# Cancer Survivorship Data Compendium - 2018 New York State Behavioral Risk Factor Surveillance System

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# Introduction

# About this Resource

- The Cancer Survivorship Data Compendium uses data from the 2018 New York State (NYS) Behavioral Risk Factor Surveillance System (BRFSS).

- The purpose of the compendium is to present cancer-related data about survivorship, comorbidities, risk behaviors, quality of life, preventive care, and health care access.

- Users can present the slide deck in its entirety or pull relevant slides or relevant data for their own purposes. Please use suggested citation on slide 55 when referencing this resource.

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# About this Resource (Continued)

- A key finding is included for each slide to assist with interpretation. These talking points can be found starting on slide 56.

- Phrases such as "more likely," "twice as likely," and "three times as likely" are used to describe the strength of an association.
  - Due to the nature of the BRFSS survey methodology, a cause-and-effect relationship cannot be determined.

- Statistical significance is assessed by comparing the 95% 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.

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# About this Resource (Continued)

- Some of the data included in this presentation use age-adjustment https://www.health.ny.gov/diseases/chronic/ageadj.htm.

- Age-adjustment is a statistical process applied to rates of disease, death, injuries or other health outcomes that are associated with age.

- Age-adjustment allows groups in the population with different age structures to be compared.

- Because cancer survivors tend to be older in age than adults with no history of cancer, age-adjustment is appropriate to use for health outcomes that also vary by age.

- Slides where age-adjustment is used are noted.

# About the Behavioral Risk Factor Surveillance System (BRFSS)

- It is an annual statewide telephone and cellular survey designed by the Centers for Disease Control and Prevention (CDC).
- The NYS BRFSS sample is designed to be representative of the non-institutionalized adult household population, aged 18+ years
- It monitors modifiable risk behaviors and other factors contributing to the leading causes of morbidity and mortality.
- Interviews are conducted in English and Spanish.
- For more information about the BRFSS, visit https://www.health.ny.gov/statistics/brfss/

# BRFSS Limitations

- Because participation requires a telephone, results may be biased by the exclusion of persons who cannot afford phones.

- Because BRFSS data is self-reported, results may be subject to recall bias.

- Because findings are limited to noninstitutionalized U.S. citizens, cancer survivors with an advanced stage cancer living in nursing homes, long-term care facilities, or hospice or who are in the military are excluded.

- Because of survival bias, respondents might have survived cancer for several reasons: their cancer was in situ, early stage, or well differentiated, or are more responsive to treatment, or the survivors had better access to treatment or engaged in healthy behaviors.

Source: https://www.cdc.gov/mmwr/preview/mmwrhtml/ss6101a1.htm

# Cancer Survivorship in the BRFSS

# Cancer Survivorship Survey Questions

- In 2018, the NYS BRFSS questionnaire included two questions to assess cancer survivorship in the adult population:
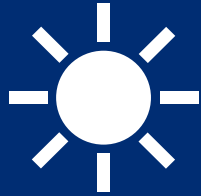
**Has a doctor, nurse, or other health professional ever told you that you had <u>skin cancer</u>?**

**Has a doctor, nurse, or other health professional ever told you that you had <u>any other types of cancer</u>?**

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# Cancer Survivorship Status

- In the following slides, a cancer survivor includes those who responded "yes" to having ever been diagnosed with cancer, excluding those whose only form of cancer was skin cancer.

- Respondents only reporting a skin cancer diagnosis were excluded as the survey does not distinguish between melanoma and nonmelanoma skin cancers and nonmelanoma skin cancer typically does not require treatment beyond surgery.

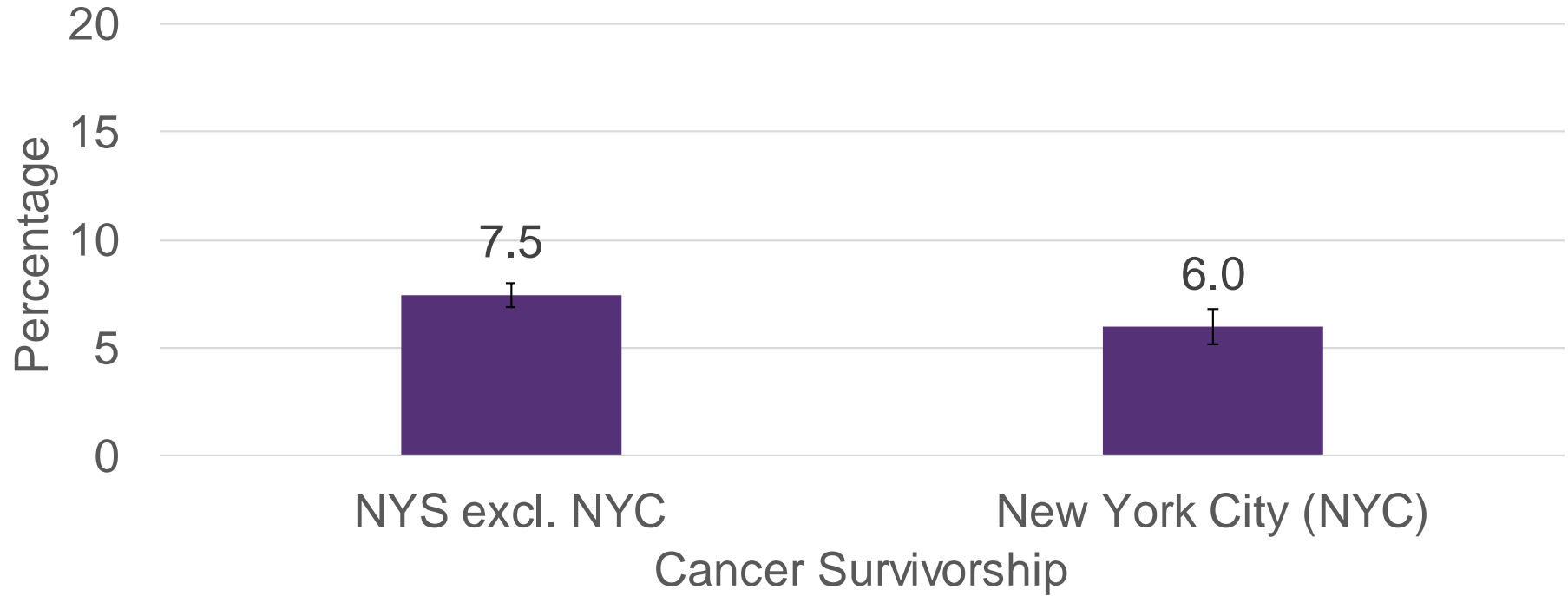# Cancer Survivorship Demographics

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# Cancer Survivorship in NYS

6.8% of adults report having ever been diagnosed with cancer

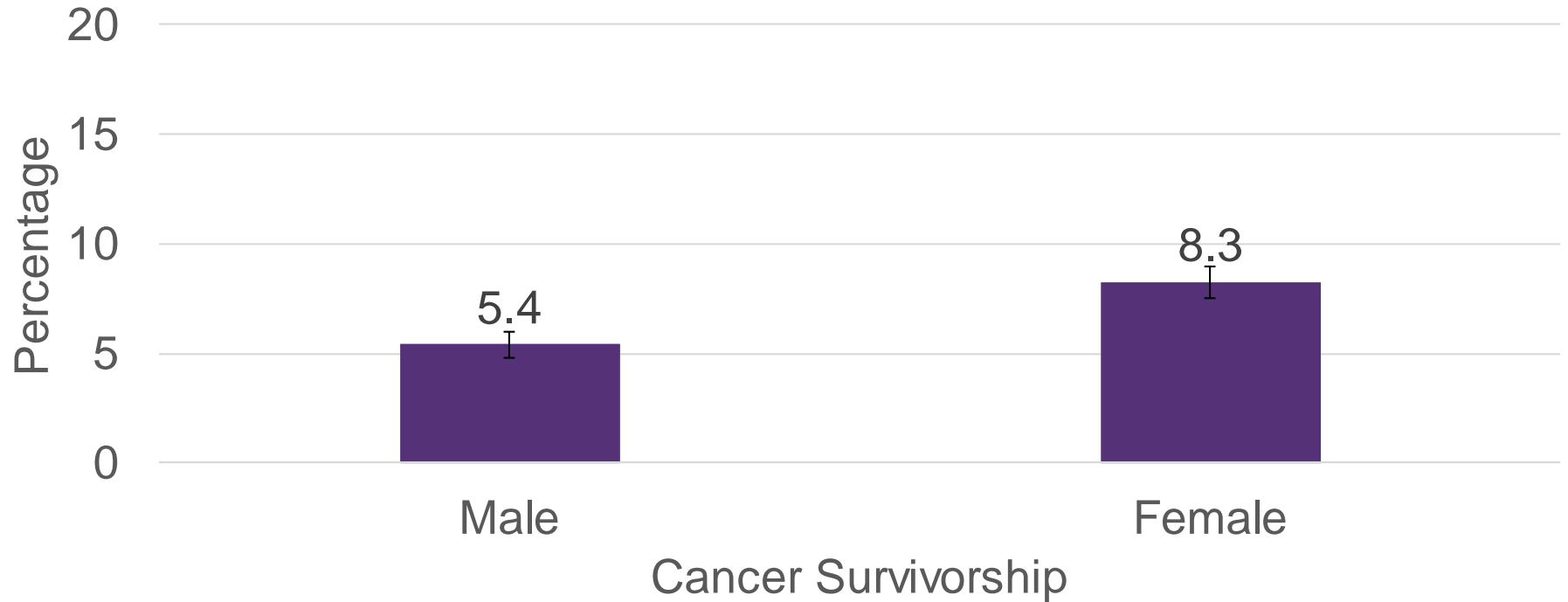Representing an estimated **1,069,774** adult New Yorkers

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# Cancer Survivorship in NYS, by Region



*Data Source: Behavioral Risk Factor Surveillance System 2018*
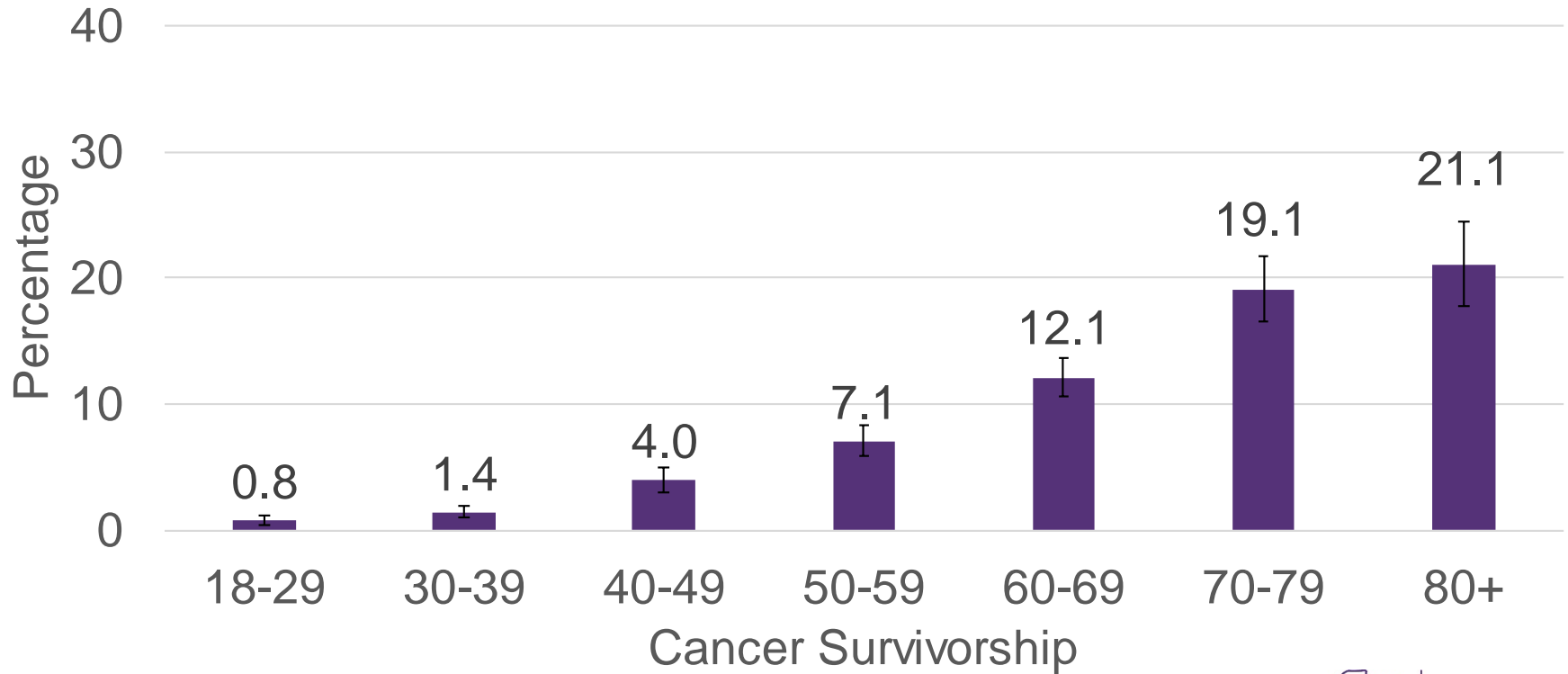*Note: Error bars represent 95% confidence intervals*

# Cancer Survivorship in NYS, by Sex



*Data Source: Behavioral Risk Factor Surveillance System 2018*
*Note: Error bars represent 95% confidence intervals*

# Cancer Survivorship in NYS, by Age Group



*Data Source: Behavioral Risk Factor Surveillance System 2018*
*Note: Error bars represent 95% confidence intervals*

# Cancer Survivorship in NYS, by Age and Sex



*Data Source: Behavioral Risk Factor Surveillance System 2018*
*Note: Error bars represent 95% confidence intervals*

# Cancer Survivorship in NYS, by Race/ Ethnicity



*Data Source: Behavioral Risk Factor Surveillance System 2018*
*Note: Error bars represent 95% confidence intervals*

# Cancer Survivorship in NYS, by Educational Attainment



*Data Source: Behavioral Risk Factor Surveillance System 2018*
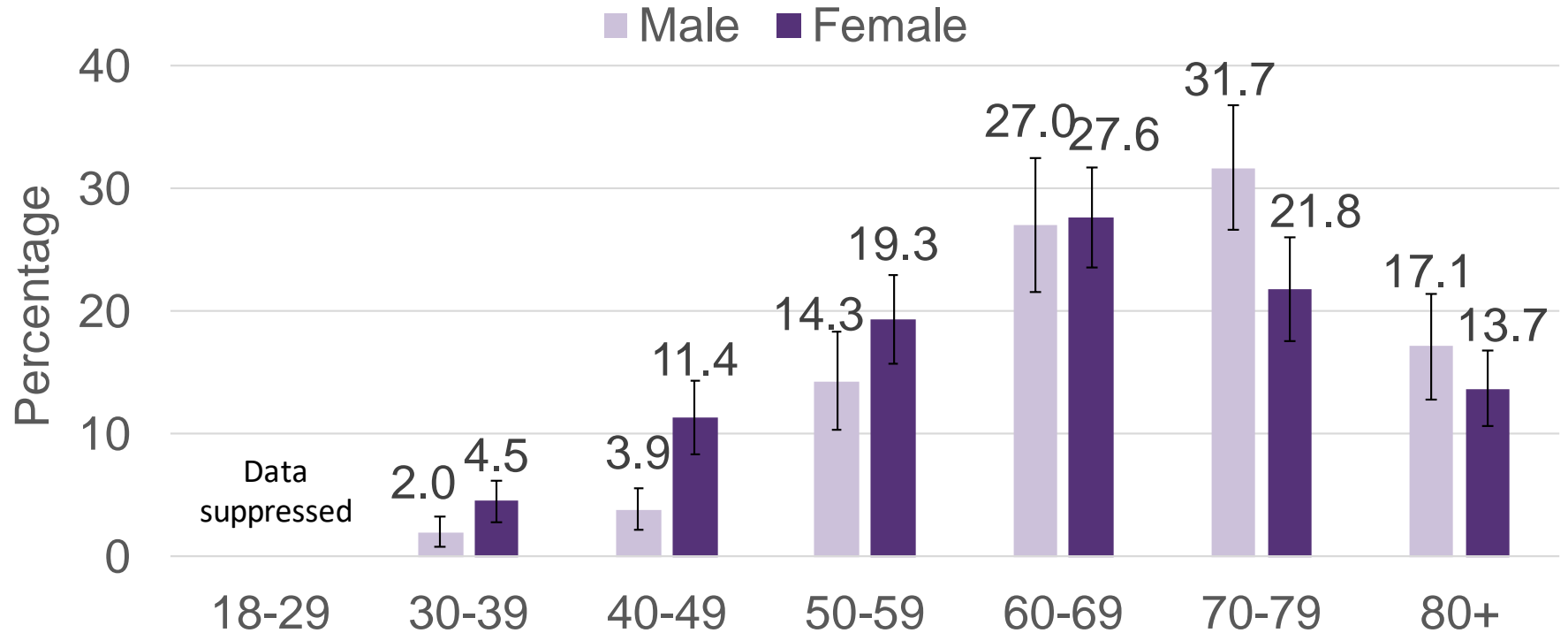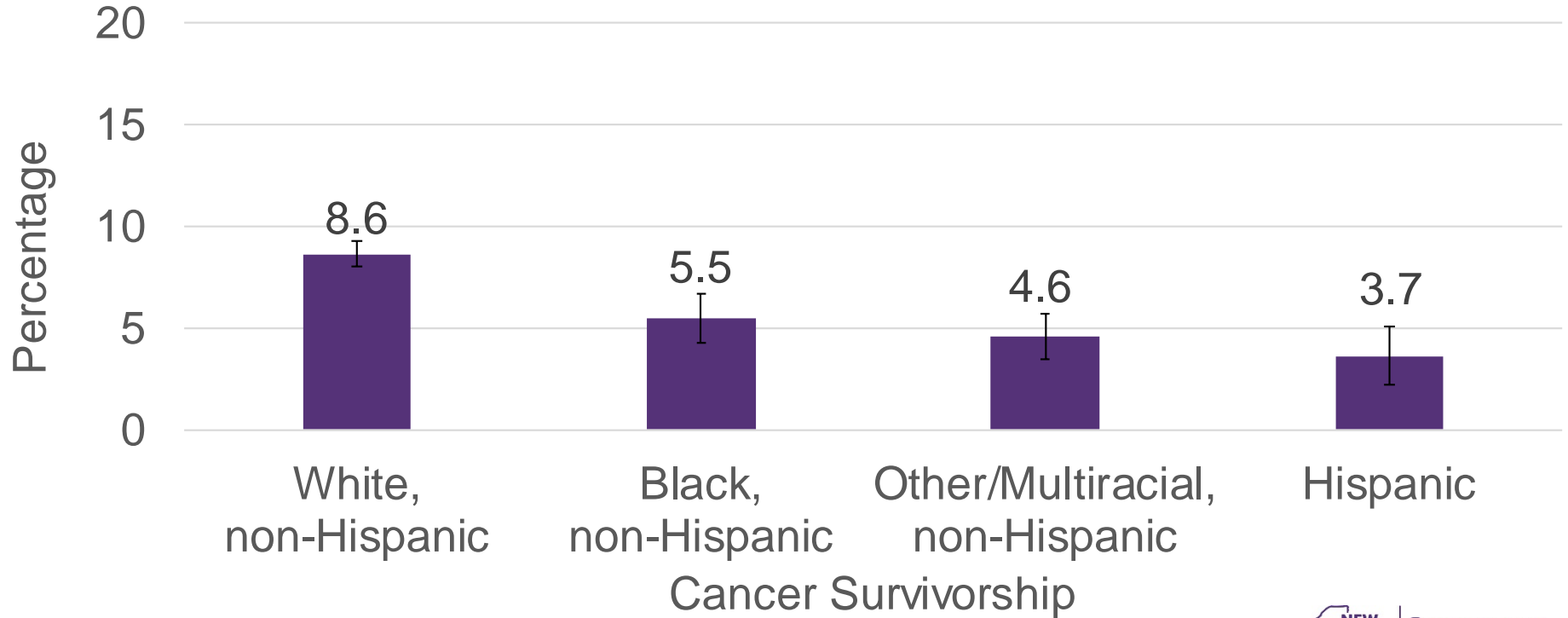*Note: Error bars represent 95% confidence intervals*

# Cancer Survivorship in NYS, by Employment Status



Data Source: Behavioral Risk Factor Surveillance System 2018
Note: Error bars represent 95% confidence intervals

# Cancer Survivorship in NYS, by Income Group



*"Missing" category included because more than 10% of the sample did not report income
*Data Source: Behavioral Risk Factor Surveillance System 2018*
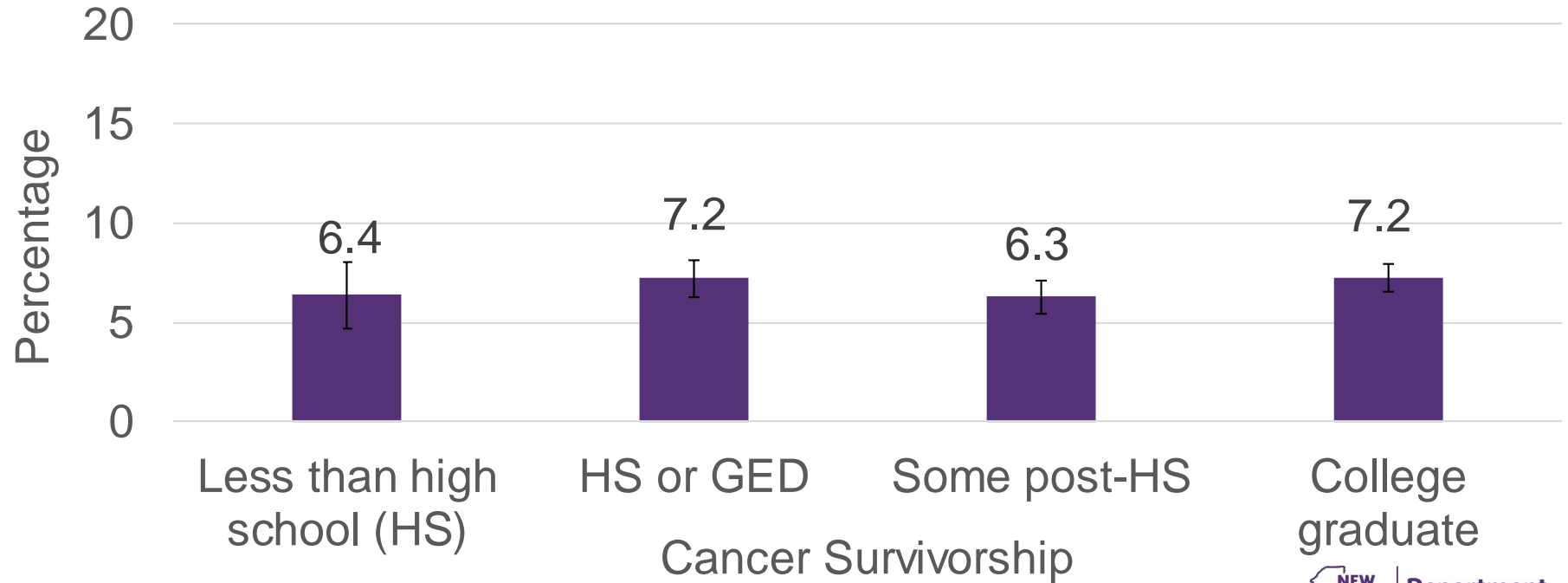*Note: Error bars represent 95% confidence intervals*

# Cancer Survivorship in NYS, by Insurance Type



Data Source: Behavioral Risk Factor Surveillance System 2018
Note: Error bars represent 95% confidence intervals

# Cancer Survivorship in NYS, by Marriage Status



*Data Source: Behavioral Risk Factor Surveillance System 2018*
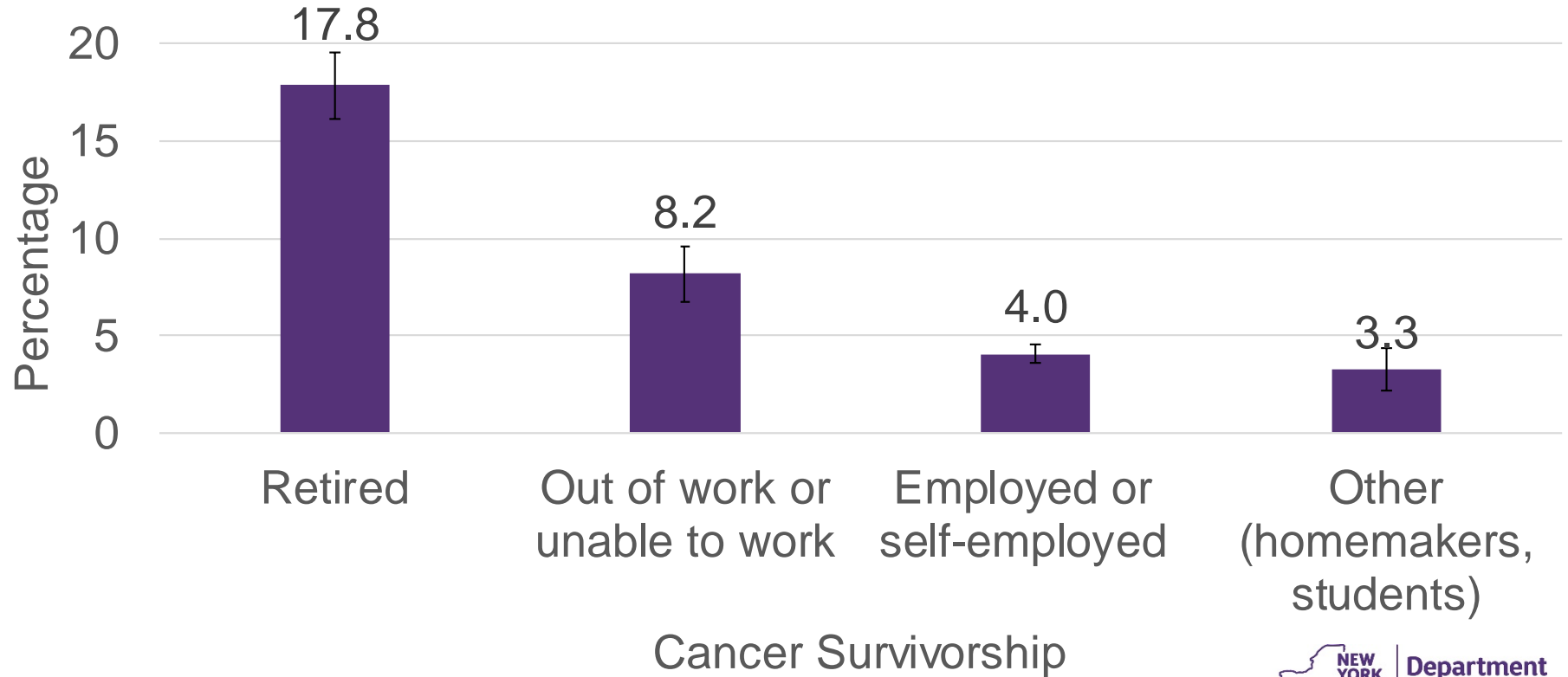*Note: Error bars represent 95% confidence intervals*

# Cancer Survivorship in NYS, by Disability Status



Data Source: Behavioral Risk Factor Surveillance System 2018
Note: Error bars represent 95% confidence intervals
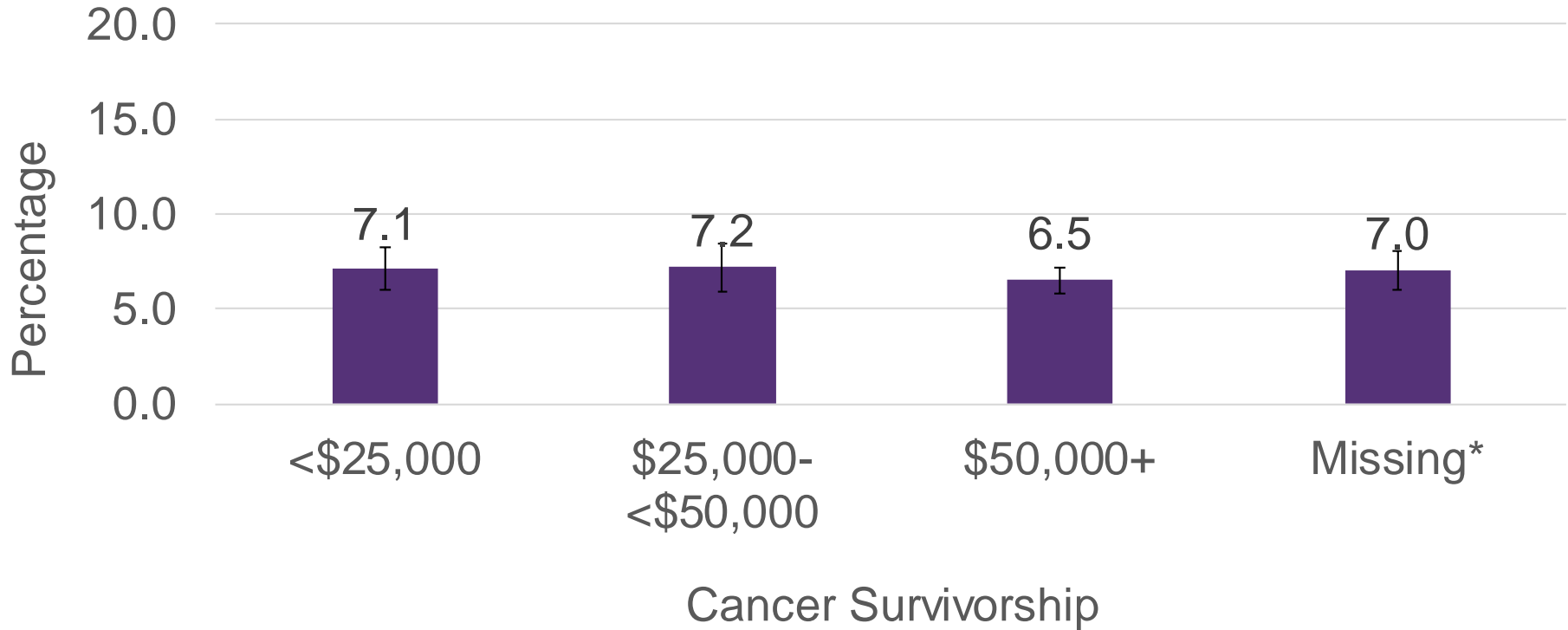
# Cancer Survivorship in NYS, by Veteran Status
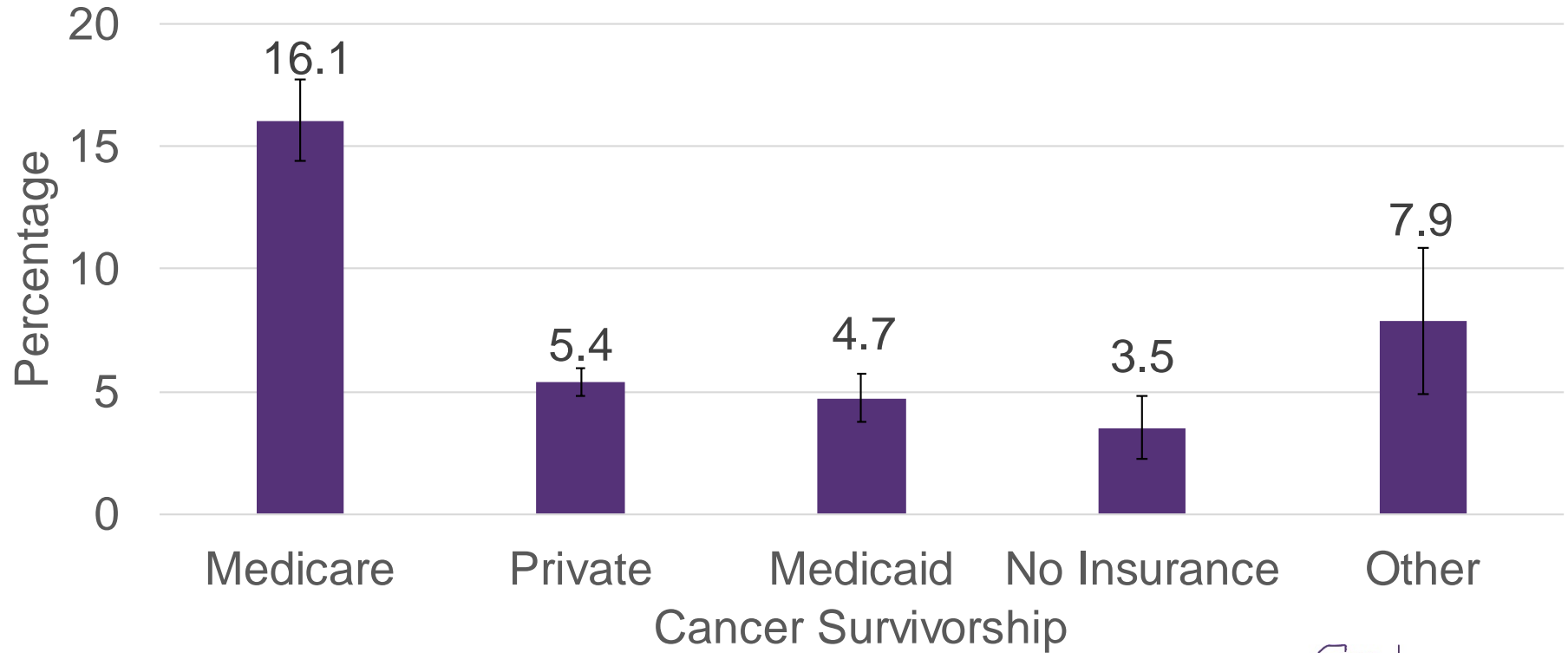


*Data Source: Behavioral Risk Factor Surveillance System 2018*
*Note: Error bars represent 95% confidence intervals*

# Cancer Survivors vs. Adults with No Cancer Diagnosis

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# Comorbidities

# Prevalence* of Arthritis by Survivorship Status



*Prevalence estimates are age-adjusted to the US 2000 standard population*

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

# Prevalence* of Asthma by Survivorship Status
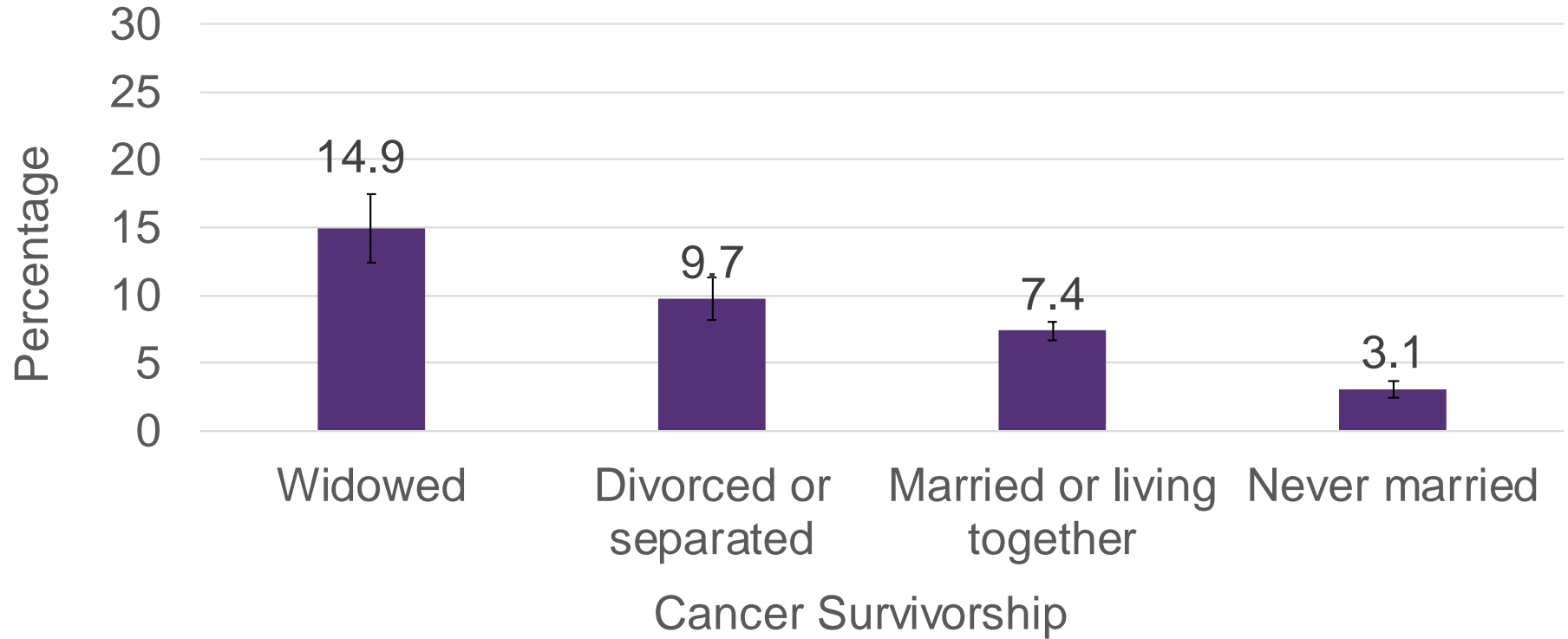


*Prevalence estimates are age-adjusted to the US 2000 standard population*

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

# Prevalence* of Cardiovascular Disease by Survivorship Status



*Prevalence estimates are age-adjusted to the US 2000 standard population

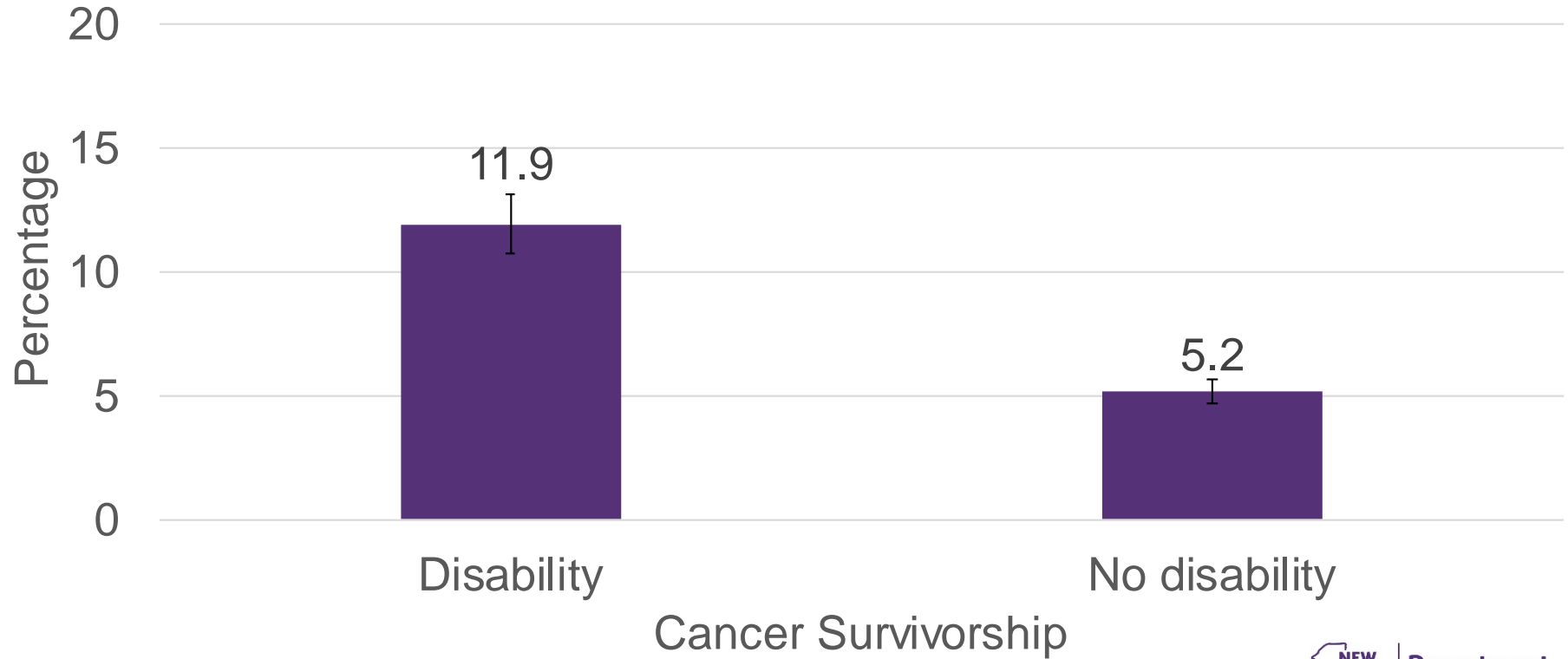*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

# Prevalence* of Diabetes by Survivorship Status



*Prevalence estimates are age-adjusted to the US 2000 standard population

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

# Prevalence* of Stroke by Survivorship Status
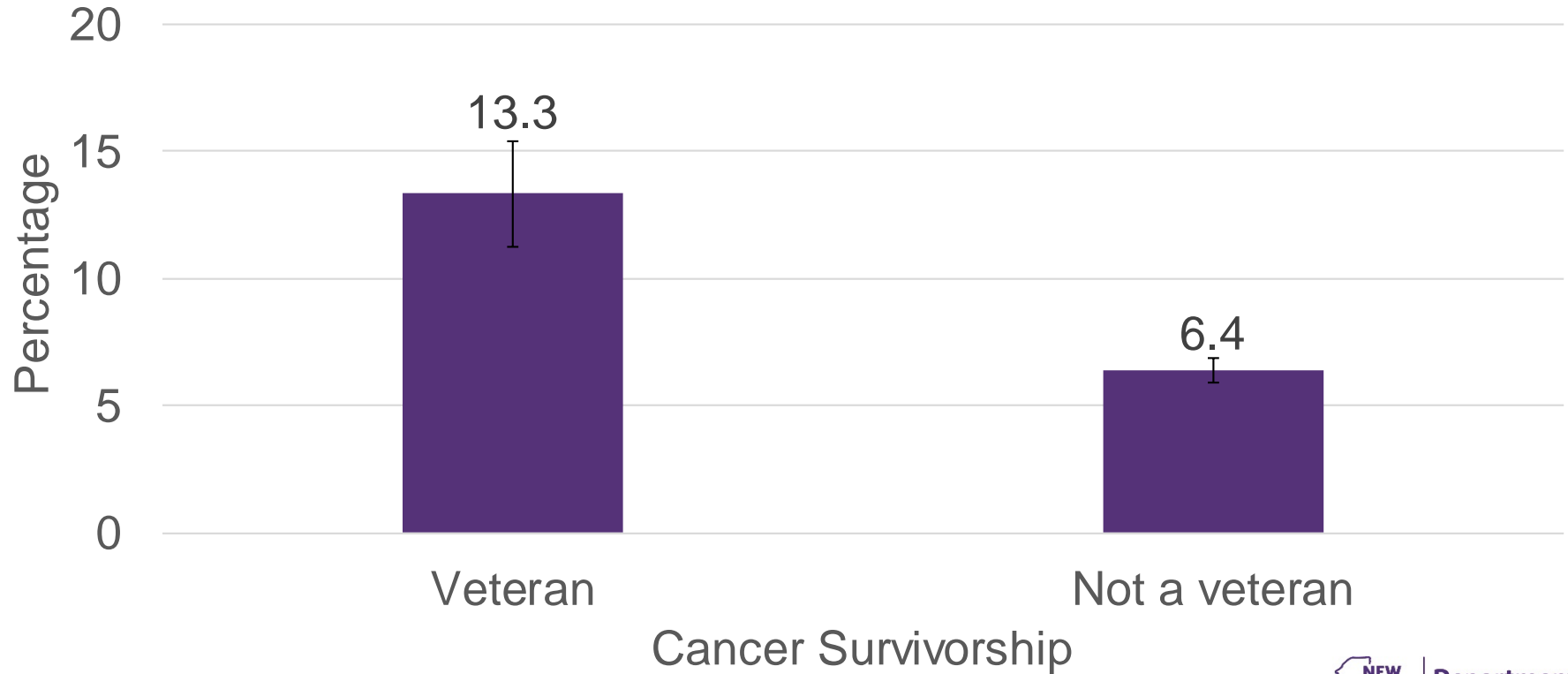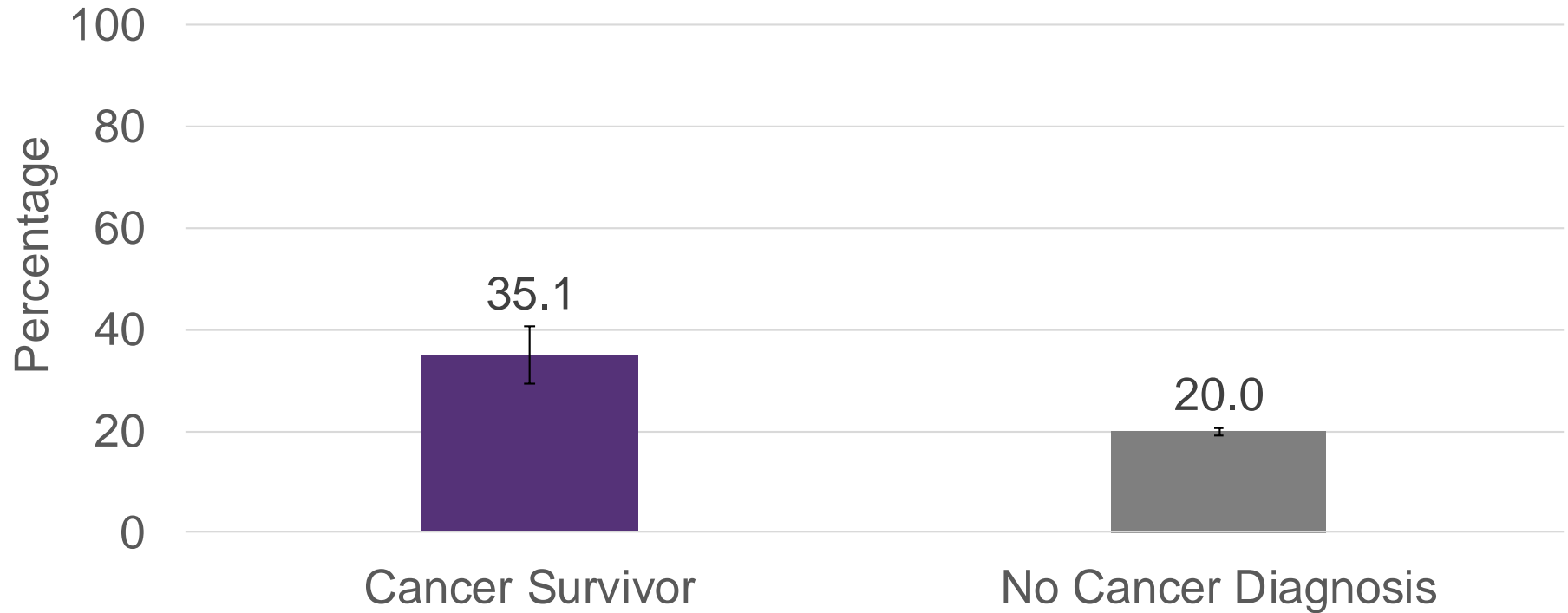


*Prevalence estimates are age-adjusted to the US 2000 standard population*

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

# Prevalence* of Depressive Disorder by Survivorship Status
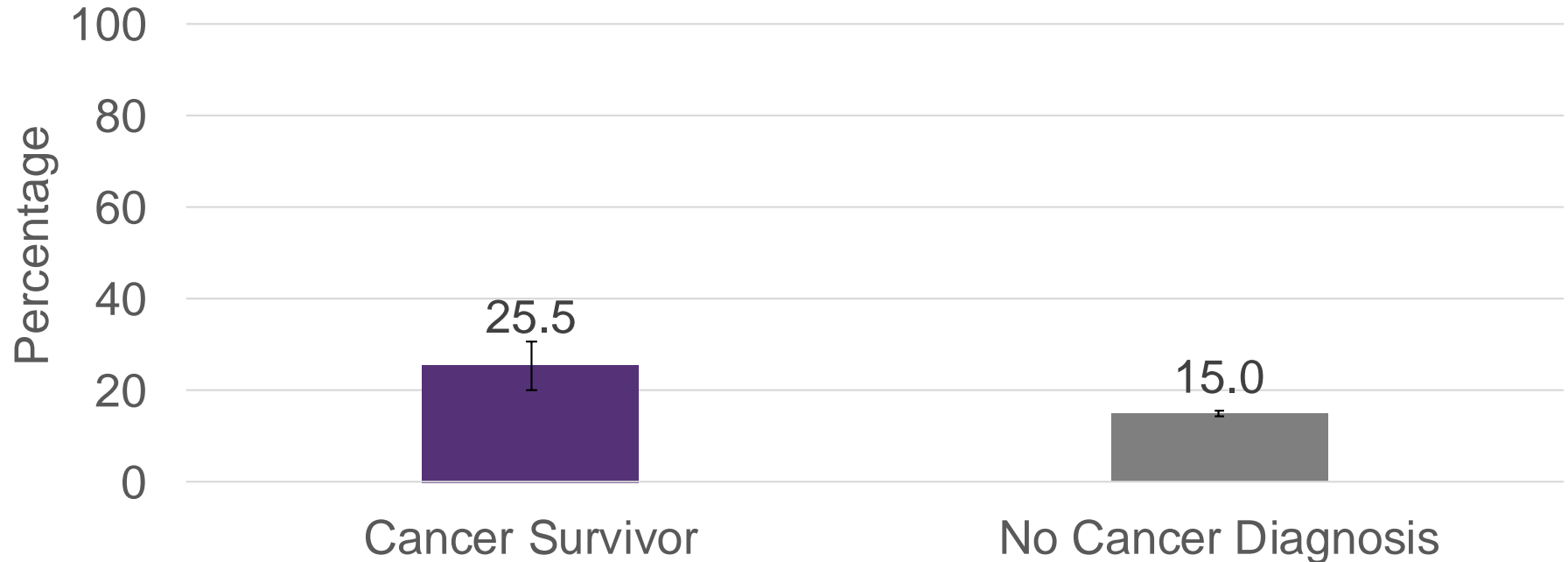


*Prevalence estimates are age-adjusted to the US 2000 standard population*

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

# Cancer-Related Risk Behaviors

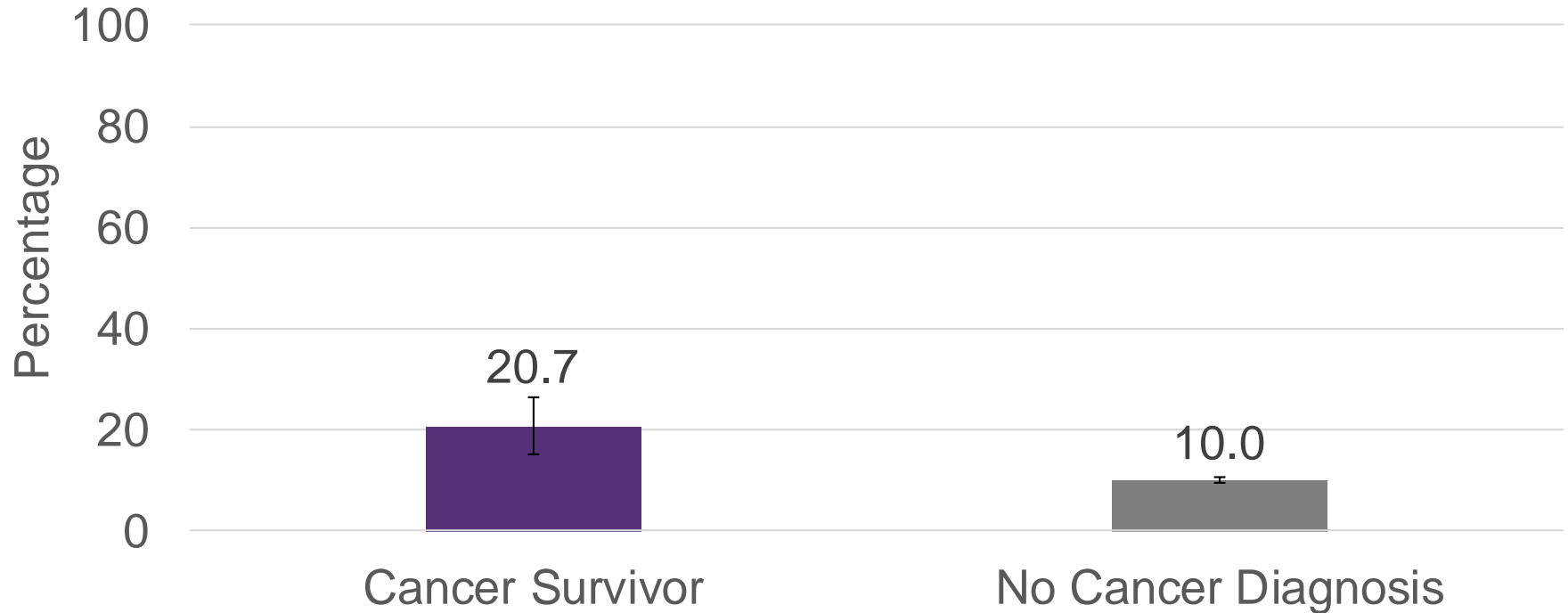NEW YORK STATE | Department of Health

# Prevalence* of Current Drinking by Survivorship Status



*Prevalence estimates are age-adjusted to the US 2000 standard population

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

# Prevalence* of Binge or Heavy Drinking by Survivorship Status



*Prevalence estimates are age-adjusted to the US 2000 standard population

Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals
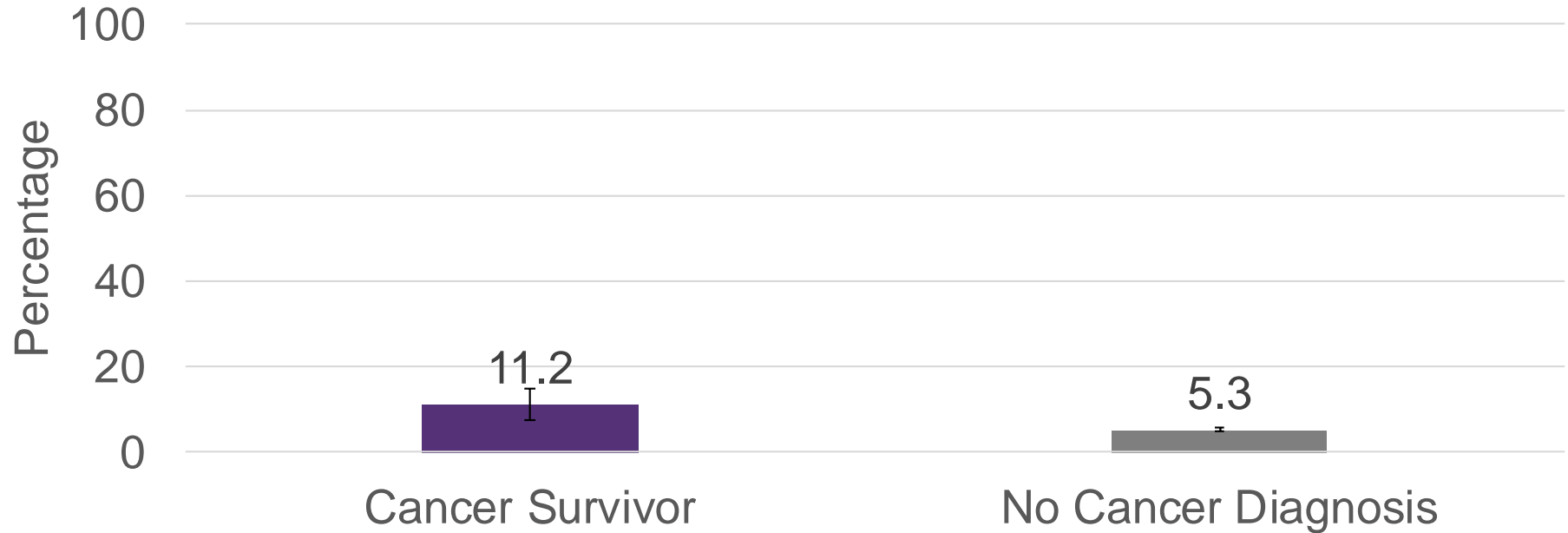
# Prevalence* of Current Smoking by Survivorship Status
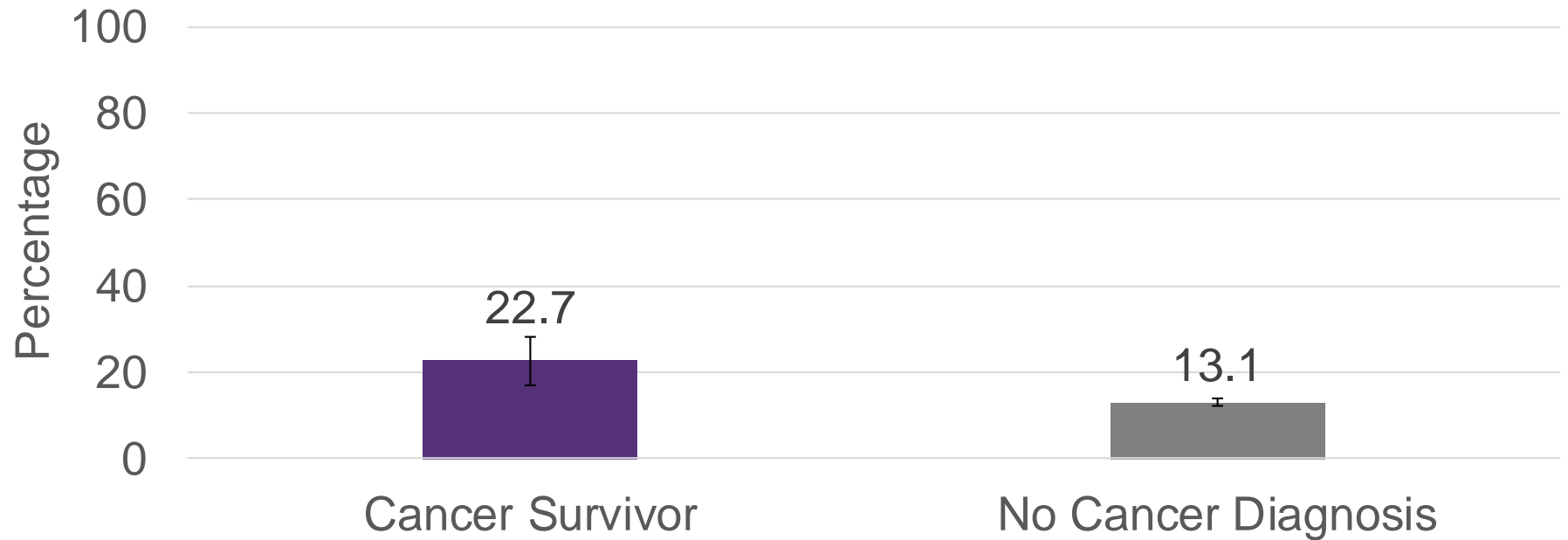


*Prevalence estimates are age-adjusted to the US 2000 standard population

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*
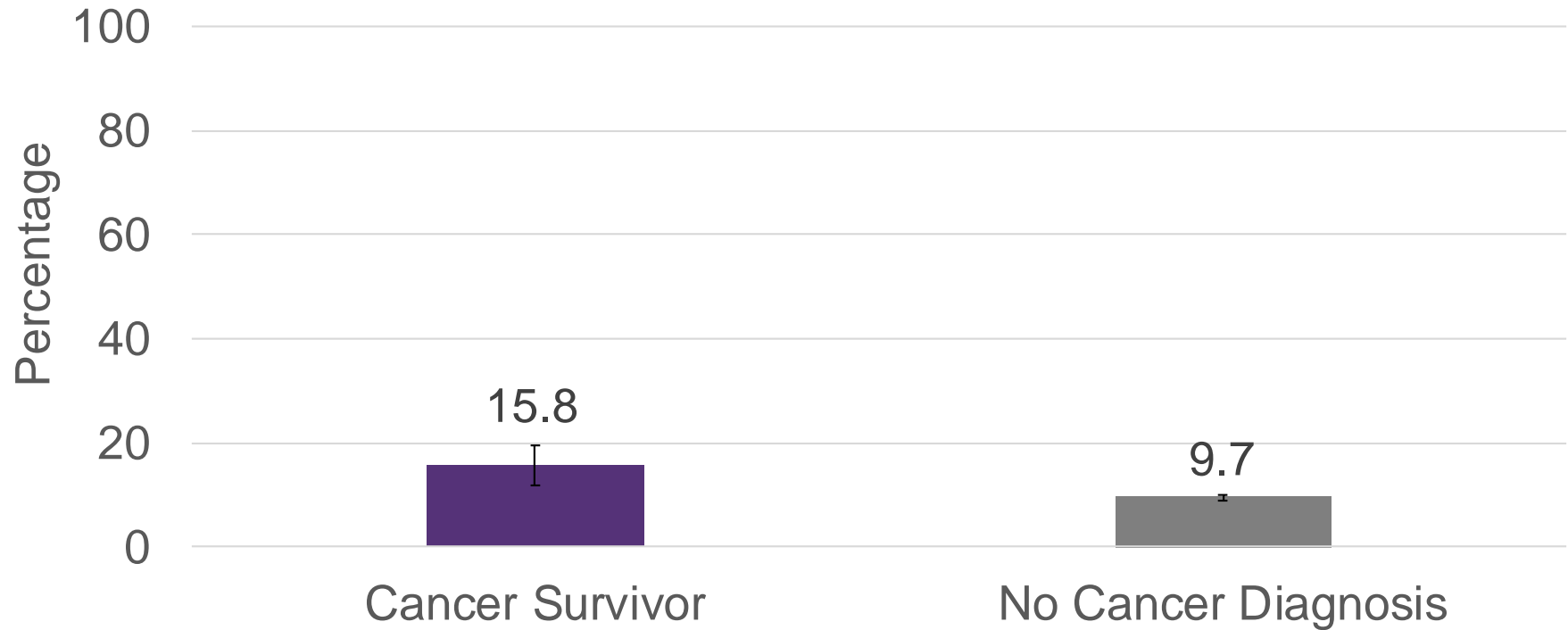
# Prevalence* of Smoking Status by Survivorship Status



**\*Prevalence estimates are age-adjusted to the US 2000 standard population**

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*
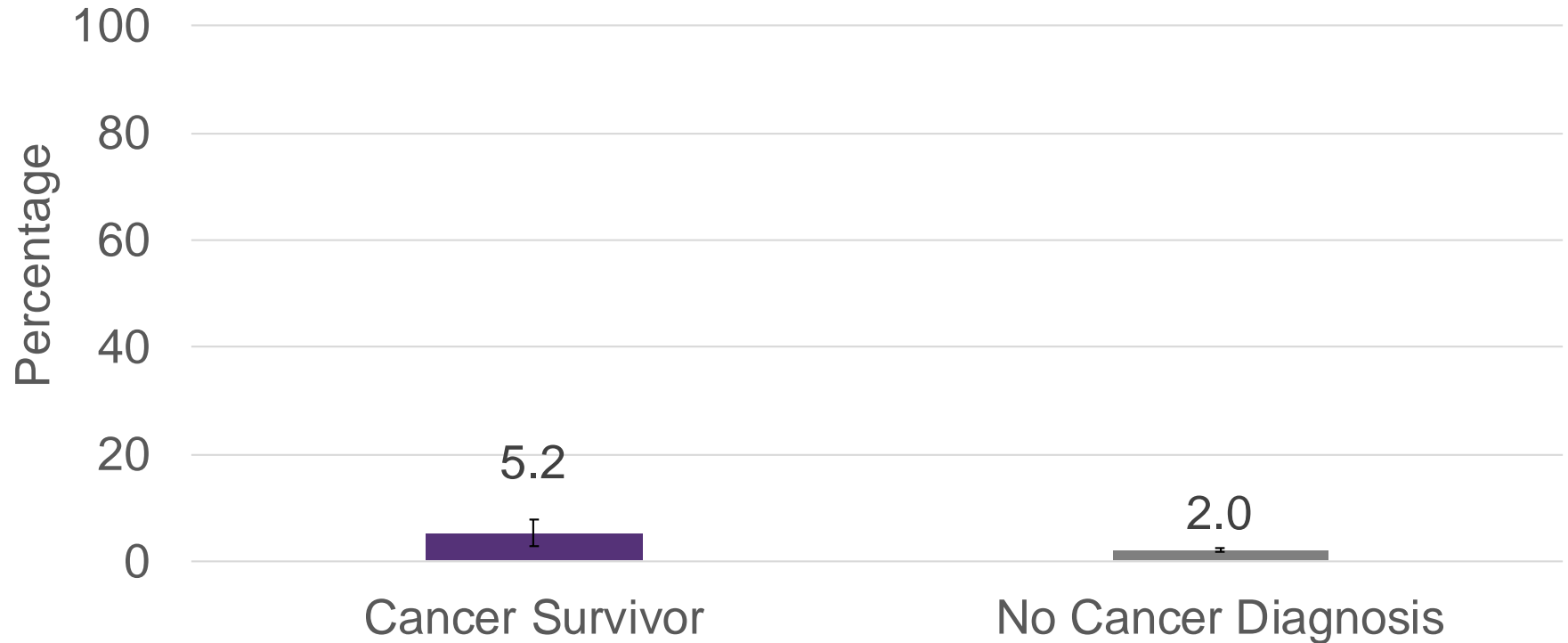
# Prevalence* of Obesity by Survivorship Status
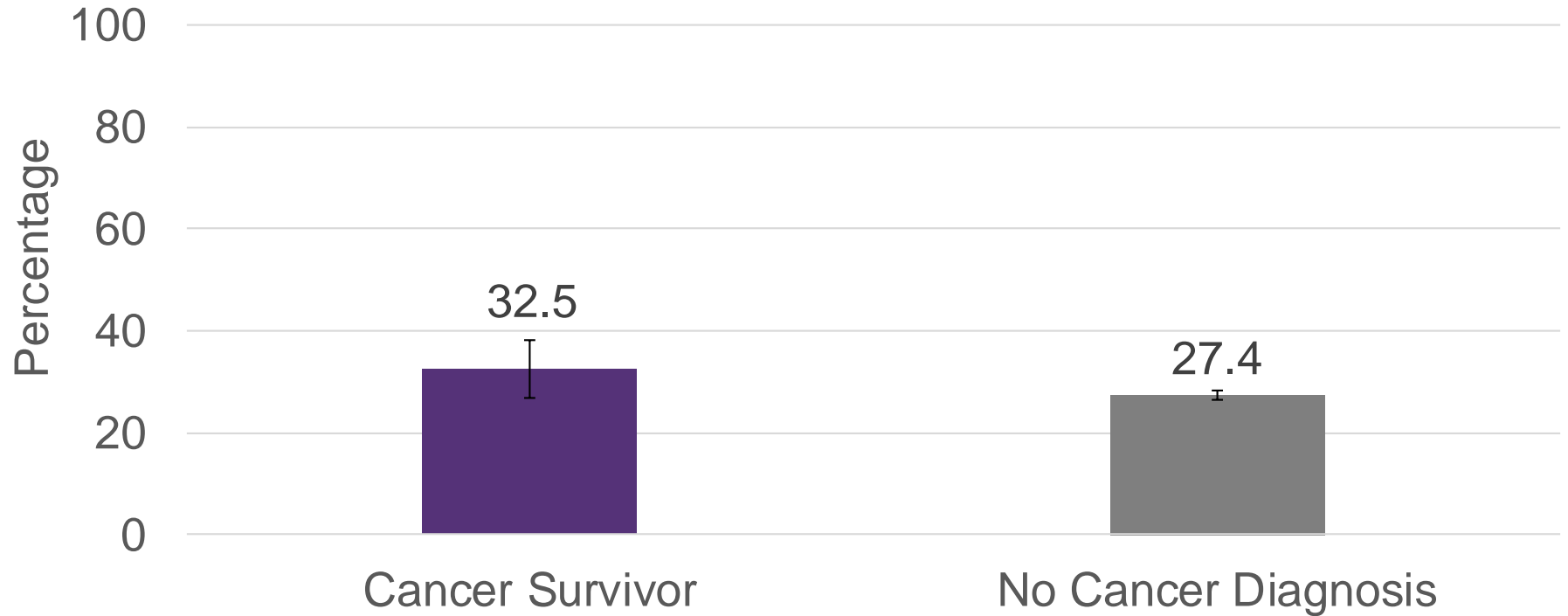


*Prevalence estimates are age-adjusted to the US 2000 standard population

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

# Prevalence* of No Leisure Time Physical Activity by Survivorship Status
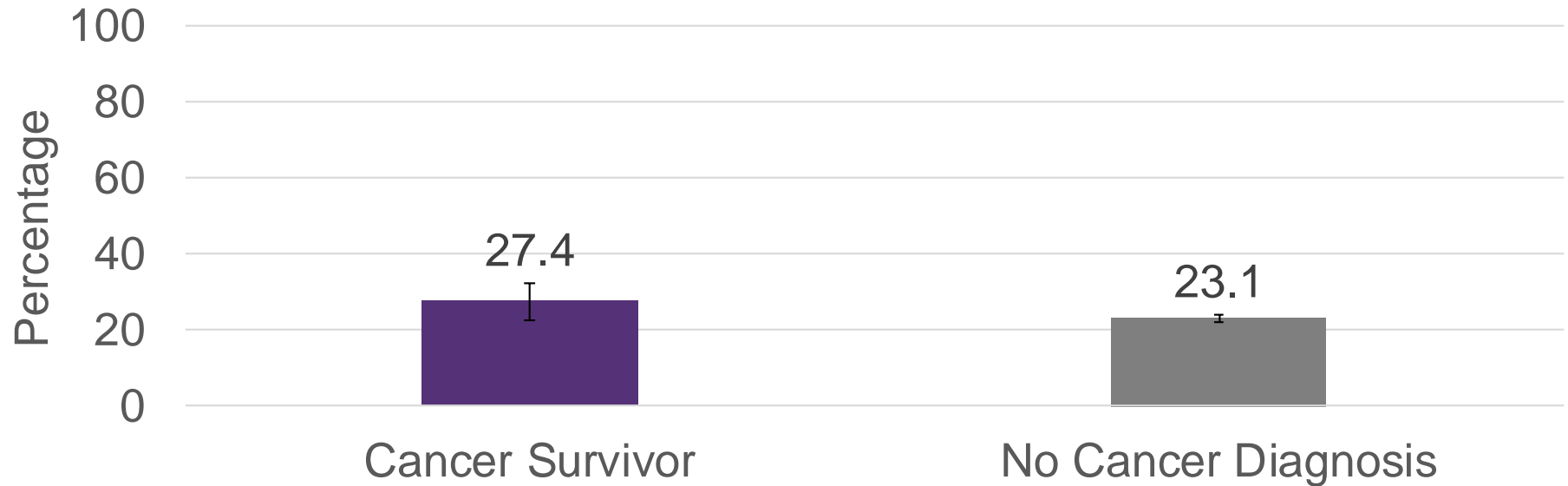


*Leisure time physical activity is defined as any physical activities or exercises engaged in not related to one's regular job*
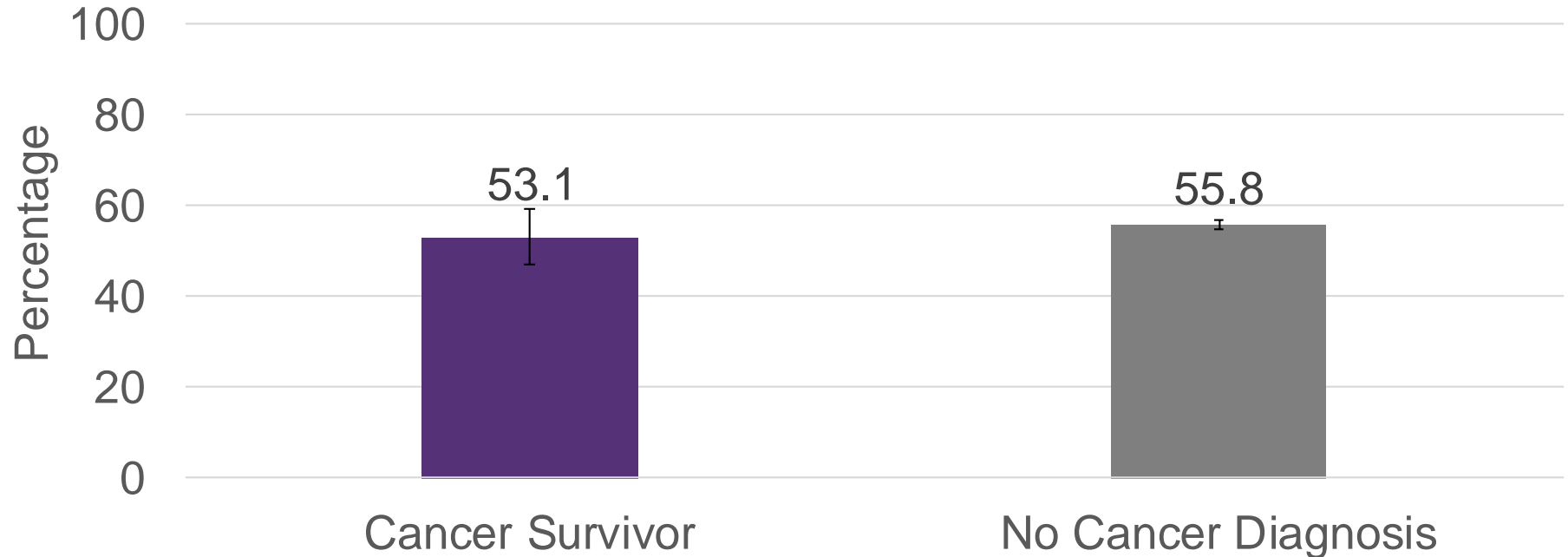
**\*Prevalence estimates are age-adjusted to the US 2000 standard population**

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

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# Health-Related Quality of Life

# Percentage* of Adults Reporting Fair or Poor Health by Survivorship Status
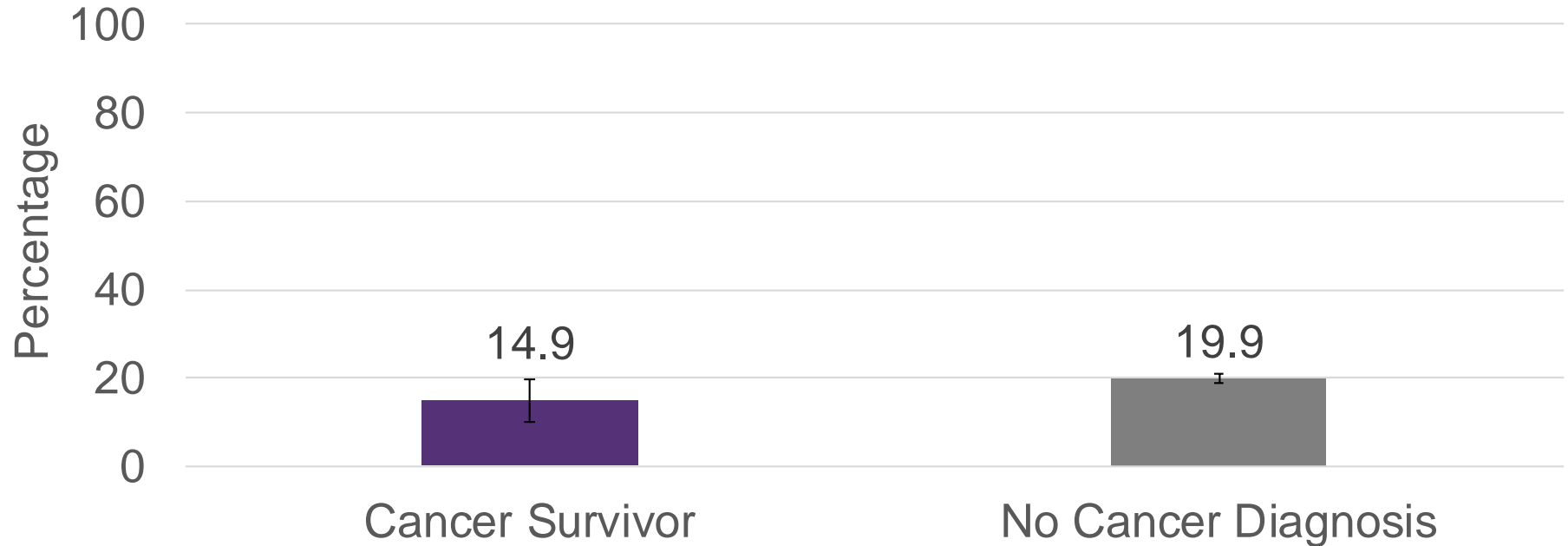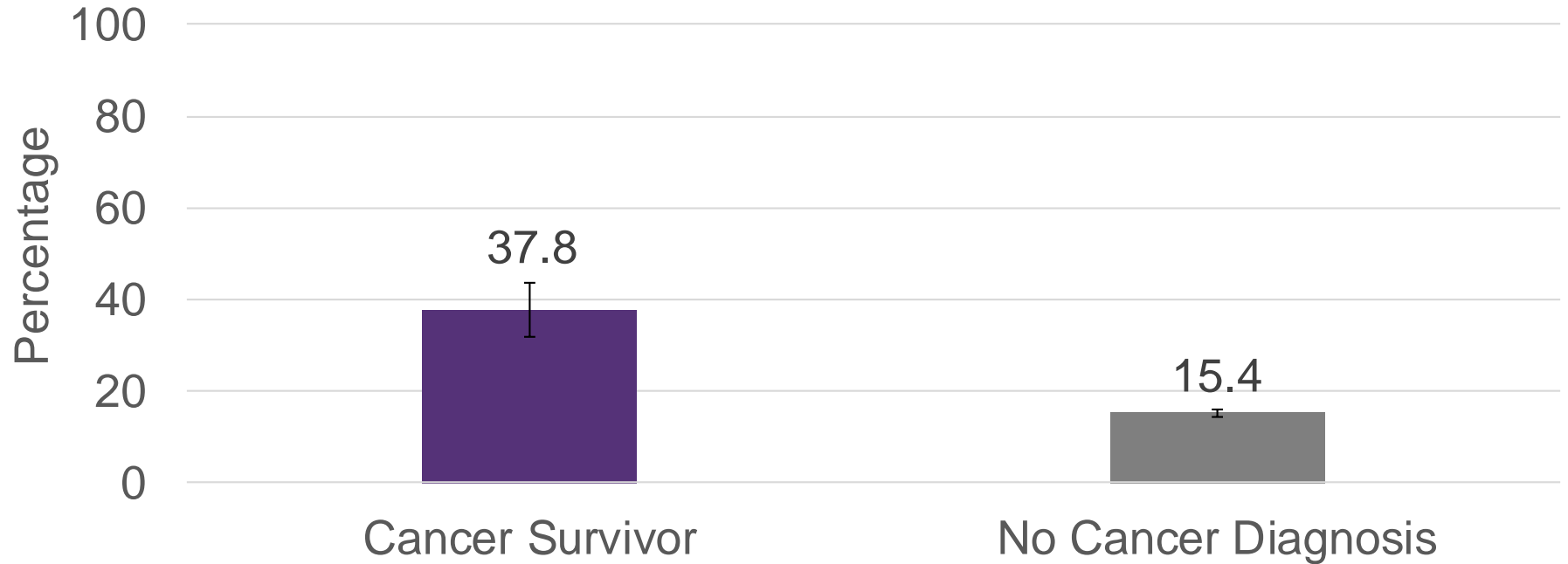


*Prevalence estimates are age-adjusted to the US 2000 standard population

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

# Physically Unhealthy Days* by Survivorship Status



How many days during the past 30 days was your physical health not good?

*Prevalence estimates are age-adjusted to the US 2000 standard population

Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals

# Mentally Unhealthy Days* by Survivorship Status
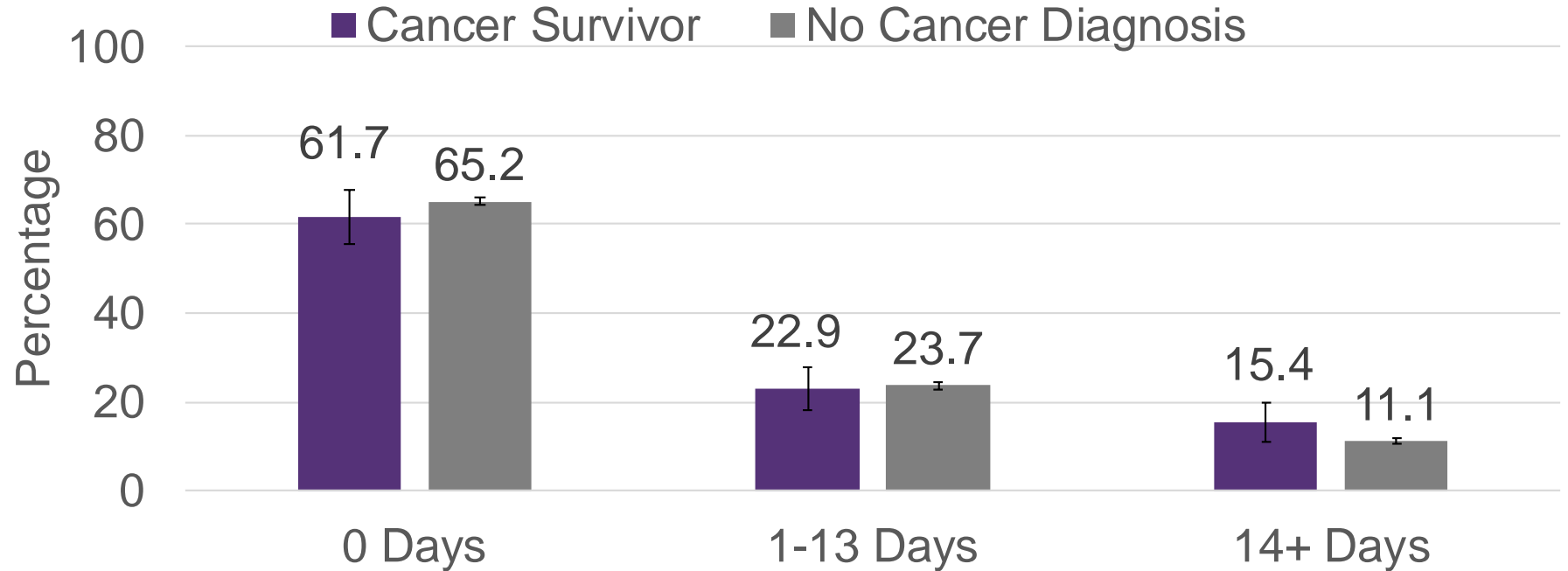


*How many days during the past 30 days was your mental health not good?*

***Prevalence estimates are age-adjusted to the US 2000 standard population**
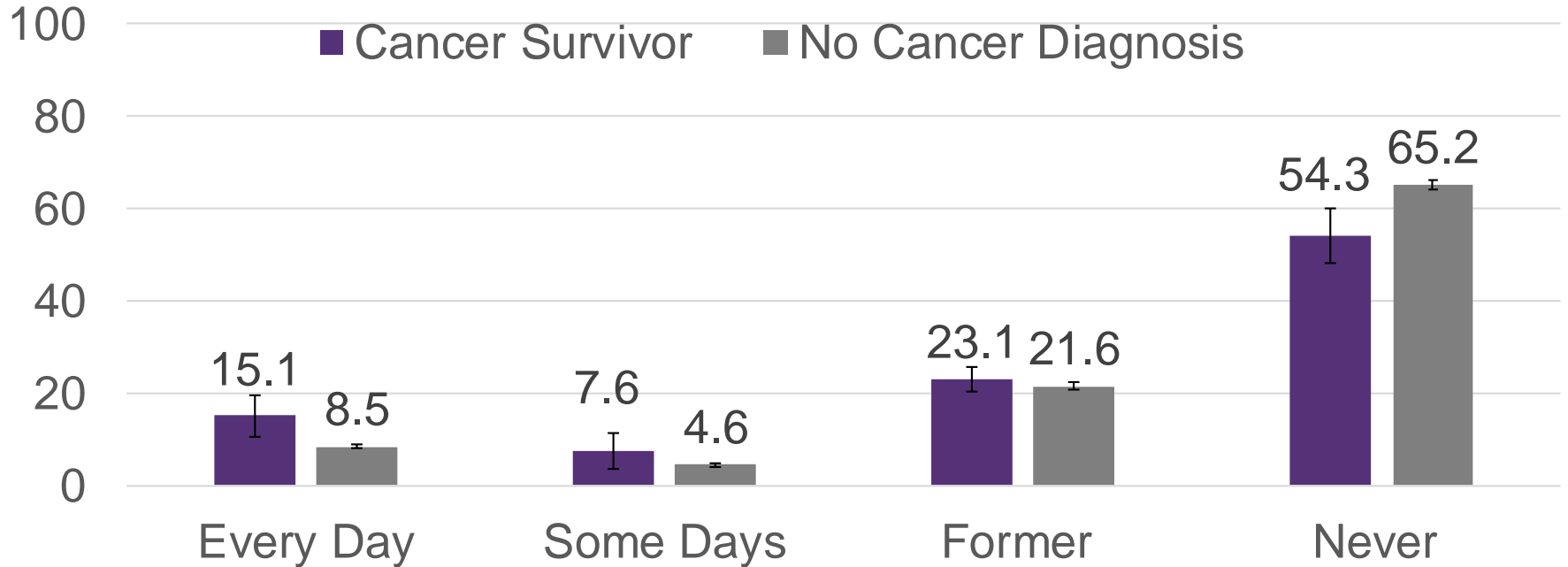*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

# Activity Limitation Days* by Survivorship Status



■ Cancer Survivor    ■ No Cancer Diagnosis

**0 Days:** 48.0 (Cancer Survivor), 58.2 (No Cancer Diagnosis)
**1-13 Days:** 23.6 (Cancer Survivor), 28.1 (No Cancer Diagnosis)
**14+ Days:** 28.4 (Cancer Survivor), 13.7 (No Cancer Diagnosis)
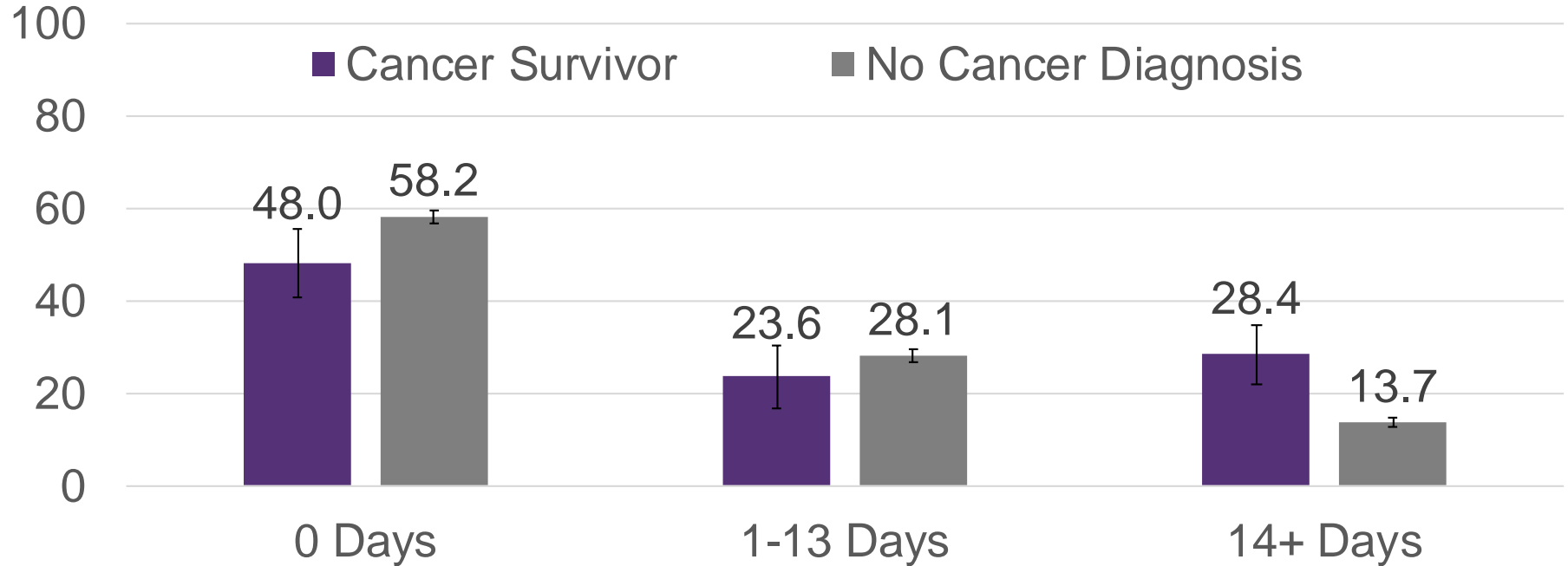
*How many days during the past 30 days did poor physical or mental health keep you from doing your usual activities?*

**\*Prevalence estimates are age-adjusted to the US 2000 standard population**

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

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# Preventive Care

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# Percentage* of Women up-to-date with Breast Cancer Screening by Survivorship Status
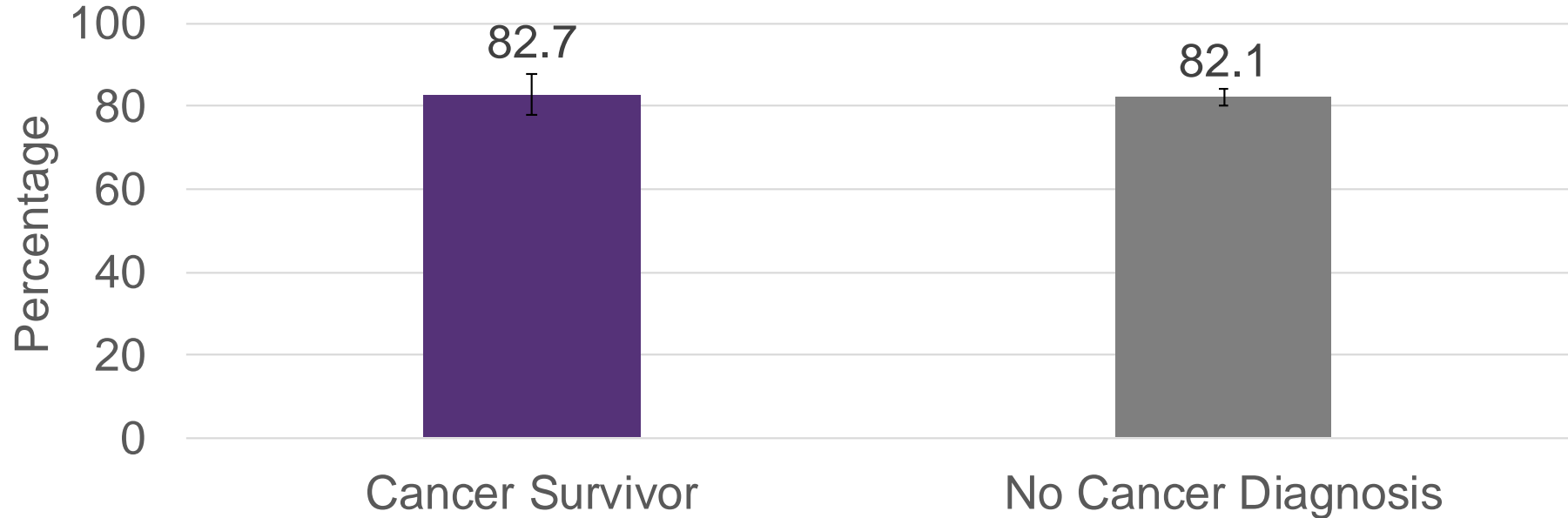


Women ages 50-74 years receiving a mammogram every two years

**\*Prevalence estimates are age-adjusted to the US 2000 standard population**

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

# Percentage* of Women up-to-date with Cervical Cancer Screening by Survivorship Status
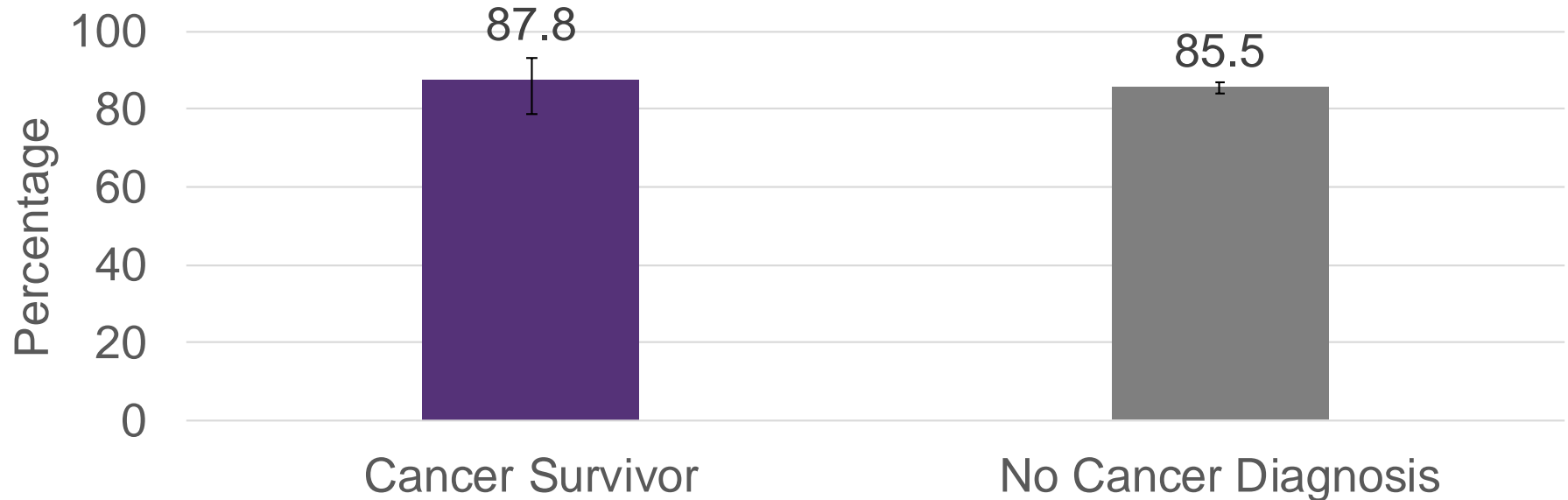


*Women ages 21-26 years receiving a pap test within 3 years OR women ages 30-65 years receiving a pap and human papillomavirus (HPV) co-test within 5 years OR women ages 30-65 years receiving an HPV test within 5 years*
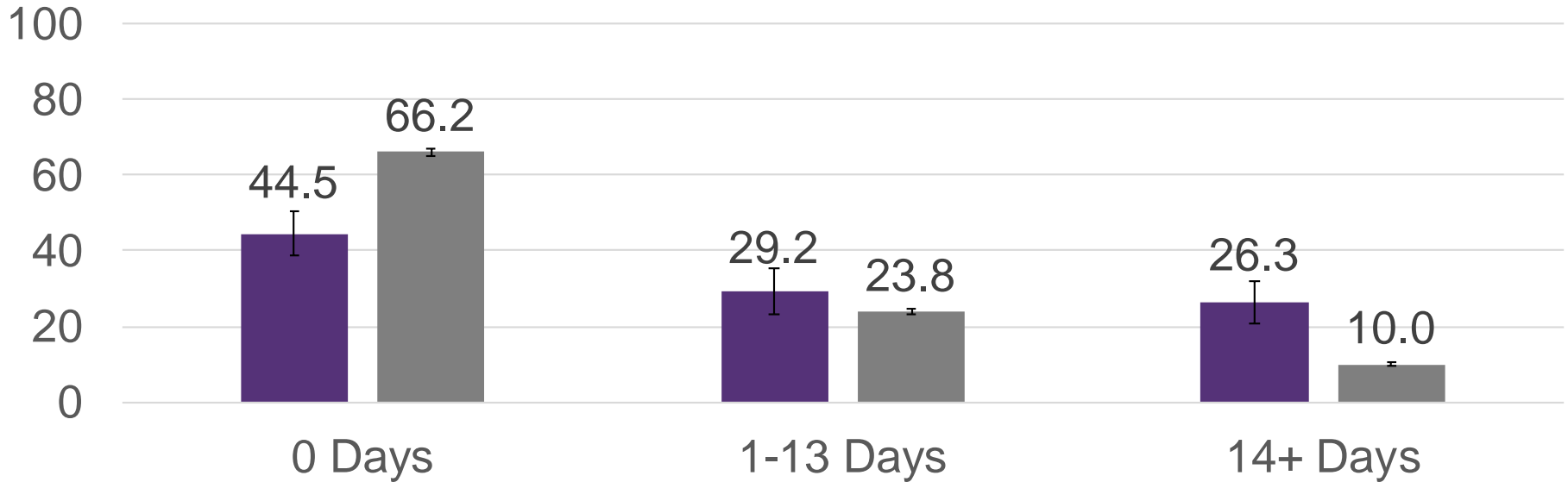
**\*Prevalence estimates are age-adjusted to the US 2000 standard population**

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

# Percentage* of Adults up-to-date with Colorectal Cancer Screening by Survivorship Status
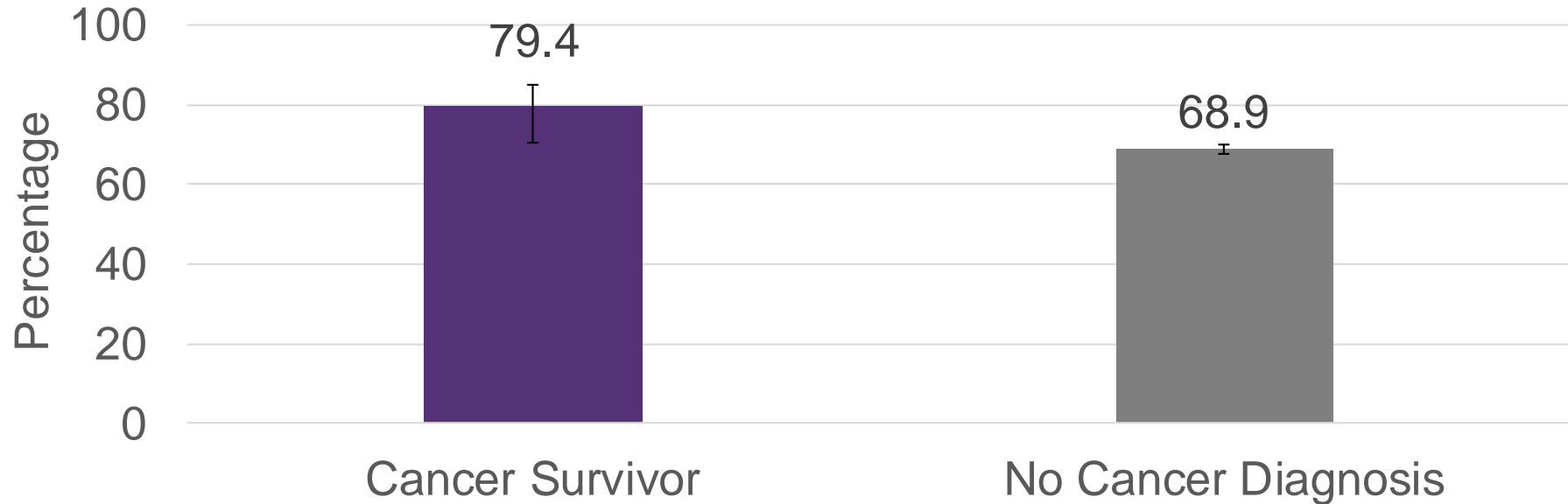


*Adults ages 50-75 years receiving a Fecal Occult Blood Test (FOBT)/Fecal Immunochemical Test (FIT) within 1 year OR sigmoidoscopy within 5 years with FOBT/FIT within 3 years OR colonoscopy within 10 years*

**\*Prevalence estimates are age-adjusted to the US 2000 standard population**

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

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# Health Care Access

# Percentage* of Adults with One or More Personal Doctors by Survivorship Status
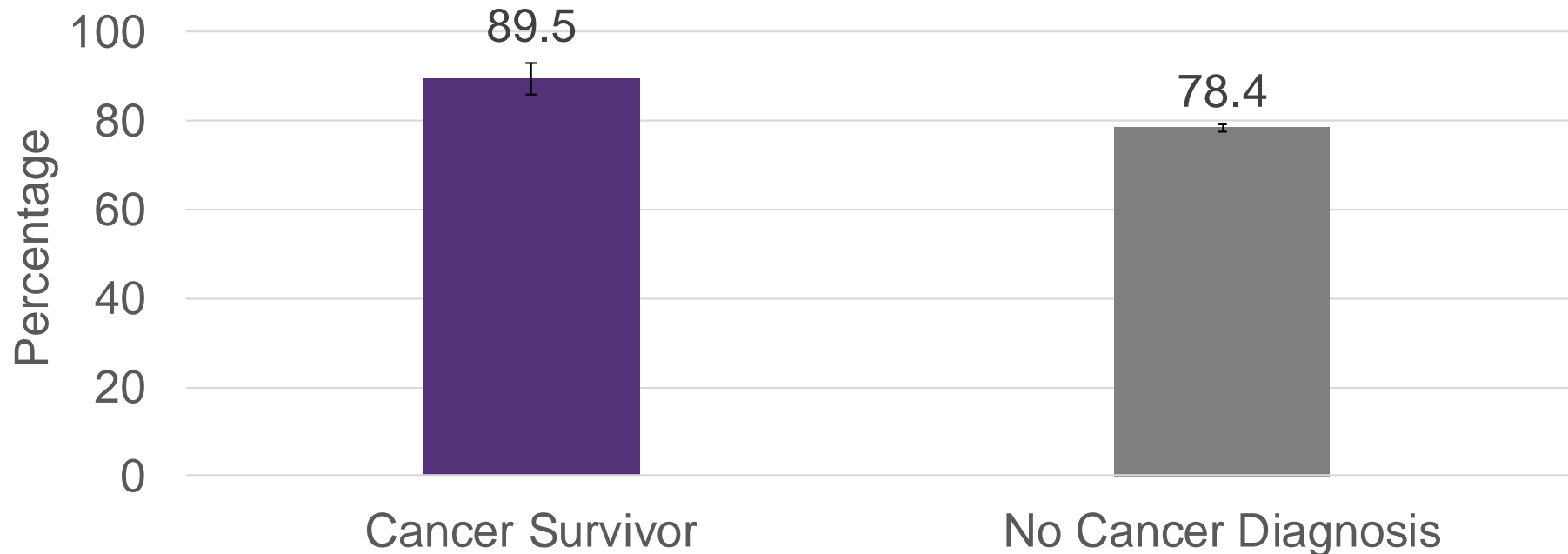


*Prevalence estimates are age-adjusted to the US 2000 standard population*

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

# Percentage* of Adults who could not See a Doctor due to Cost by Survivorship Status
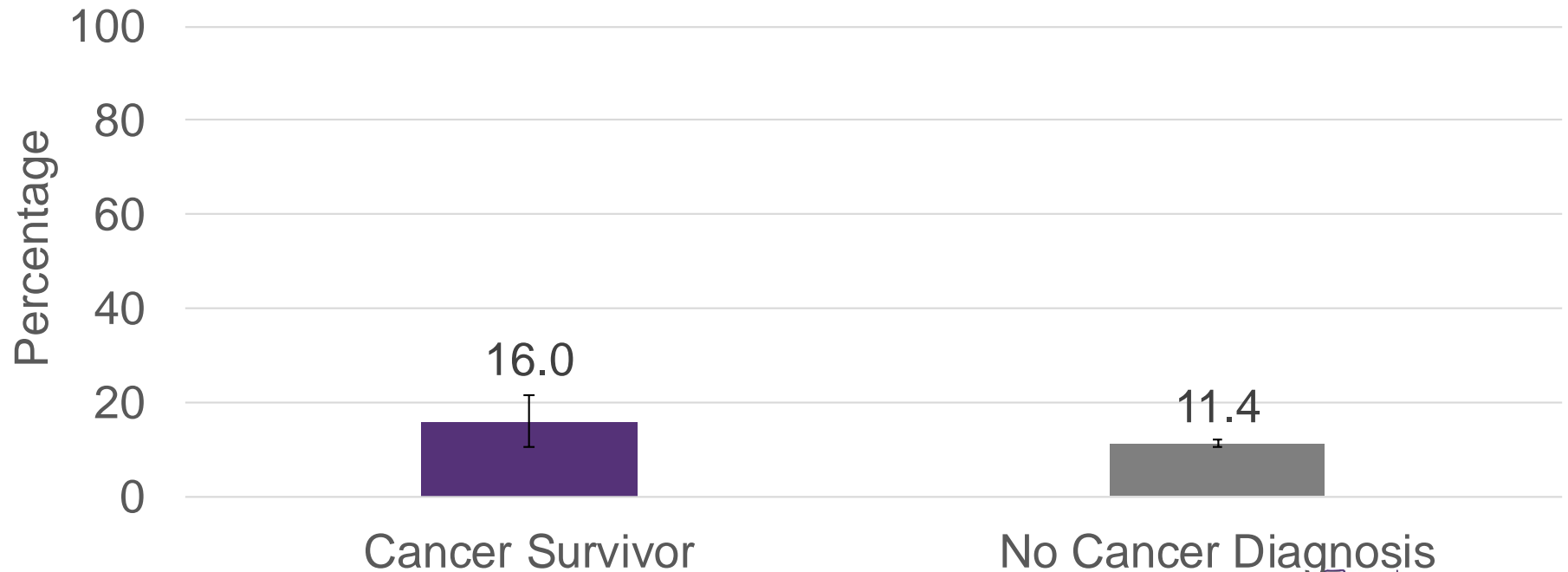


**\*Prevalence estimates are age-adjusted to the US 2000 standard population**

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

# Percentage* of Adults who Received a Routine Health Check-Up in Past Year by Survivorship Status
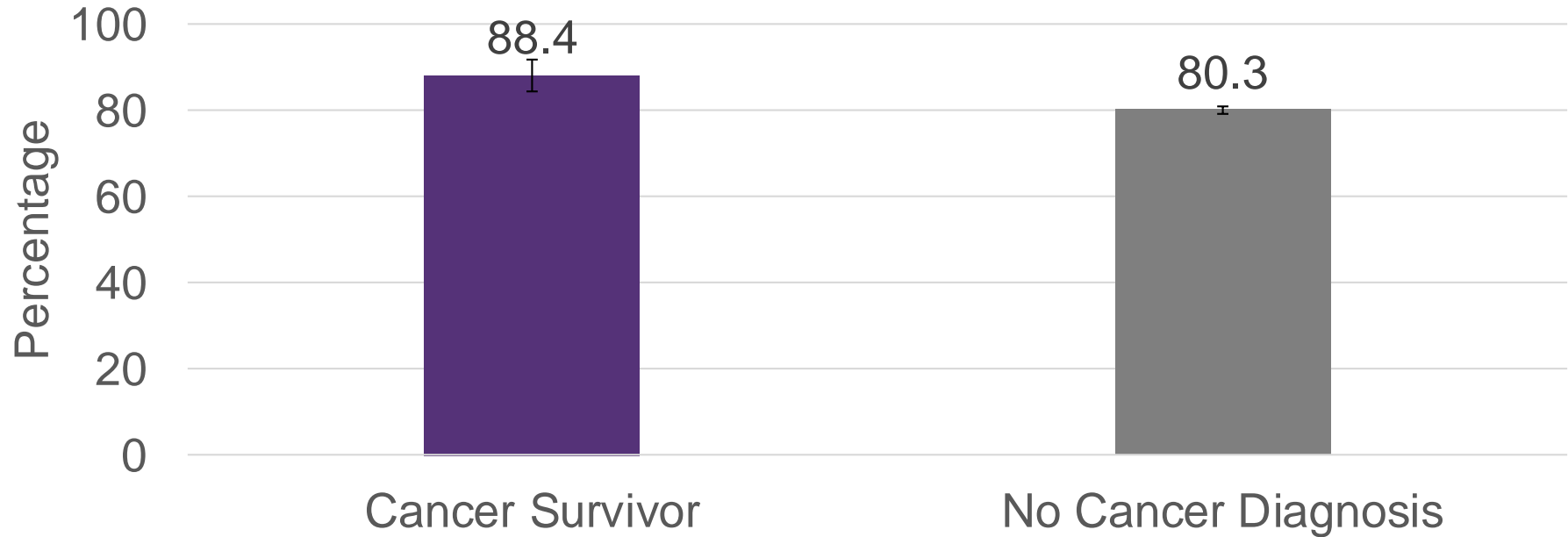


*Prevalence estimates are age-adjusted to the US 2000 standard population*

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

# Percentage* of Adults who Participated in a Disease Self-Management Class by Survivorship Status
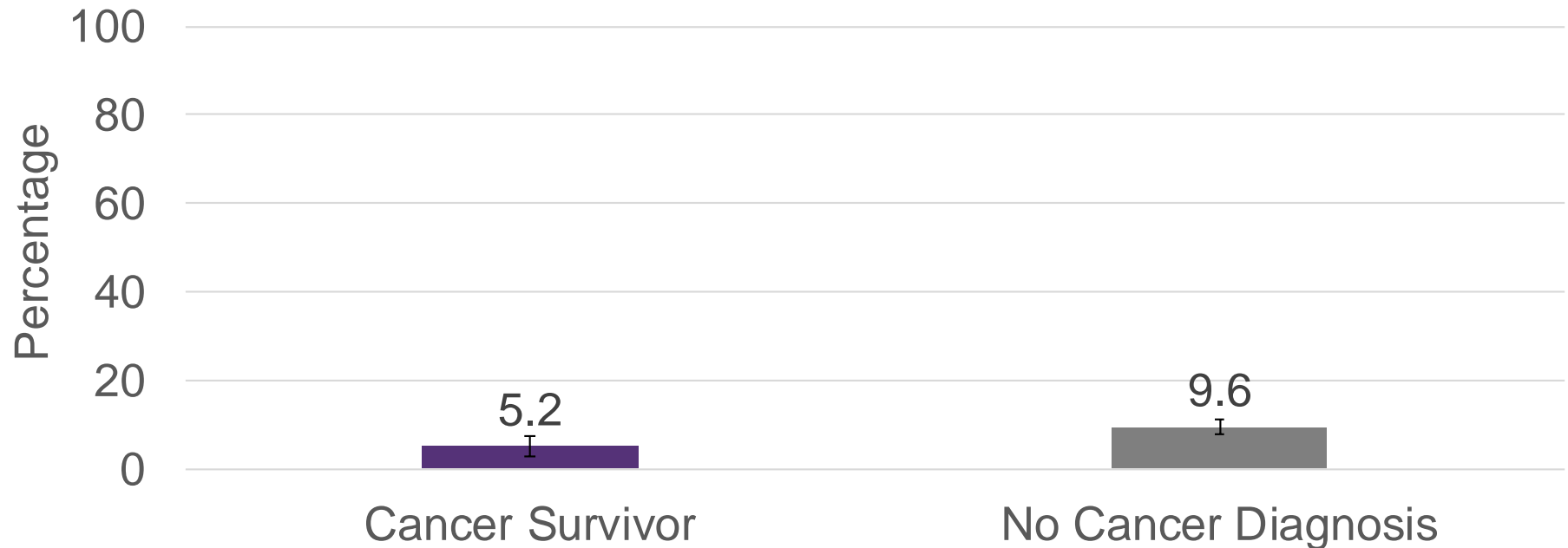


**\*Prevalence estimates are age-adjusted to the US 2000 standard population**

*Data Source: Behavioral Risk Factor Surveillance System 2018; Note: Error bars represent 95% confidence intervals*

# Contact Information & Suggested Citation

- Contact information: Questions about this resource should be directed to the Bureau of Chronic Disease Evaluation and Research, by phone (518) 473-0673 or by email bcder@health.ny.gov

- Suggested citation: Bureau of Chronic Disease Evaluation and Research. *Cancer Survivorship Data Compendium - 2018 New York State Behavioral Risk Factor Surveillance System.* https://www.health.ny.gov/statistics/brfss/reports/. *Accessed Date.*

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# Compendium Talking Points

**Cancer Survivorship Data Compendium - 2018 New York State Behavioral Risk Factor Surveillance System**

**Talking Points**

**Section: Introduction**

Slides 4-6
- No notes

Slide 7
- *Note to presenter on Behavioral Risk Factor Surveillance System (BRFSS) limitations:*
  - *Because participation in the BRFSS requires a telephone, results may be biased by the exclusion of persons who cannot afford landline or cell phones.*
  - *Because BRFSS data are based on self-reports by survey participants, results may be subject to recall bias. Studies have shown, however, that BRFSS survey findings are both reliable and valid.*
  - *Because the findings are limited to noninstitutionalized United States citizens, cancer survivors with an advanced stage cancer living in nursing homes, long-term care facilities, or hospice or cancer survivors who are in the military are not included.*
  - *Because of survival bias, respondents might have survived cancer for several reasons: their cancer was an in situ or early stage cancer, was well differentiated, or was more responsive to treatment, or the survivors had better access to treatment or engaged in more positive health behaviors.*

Slide 8
- No notes

**Section: Cancer Survivorship in the BRFSS**

Slide 10
- The BRFSS questionnaire is designed by a working group of BRFSS state coordinators and Centers for Disease Control and Prevention (CDC) staff and goes through rigorous testing before its use.
- Since 2011, the BRFSS survey has included two questions related to a cancer diagnosis history that must be asked by all states and without modification in wording. These questions are as follows and can be used to categorize respondents according to their cancer survivorship status:
  - The first question asks if a respondent has ever been told by a health professional that they had skin cancer.
  - The second question asks if a respondent has ever been told by a health professional that they had any other types of cancer.

Slide 11
- In these slides, a cancer survivor is defined as someone who has been diagnosed with cancer (other than skin cancer).
- *Note to presenter: Respondents only reporting a skin cancer diagnosis were excluded as we are unable to distinguish between melanoma and nonmelanoma skin cancers, and to be consistent with literature, would not want to characterize nonmelanoma skin cancer as a cancer survivor because typically it does not require treatment beyond surgery.*

## Section: Cancer Survivorship Demographics

Slide 13
- 6.8% of the adult population (ages 18 years and older), representing over 1 million New Yorkers, report having ever been diagnosed with cancer.

Slide 14
- Cancer survivorship prevalence is significantly higher among those living outside of New York City (NYC) (7.5%) as compared to those living within NYC (6.0%).

Slide 15
- Cancer survivorship prevalence is significantly higher among females (8.3%) as compared to males (5.4%).

Slide 16
- Cancer survivorship among adults increases with age.
- Adults ages 18-29 have the lowest prevalence among all age groups and adults 80 and older have the highest prevalence among all age groups.

Slide 17
- When broken down by age and sex, some interesting differences can be seen.
- Among those ages 40 to 49 years, a higher percentage of women report being a cancer survivor than men.
- Among those ages 70 to 79 years, a higher percentage of men report being a cancer survivor than women.

Slide 18
- Cancer survivorship prevalence is significantly higher among White, non-Hispanic adults (8.6%) as compared to all other racial/ethnic groups.

Slide 19
- Cancer survivorship prevalence is similar across educational attainment status.

Slide 20
- Cancer survivorship prevalence is nearly five times greater among those who are retired (17.8%) and more than double among adults out of work or unable to work (8.2%) than among employed and self-employed adults (4.0%).

Slide 21
- Cancer survivorship prevalence is similar across annual household income brackets.

Slide 22
- Cancer survivorship prevalence is significantly higher among adults with Medicare insurance (16.1%) as compared to all other insurance types.

Slide 23
- Cancer survivorship prevalence is double among adults who are widowed (14.9%) than among adults who are married or living together (7.4%).

Slide 24
- Cancer survivorship prevalence is more than double among adults with disability (11.9%) than among adults without disability (5.2%).

Slide 25
- Cancer survivorship prevalence is more than double among veterans (13.3%) than among non-veterans (6.4%).

## Section: Cancer Survivors vs. Adults with No Cancer Diagnosis

## Subsection: Comorbidities

Slide 28
- Cancer survivors are nearly twice as likely to report having arthritis (35.1%) than adults with no cancer diagnosis (20.0%).

Slide 29
- Cancer survivors are twice as likely to report having asthma (20.7%) than adults with no cancer diagnosis (10.0%).

Slide 30
- Cancer survivors are more than twice as likely to report having cardiovascular disease (11.2%) than adults with no cancer diagnosis (5.3%).

- *Note to presenter: Cardiovascular disease is defined as those who reported having a myocardial infarction (heart attack) or angina or coronary heart disease.*

Slide 31
- Cancer survivors are significantly more likely to report having diabetes (15.8%) than adults with no cancer diagnosis (9.7%).

Slide 32
- Cancer survivors are more than twice as likely to report having had a stroke (5.2%) than adults with no cancer diagnosis (2.0%).

Slide 33
- Cancer survivors are nearly twice as likely to report having a depressive disorder (25.5%) than adults with no cancer diagnosis (15.0%).
- *Note to presenter: Depressive disorder is defined as depression, major depression, dysthymia, or minor depression*

## Subsection: Cancer-Related Risk Behaviors

Slide 35
- Cancer survivors and adults with no cancer diagnosis report similar rates of drinking alcohol in the past 30 days.

Slide 36
- Cancer survivors and adults with no cancer diagnosis report similar rates of binge or heavy drinking.
- *Note to presenter: Binge drinking is defined as consuming 4 or more drinks for women and 5 or more drinks for men on a single occasion; Heavy drinking is defined as consuming 8 or more drinks per week for women and 15 or more drinks per week for men.*

Slide 37
- Cancer survivors are significantly more likely to report being a current smoker (22.7%) than adults with no cancer diagnosis (13.1%). In fact, the prevalence of smoking among cancer survivors is nearly double that of adults with no cancer diagnosis.
- *Note to presenter: "Current smoker" is defined as an adult over the age of 18 who has smoked at least 100 cigarettes in their lifetime and currently smokes on at least some days.*

Slide 38
- Cancer survivors are nearly twice as likely to report smoking every day (15.1%) than adults with no cancer diagnosis (8.5%).
- Conversely, adults with no cancer diagnosis are significantly more likely to report having never smoked (65.2%) as compared to cancer survivors (54.3%).
- *Note to presenter: Every day is defined as having smoked at least 100 cigarettes in one's lifetime and now smoke every day. Some days is defined as having smoked at least 100 cigarettes in their lifetime and now smoke some days. Former smoker is defined as having smoked at*

*least 100 cigarettes in one's lifetime and currently do not smoke. Never smoked is defined as having not smoked at least 100 cigarettes in one's lifetime.*

Slide 39
- Cancer survivors and adults with no cancer diagnosis report similar rates of obesity.

Slide 40
- Cancer survivors and adults with no cancer diagnosis report similar rates of no leisure time physical activity.
- *Note to presenter: leisure time physical activity is defined as any physical activities or exercises engaged in not related to one's regular job.*

## Subsection: Quality of Life

Slide 42
- Cancer survivors are more than twice as likely to report fair or poor health (37.8%) as compared to adults with no cancer diagnosis (15.4%).

Slide 43
- Cancer survivors are more than twice as likely to report their physical health was not good on 14 or more of the past 30 days (26.3%) as compared to adults with no cancer diagnosis (10.0%).

Slide 44
- Cancer survivors and adults with no cancer diagnosis report similar rates of their mental health not being good on 14 or more of the past 30 days.

Slide 45
- Cancer survivors are more than twice as likely to report having activity limitations due to poor physical or mental health on 14 or more of the past 30 days (28.4%) than adults with no cancer diagnosis (13.7%).

## Subsection: Preventive Care

Slide 47
- Among women ages 50-74 years, cancer survivors and adults with no cancer diagnosis report similar rates of being up-to-date with breast cancer screening according to the most recent U.S. Preventive Services Task Force (USPSTF) recommendations (e.g. women ages 50-74 years receiving a mammogram within the past two years).

Slide 48

- Among women ages 21-65 years, cancer survivors and adults with no cancer diagnosis report similar rates of being up-to-date with cervical cancer screening according to the most recent USPSTF recommendations (e.g. women ages 21-26 years receiving a pap test within 3 years OR women ages 30-65 years receiving a pap and human papillomavirus (HPV) co-test within 5 years OR women ages 30-65 years receiving an HPV test within 5 years).

Slide 49
- Among adults ages 50-75 years, cancer survivors are significantly more likely to reporting being up-to-date with colorectal cancer screening according to the most recent USPSTF recommendations (e.g. adults ages 50-75 years receiving a Fecal Occult Blood Test (FOBT)/Fecal Immunochemical Test (FIT) within 1 year OR sigmoidoscopy within 5 years with FOBT/FIT within 3 years OR colonoscopy within 10 years) as compared to adults with no cancer diagnosis (79.4% vs. 68.9%).

## Subsection: Health Care Access

Slide 51
- Cancer survivors are significantly more likely to report having one or more personal doctors/healthcare providers (89.5%) as compared to adults with no cancer diagnosis (78.4%).

Slide 52
- Cancer survivors and adults with no cancer diagnosis report similar rates of not being able to see a doctor due to cost.

Slide 53
- Cancer survivors are significantly more likely to report having received a routine health check-up in the past year (88.4%) as compared to adults with no cancer diagnosis (80.3%).

Slide 54
- Cancer survivors are significantly less likely to report participating in a disease self-management class (5.1%) as compared to adults with no cancer diagnosis (9.6%).