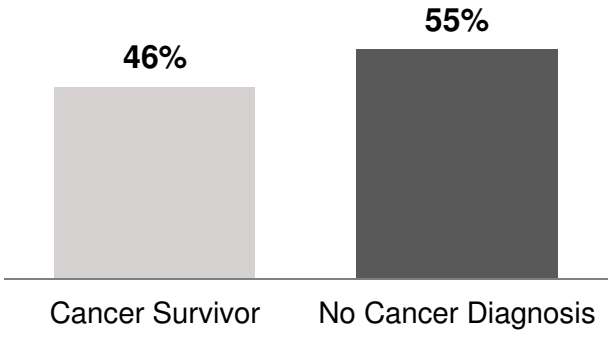
In cancer survivors, smoking increases the risk of a tobacco-associated second primary cancer. Smoking has also been shown to increase cancer-specific mortality and all-cause mortality among cancer survivors.

Adult cancer survivors in Vermont reported being current smokers at a higher rate (26%) than those Vermont adults who never had a cancer diagnosis (18%, 2014-2016). A similar percentage of cancer survivors who smoke reported recently trying to quit (55%) as those smokers never diagnosed with cancer (46%, 2014-2016).

Smoking Rate (Ages 18+) by Cancer Diagnosis (2014-2016)



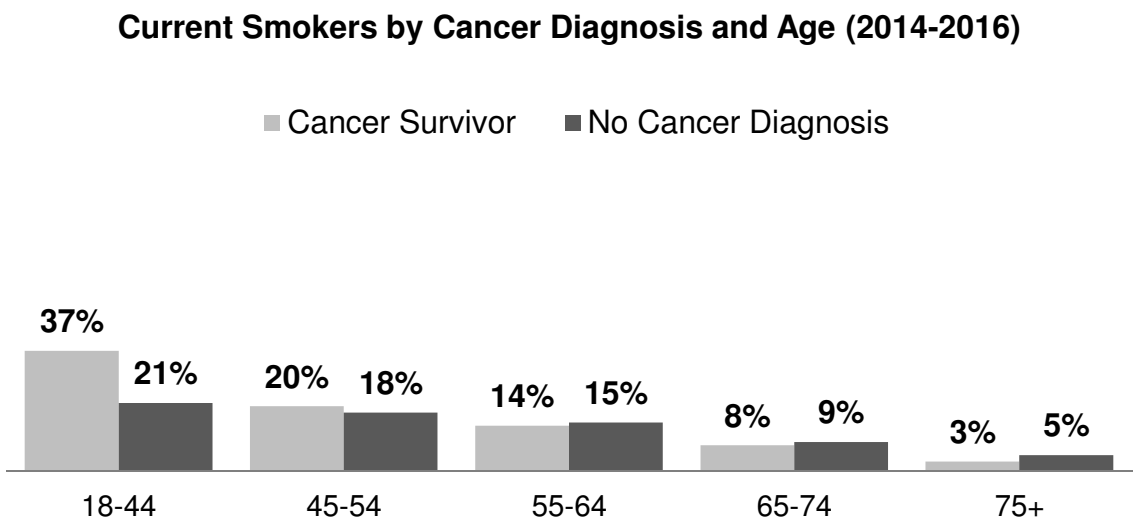
Percent of Smokers Who Made a Recent Quit Attempt (Ages 18+) by Cancer Diagnosis (2014-2016)



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

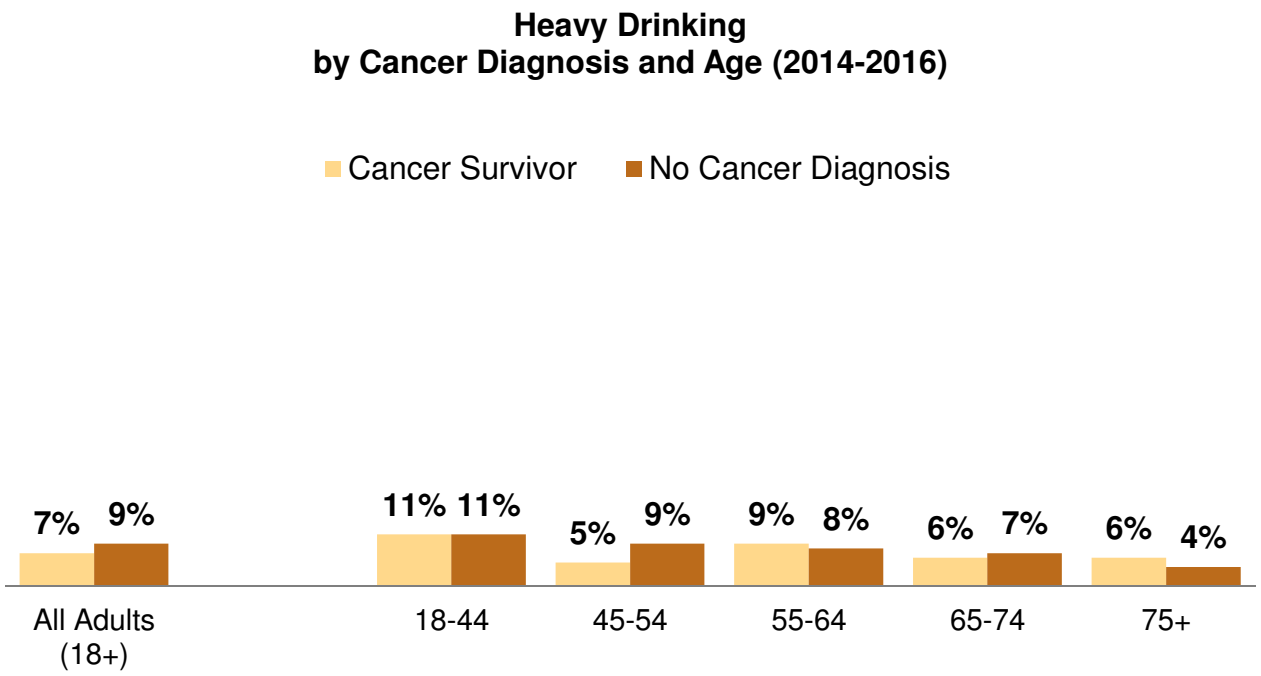
Tobacco by Age

When broken down by age group, the only age group with a difference in smoking status between cancer survivors and those never diagnosed with cancer were those aged 18-44, where cancer survivors had a higher prevalence of smoking than those without a cancer diagnosis (2014-2016).



Heavy Drinking by Age

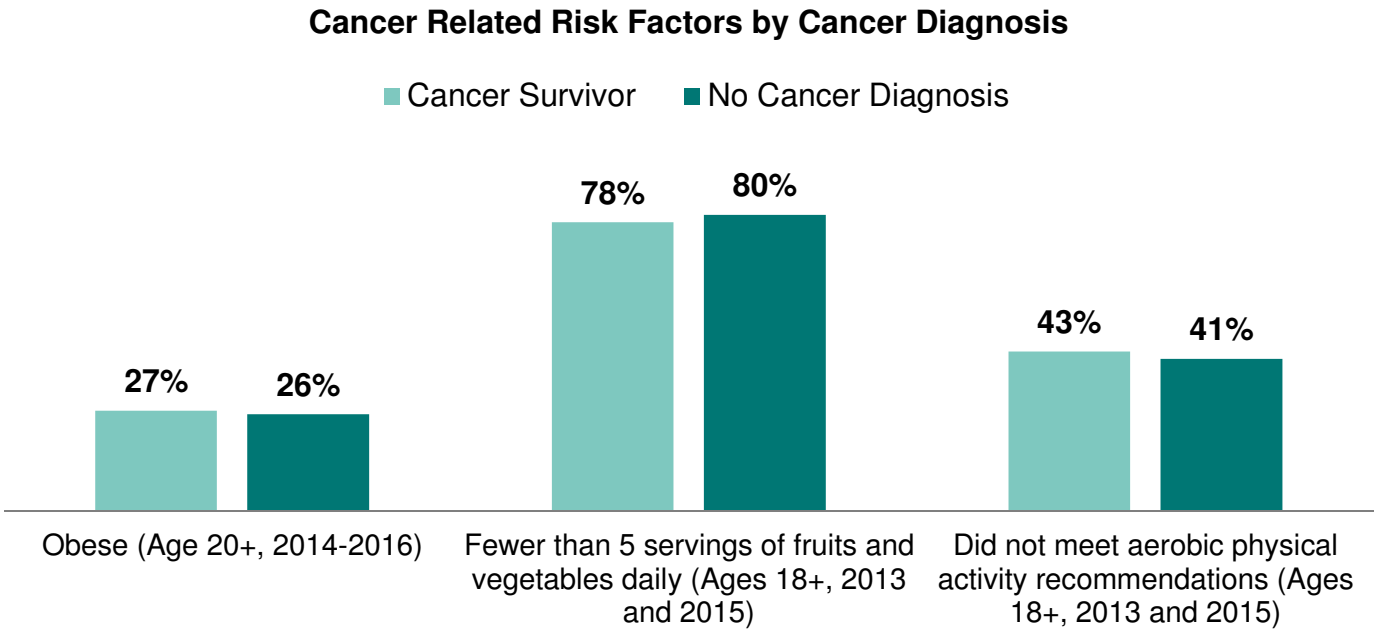
Adult cancer survivors in Vermont are no more likely to drink heavily (defined as an average of more than two drinks per day for men and more than one drink per day for women) than those never diagnosed with cancer at any age (2014-2016).



Obesity, Poor Nutrition and Lack of Physical Activity

Among Vermonters 20 years of age and older, the percentage of cancer survivors that reported being obese (27%) is similar to those never diagnosed with cancer (26%) (2014-2016).

There were no differences between adult Vermont cancer survivors and those never diagnosed with cancer in the percentage eating fewer than five servings of fruits and vegetables daily (2013 and 2015). There was also no difference in the percentage failing to meet aerobic physical activity recommendations (2013 and 2015).

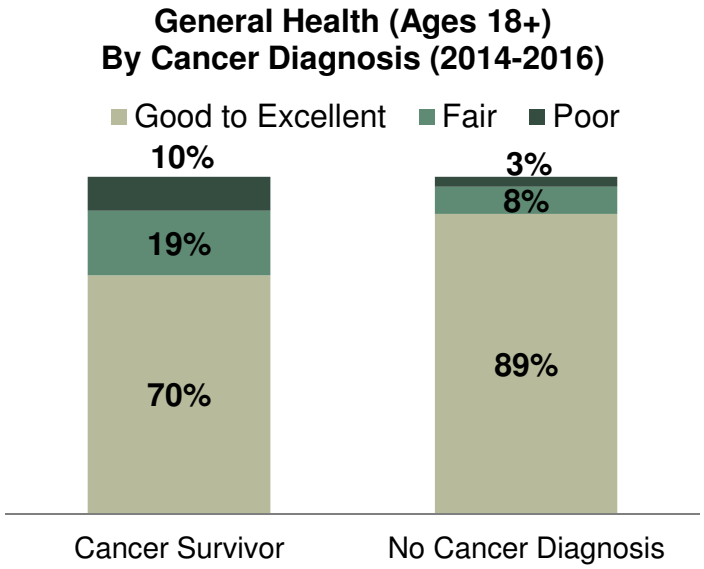


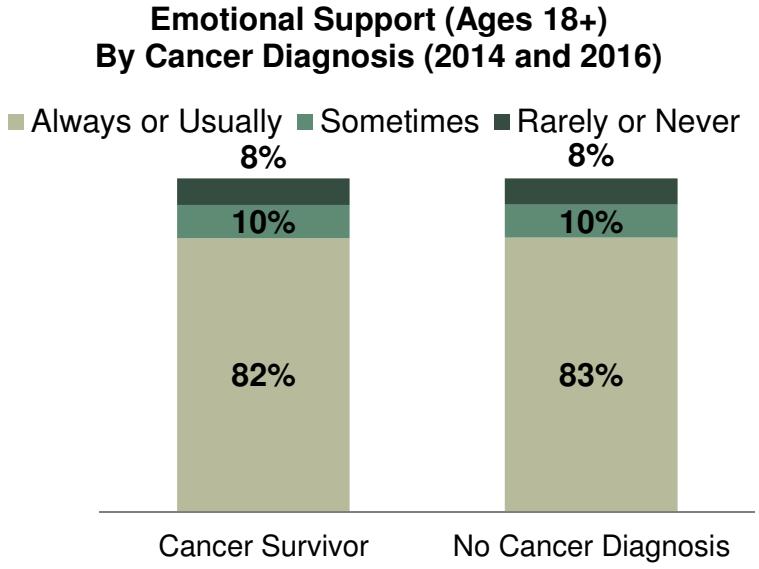
Notes: All rates are age adjusted to the 2000 U.S. standard population.
Obesity rates include adults, age 20 and over, with a Body Mass Index (BMI) classified as obese (BMI of 30+)

Quality of Life

A smaller percentage of adult Vermont cancer survivors reported their general health as good to excellent (70%), compared to Vermont adults who had never been diagnosed with cancer (89%, 2014-2016). In addition, adult cancer survivors reported their general health as poor or fair at a higher rate (10% poor, 19% fair) than adults who had never been diagnosed with cancer (3% poor, 8% fair, 2014-2016).

Adult Vermont cancer survivors reported always or usually receiving emotional or social support at a similar rate (82%) compared to Vermont adults who had never been diagnosed with cancer (83%, 2014 and 2016). Cancer survivors and those never diagnosed with cancer also reported receiving emotional support sometimes, rarely, or never at similar rates (2014 and 2016).

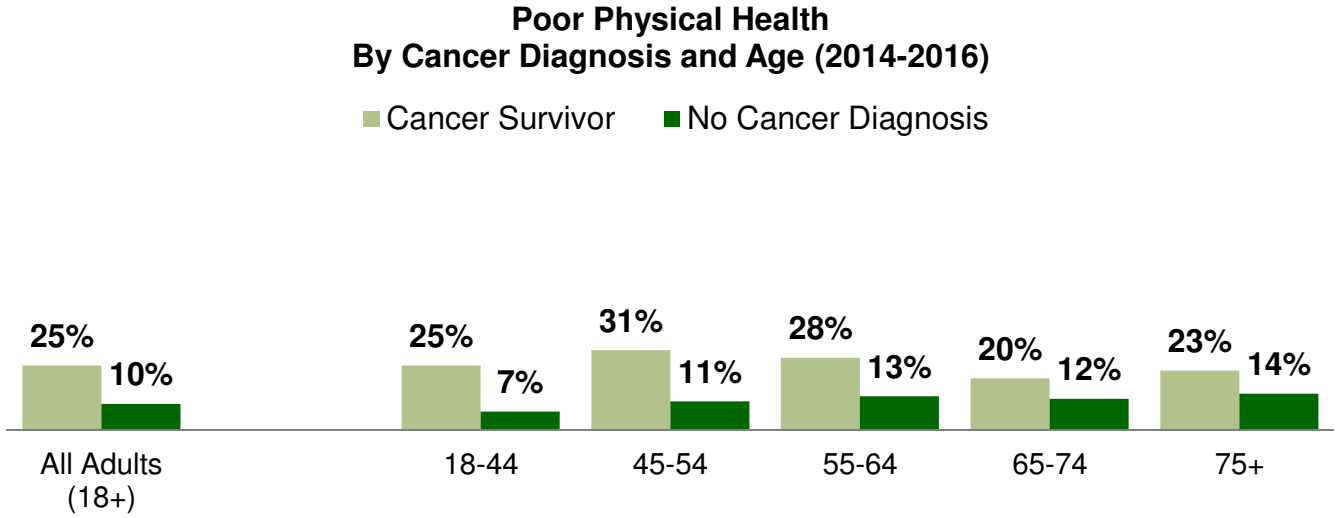




Quality of Life: Physical Health by Age

Overall, a larger percentage of Vermont cancer survivors experienced poor physical health on at least 14 days of the last month than did those Vermonters never diagnosed with cancer (2014-2016).

When broken down by age, a larger percentage of Vermont cancer survivors in all age groups reported having poor physical health on at least 14 days of the previous month than those never diagnosed with cancer (2014-2016). Vermonters aged 18-44 who had ever been diagnosed with cancer were more than twice as likely to have reported poor physical health in at least 14 days of the past month than those never diagnosed with cancer (2014-2016).

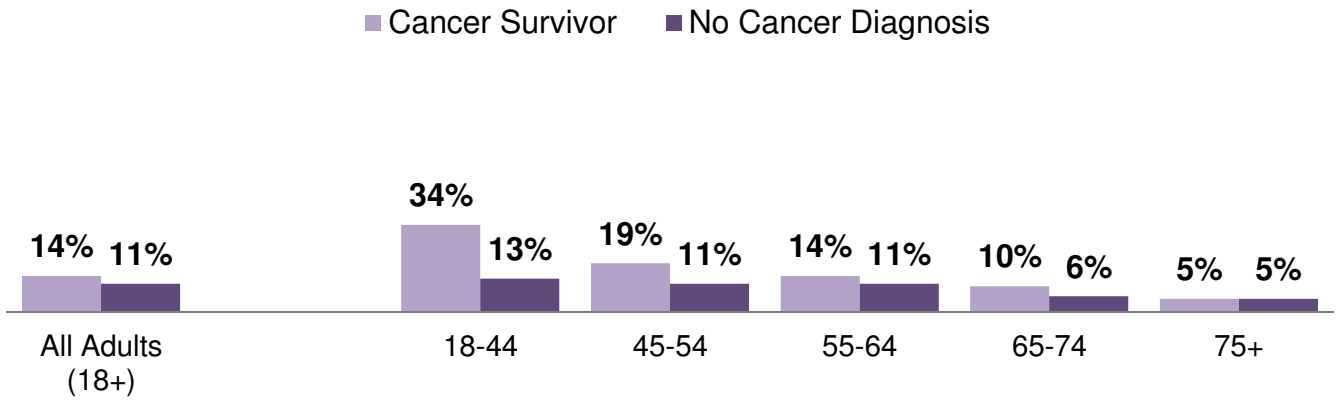


Quality of Life: Mental Health by Age

A higher percentage of cancer survivors reported poor mental health on 14 or more days during the past month than did individuals never diagnosed with cancer (2014-2016).

When broken down by age, a greater percentage of Vermont cancer survivors ages 18-54 and 65-74 reported having poor mental health on at least 14 days of the previous month than those never diagnosed with cancer (2014-2016).

Poor Mental Health
By Cancer Diagnosis and Age (2014-2016)

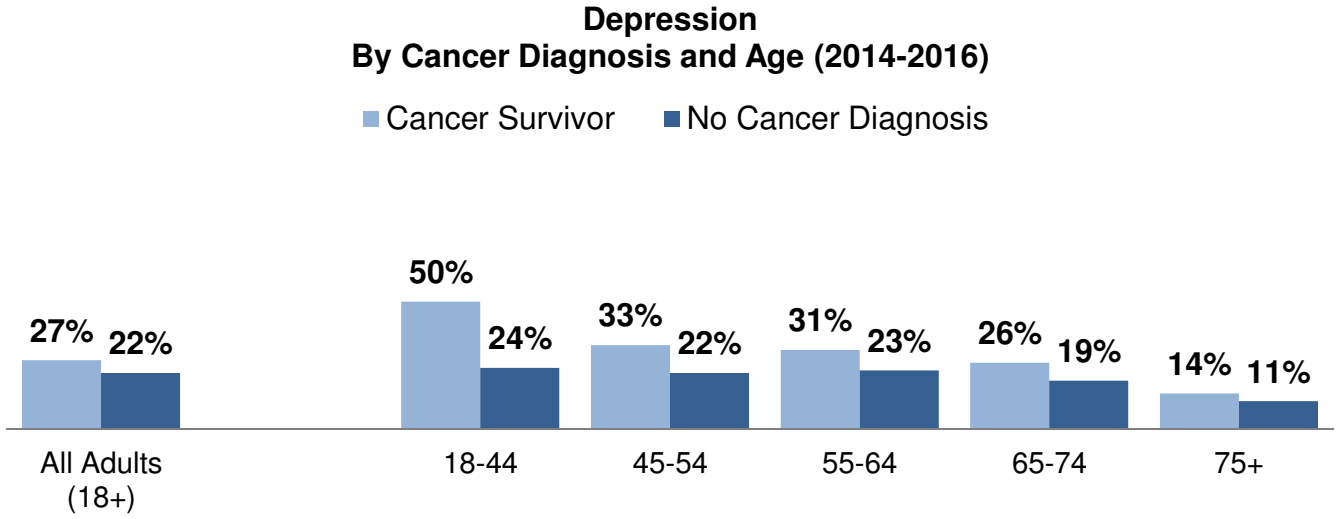


Quality of Life: Depression by Age

A higher percentage of adult Vermont cancer survivors reported having been diagnosed with depression compared to adult Vermonters who have never had a diagnosis of cancer (2014-2016).

When broken down by age, a larger percentage of Vermont cancer survivors ages 18-44, 45-54, 55-64 and 65-74 reported having ever been diagnosed with depression than those never diagnosed with cancer (2014-2016).

Among those 75 and older there were no differences in the rates of depression between cancer survivors and those never diagnosed with cancer (2014-2016).

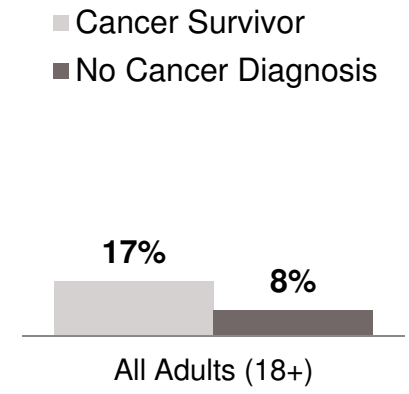


Quality of Life: Cognitive Decline

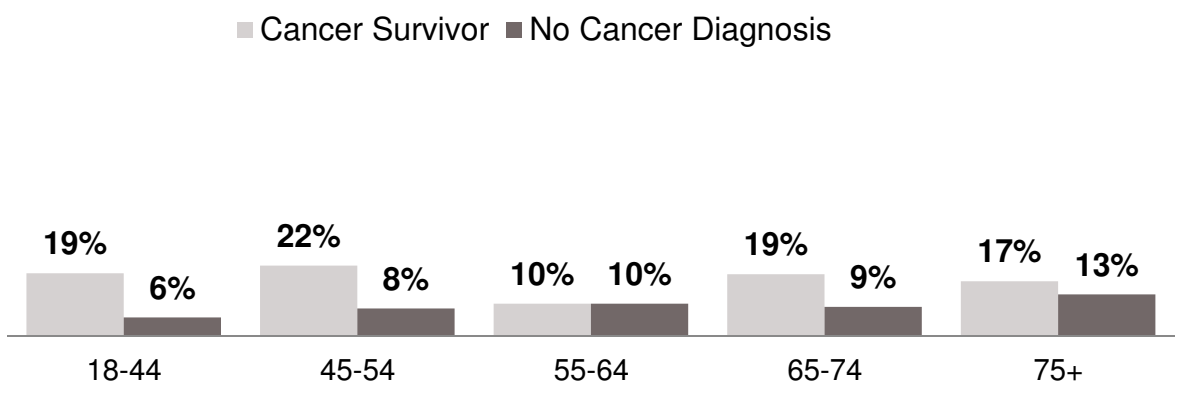
Vermonters were asked “In the past 12 months, have you experienced confusion or memory loss that is happening more often or is getting worse?” Those who were cancer survivors were more than twice as likely to report experiencing cognitive decline than those who were never diagnosed with cancer (2013).

When divided into age groups those cancer survivors aged 18-44 reported cognitive decline at more than three times the rate of those never diagnosed with cancer (2013). Among those aged 45-54 and 65-74, cancer survivors were more likely to report cognitive decline than those never diagnosed with cancer (2013). Among those aged 55-64 and those 75 and older, cancer survivors and those never diagnosed with cancer were equally likely to report cognitive decline (2013).

Cognitive Impairment
By Cancer Diagnosis (2013)



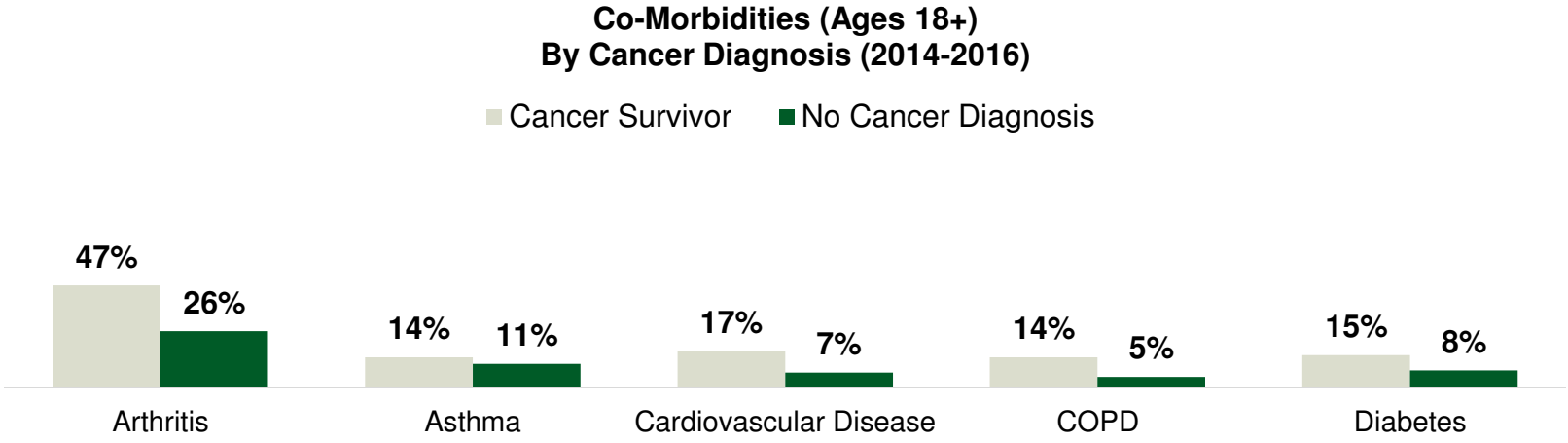
Cognitive Impairment
By Cancer Diagnosis and Age (2013)



Co-Morbidities

Some adult Vermont cancer survivors reported being diagnosed with additional chronic disease (co-morbidities).

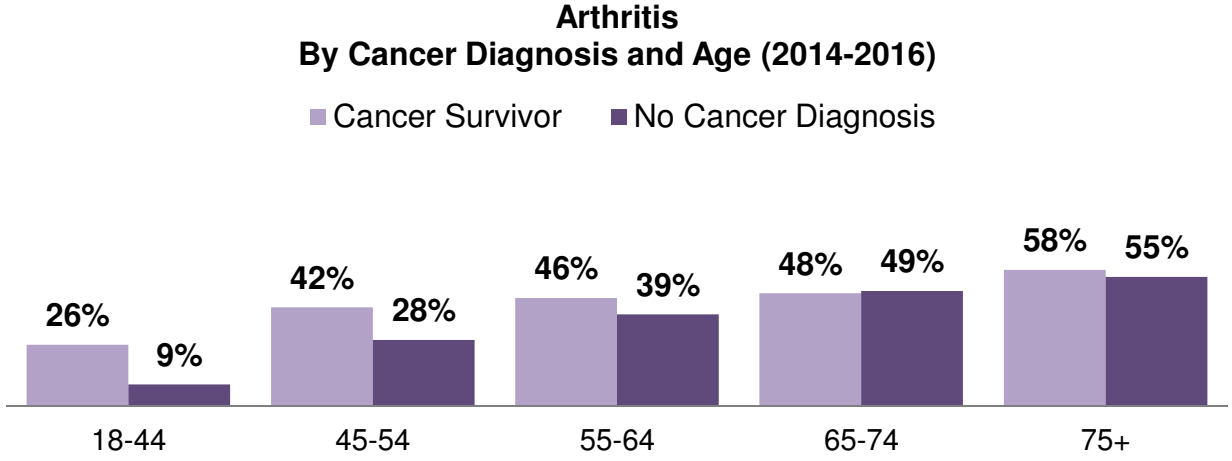
Among adult Vermont cancer survivors arthritis, asthma, cardiovascular disease, chronic obstructive pulmonary disease (COPD), and diabetes were all reported at higher rates than among those adult Vermonters never diagnosed with cancer (2014-2016).



Arthritis by Age

Cancer survivors aged 18-44 and 45-54 were more likely to have reported an arthritis diagnosis than those aged 18-44 and 45-54 who never had a cancer diagnosis (2014-2016).

However, among Vermonters 54-64, 65-74, and 75 and older, rates of arthritis were similar between cancer survivors and those never diagnosed with cancer (2014-2016).



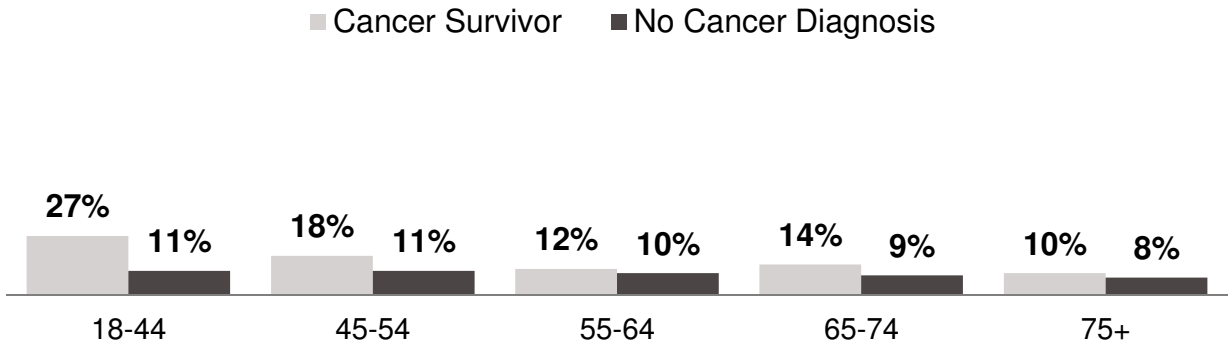
Asthma by Age

Vermonters aged 18-44 were more likely to have reported having asthma if they had been diagnosed with cancer than those not diagnosed with cancer (2014-2016).

Vermonters ages 45-54, 55-64, 65-74, and 75 and older were no more likely to have reported having asthma if they had been diagnosed with cancer than those not diagnosed with cancer (2014-2016).

Vermont adult cancer survivors who are a racial or ethnic minority reported having asthma at a higher rate than White Non-Hispanic cancer survivors (data not shown, 2014-2016).

Asthma
By Cancer Diagnosis and Age (2014 and 2016)

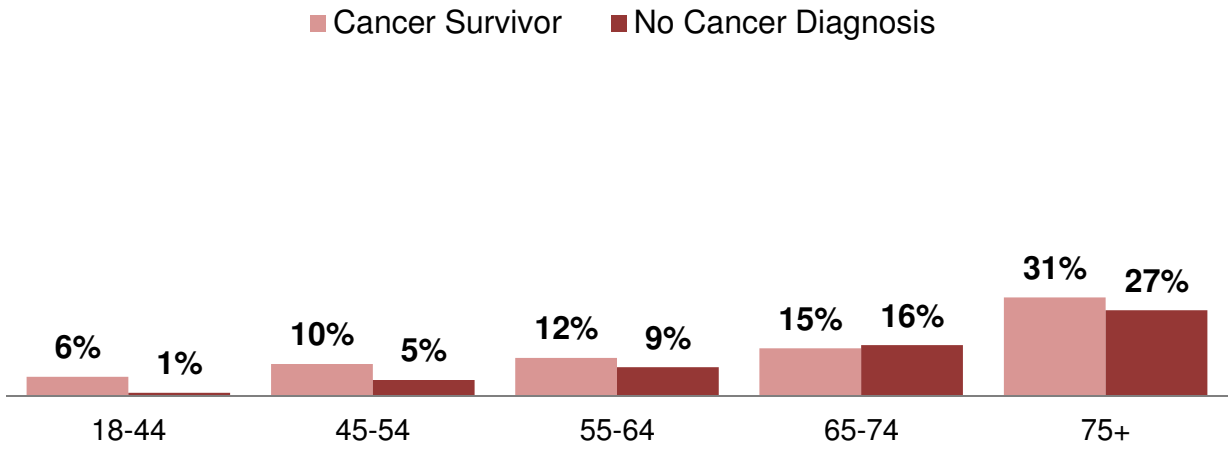


Cardiovascular Disease by Age

Cancer survivors aged 18-54 were more likely to have reported being diagnosed with cardiovascular disease than those aged 18-54 who never had a cancer diagnosis (2014-2016).

However, among Vermonters 55 and older, there were no differences in the rates of cardiovascular disease between cancer survivors and those never diagnosed with cancer (2014-2016).

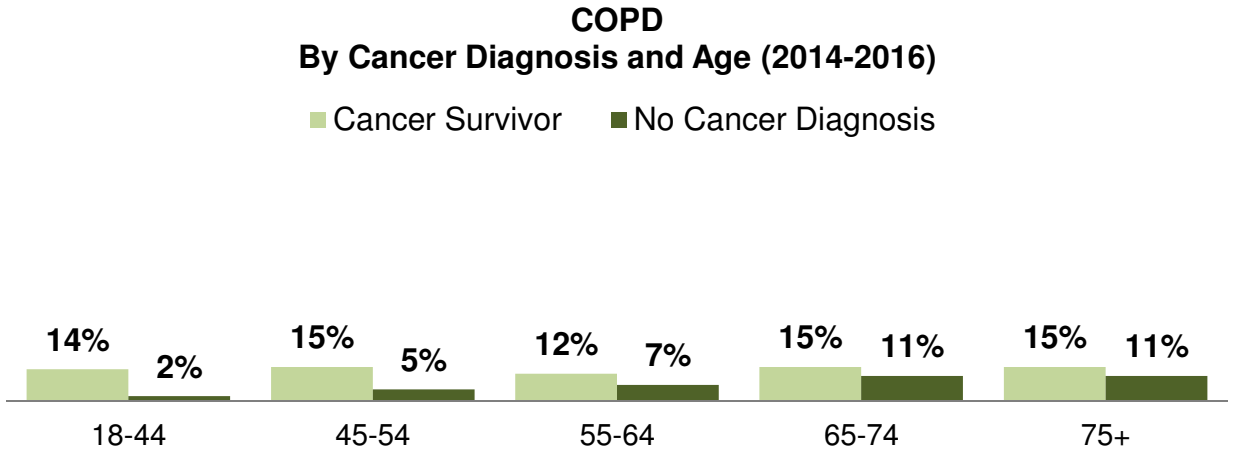
Cardiovascular Disease
By Cancer Diagnosis and Age (2014-2016)



Chronic Obstructive Pulmonary Disease (COPD) by Age

Vermont cancer survivors aged 18-44, 45-54, and 55-64 were more likely to have reported diagnosis of COPD than those not diagnosed with cancer (2014-2016). Vermont cancer survivors age 18-44 were more than twice as likely to have reported a diagnosis of COPD (14%) than those not diagnosed with cancer (2%, 2014-2016).

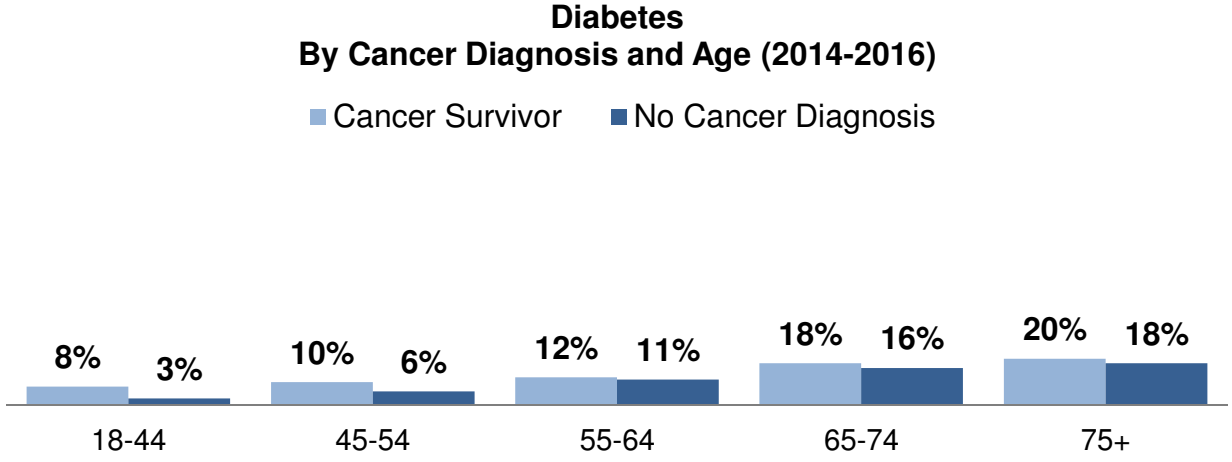
There was no difference among Vermonters ages 65-74, or 75 and older in the prevalence of COPD between cancer survivors and those never diagnosed with cancer (2014-2016).



Diabetes by Age

Vermont adult cancer survivors ages 18-44 were more likely to report a previous diagnosis of diabetes (8%) in comparison to Vermont adults ages 18-44 who have never had a cancer diagnosis (3%, 2014-2016).

There were no differences among Vermonters ages 45-54, 55-64, 65-74, and 75 and older in the prevalence of diabetes between cancer survivors and those never diagnosed with cancer (2014-2016).



Data Notes

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. Since 1990, Vermont, along with the 49 other states and three territories, has participated in the BRFSS with the Centers for Disease Control and Prevention (CDC). Over 7,000 Vermonters are randomly and anonymously selected and called annually. 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.

Health Insurance: Comparisons between those with and without health insurance are always limited to those below age 65 since all Americans above age 65 are eligible for health insurance via Medicare.

Education: Comparisons among those with different levels of education are always limited to those aged 25 and older since many adults under age 25 are in the process of obtaining additional education.

Federal poverty level (FPL) is a federal measure calculated from both annual household income and family size. FPL is used to determine eligibility for government assistance programs. People living below 250% FPL, for example, are still considered low income, often lacking sufficient income to meet basic needs.

Age Adjustment: Measures from BRFSS and YRBS are adjusted for age only if they are Healthy Vermonters 2020 goals. Age adjustment groupings come from those determined by Healthy People 2020.

Confidence Intervals used for statistical comparisons: A confidence interval represents the range in which a parameter estimate could fall which is calculated based on the observed data. For this analysis, we used a 95% confidence interval, meaning that we are 95% confident that the true value of the parameter being examined falls within the specified confidence interval. Statistical significance is assessed by comparing the confidence intervals of different groups. If the confidence intervals from two groups, such as that for the state and a specific county, do not overlap we consider the estimates to be significantly different from one another.

Acknowledgement: This publication was supported by Grant/Cooperative Agreement Number NU58DP006322 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.