# Screening-Detectable Cancers in New York State

Released: January 2025

Screening-detectable cancers

- Cancer screening means using tests to check for cancer before there are any symptoms or problems. Screening can sometimes prevent cancer, or it can find it early when it may be easier to treat.
- As of fall 2024, the United States Preventive Services Task Force has found routine screening to be beneficial in reducing the number of cancer-related deaths in four types of cancer: breast (female), cervical, colorectal, and lung.[*]
- This report provides the public with an overview of the latest five-year (2017-2021) average rates and the trends (2007-2021) of incidence (new case) and mortality (death) of these four types of cancer by geography, racial and ethnic group, and/or cancer stage at diagnosis. Prevalence of cancer screening (self-reported) from 2008 to 2022 is also presented.

The latest five-year (2017-2021) incidence[†] and mortality[‡] rates[§] (per 100,000) differed by region and by race and ethnicity[¶]

- Incidence of breast, colorectal, and lung cancers were statistically significantly lower in New York City than in the rest of the state (i.e., NYS excluding NYC), but cervical cancer was significantly higher in the City.
- Mortality rate of cervical cancer was statistically significantly higher in New York City compared with the rest of the state, while mortality rates of breast, colorectal, and lung cancers were lower in the City.

(a) Incidence

Region
- New York State
- New York City
- NYS excluding NYC

(b) Mortality
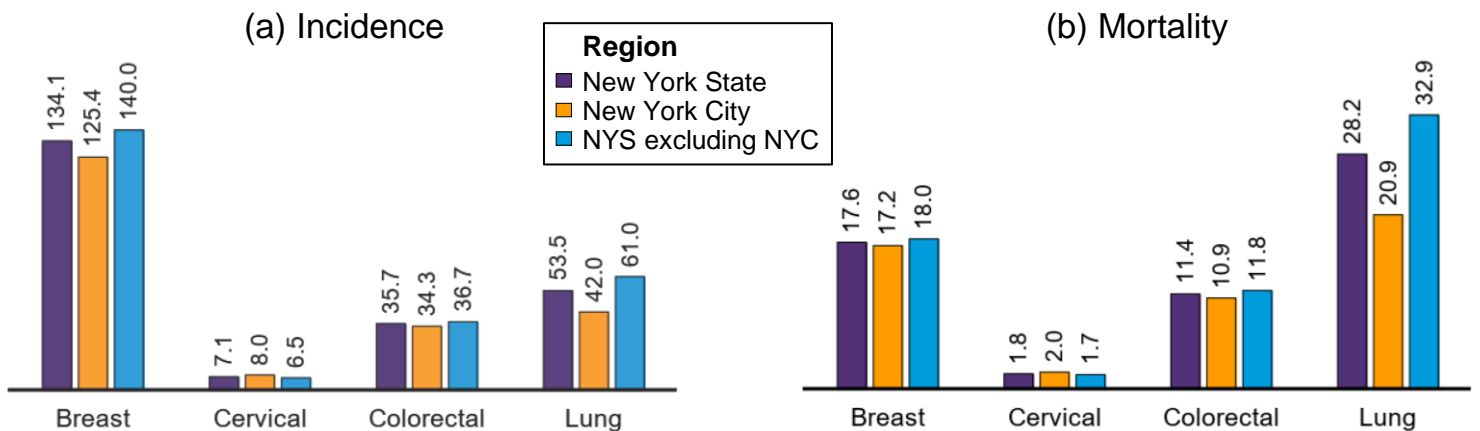
- Compared to non-Hispanic White individuals, non-Hispanic Black individuals had significantly higher death rates from breast and colorectal cancers despite significantly lower or similar incidence rates, respectively.
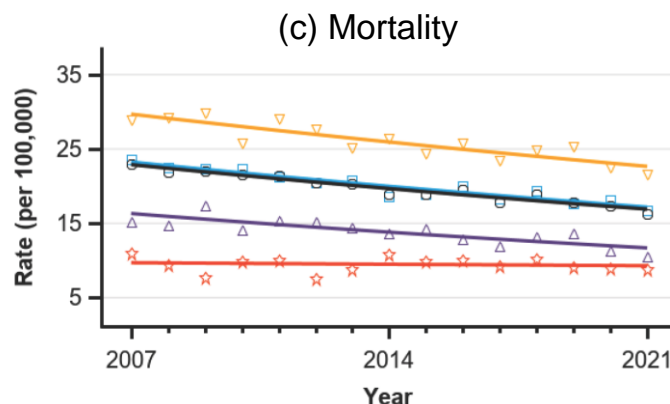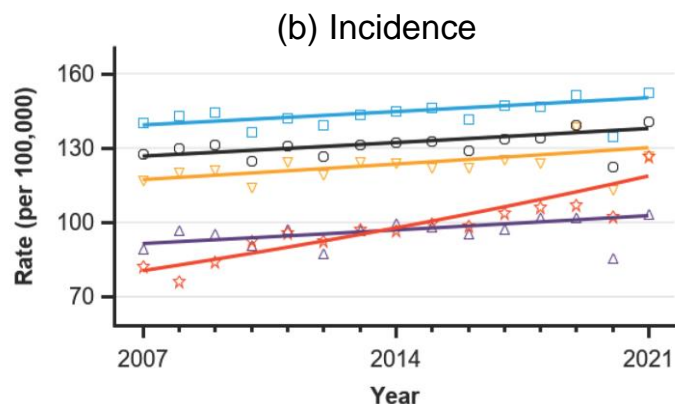- Non-Hispanic White individuals had the highest incidence and mortality rates of lung cancer.

(c) Incidence

Race/Ethnicity
- Hispanic
- Non-Hispanic Black
- Non-Hispanic White
- Non-Hispanic Other
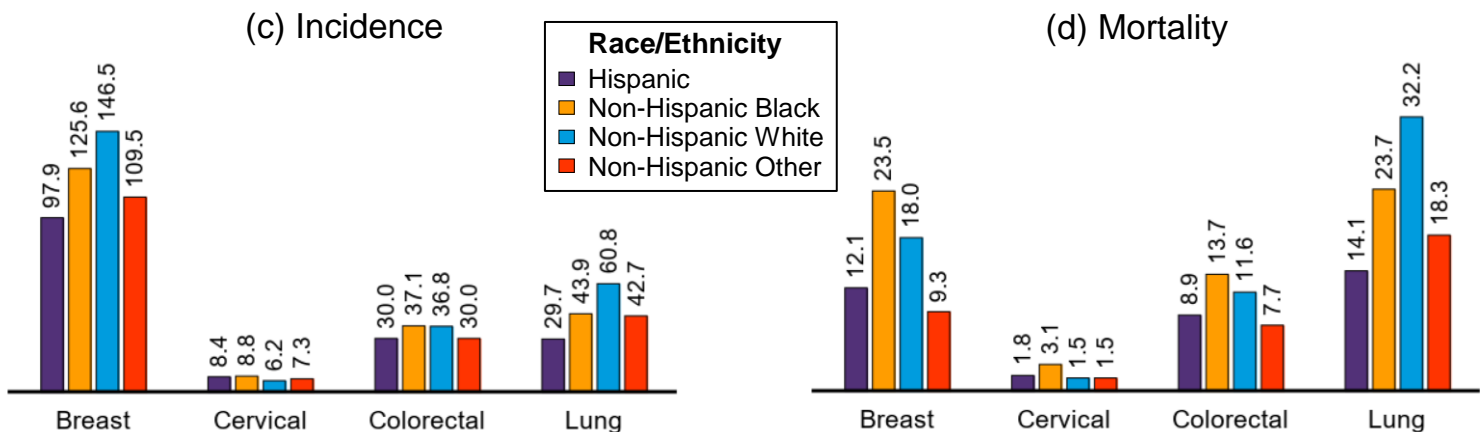
(d) Mortality

Incidence† and mortality# rates§ (per 100,000) of breast cancer trended** in opposite directions for most racial and ethnic groups¶

- Breast cancer incidence increased significantly among all racial and ethnic groups from 2007 to 2021. Females in the non-Hispanic Other group had the steepest increase, with an average annual percent change of 2.8%.
- Mortality rates decreased significantly among all racial and ethnic groups except non-Hispanic Other, among whom the rate remained stable.

(a) Average Annual Percent Change

Race and Ethnicity	Incidence	Mortality
○ All	0.6 ^	-2.1 ^
△ Hispanic	0.8 ^	-2.4 ^
▽ Non-Hispanic Black	0.7 ^	-1.9 ^
☐ Non-Hispanic White	0.5 ^	-2.1 ^
☆ Non-Hispanic Other	2.8 ^	-0.3

^ Significantly different from zero at α=0.05 level.

(b) Incidence

(c) Mortality

Legend: ○ All   △ Hispanic   ▽ Non-Hispanic Black   ☐ Non-Hispanic White   ☆ Non-Hispanic Other
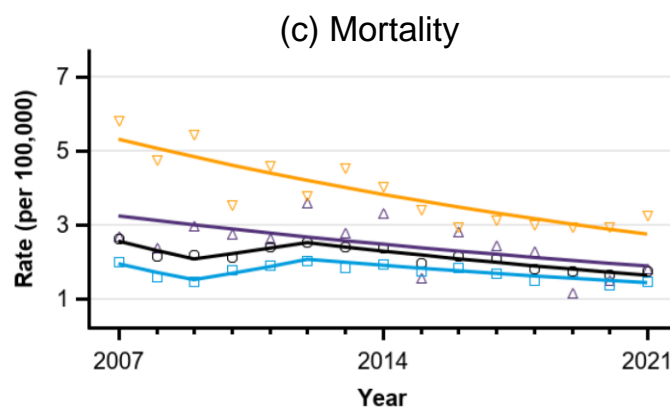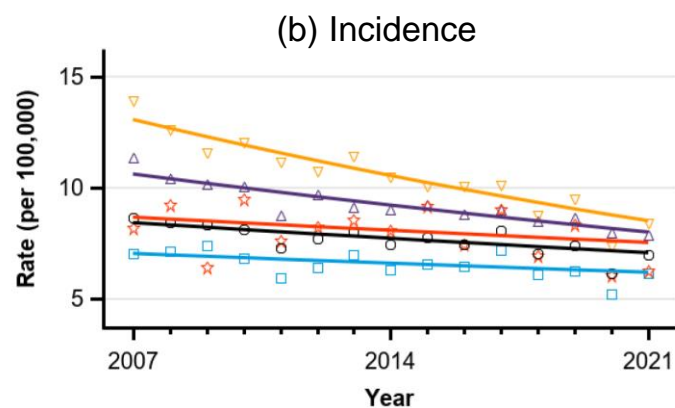
Incidence† and mortality# rates§ (per 100,000) of cervical cancer decreased** but with differing amounts by race and ethnicity¶

- Incidence rates of cervical cancer decreased by 1.2% each year between 2007 and 2021. The decreases were statistically significant for all racial and ethnic groups except for non-Hispanic Other females.
- For non-Hispanic Other females, trend analysis was not conducted for mortality because the numbers of deaths were fewer than 16 in most years.††
- Death rates decreased by 3.1% per year on average among all females, with the steepest decline (4.6%) among non-Hispanic Black females.

(a) Average Annual Percent Change

Race and Ethnicity	Incidence	Mortality
○ All	-1.2 ^	-3.1 ^
△ Hispanic	-2.0 ^	-3.8 ^
▽ Non-Hispanic Black	-3.0 ^	-4.6 ^
☐ Non-Hispanic White	-0.9 ^	-2.2 ^
☆ Non-Hispanic Other	-1.0	NA

^ Significantly different from zero at α=0.05 level.
NA, not available.

(b) Incidence

(c) Mortality

Legend: ○ All   △ Hispanic   ▽ Non-Hispanic Black   ☐ Non-Hispanic White   ☆ Non-Hispanic Other

Incidence[†] and mortality[#] rates[§] (per 100,000) of colorectal cancer decreased significantly among all racial and ethnic groups[¶]

- Incidence rates decreased significantly in each racial and ethnic group, although the decline became more gradual after 2012 among non-Hispanic White and Hispanic persons. Overall, incidence of colorectal cancer decreased by 2.2% annually in 2007-2021.
- Death rates in colorectal cancer also decreased significantly. The average annual decrease ranged from 2.7% among non-Hispanic White individuals to 3.8% among Hispanic individuals.
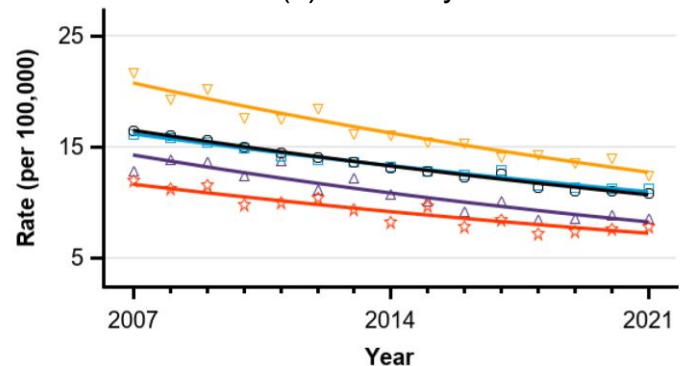
(a) Average Annual Percent Change

Race and Ethnicity	Incidence	Mortality
○ All	-2.2 ^	-3.0 ^
△ Hispanic	-2.4 ^	-3.8 ^
▽ Non-Hispanic Black	-2.7 ^	-3.4 ^
□ Non-Hispanic White	-2.0 ^	-2.7 ^
☆ Non-Hispanic Other	-1.6 ^	-3.3 ^

^ *Significantly different from zero at $\alpha=0.05$ level.*
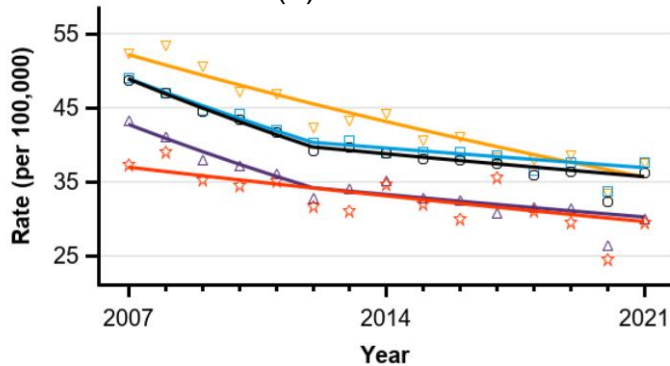
(b) Incidence

(c) Mortality

○ All   △ Hispanic   ▽ Non-Hispanic Black   □ Non-Hispanic White   ☆ Non-Hispanic Other

Non-Hispanic Black individuals had the largest decline in incidence[†] and mortality[#] rates[§] (per 100,000) of lung cancer

- From 2007 to 2021, incidence rates of lung cancer decreased significantly in every racial and ethnic group except among non-Hispanic Other individuals, whose rates increased by 0.7% per year.
- The mortality rate decreased on average by 4.0% per year among all New Yorkers since 2007.
- Non-Hispanic Black individuals saw the sharpest decline in incidence (2.2% per year) and death (4.7%) among different racial and ethic groups.
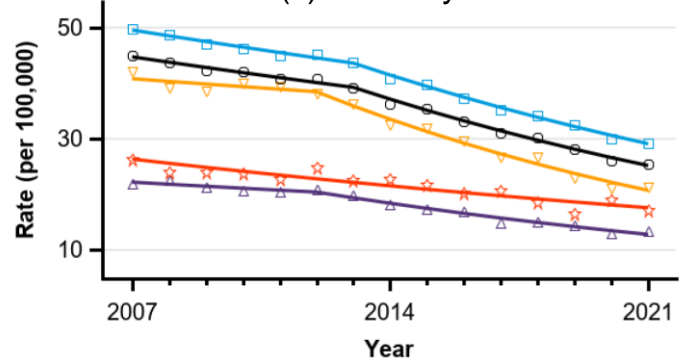
(a) Average Annual Percent Change

Race and Ethnicity	Incidence	Mortality
○ All	-1.6 ^	-4.0 ^
△ Hispanic	-1.8 ^	-3.9 ^
▽ Non-Hispanic Black	-2.2 ^	-4.7 ^
□ Non-Hispanic White	-1.4 ^	-3.7 ^
☆ Non-Hispanic Other	0.7 ^	-2.8 ^

^ *Significantly different from zero at $\alpha=0.05$ level.*
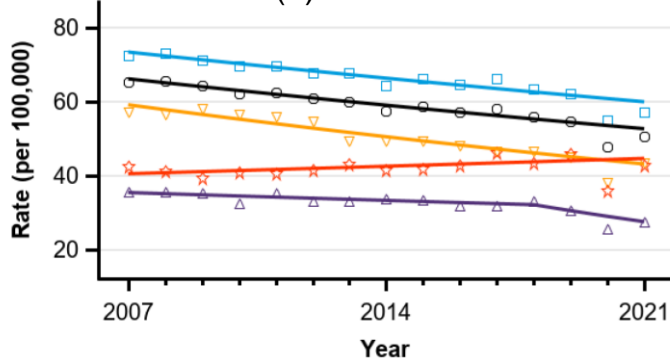
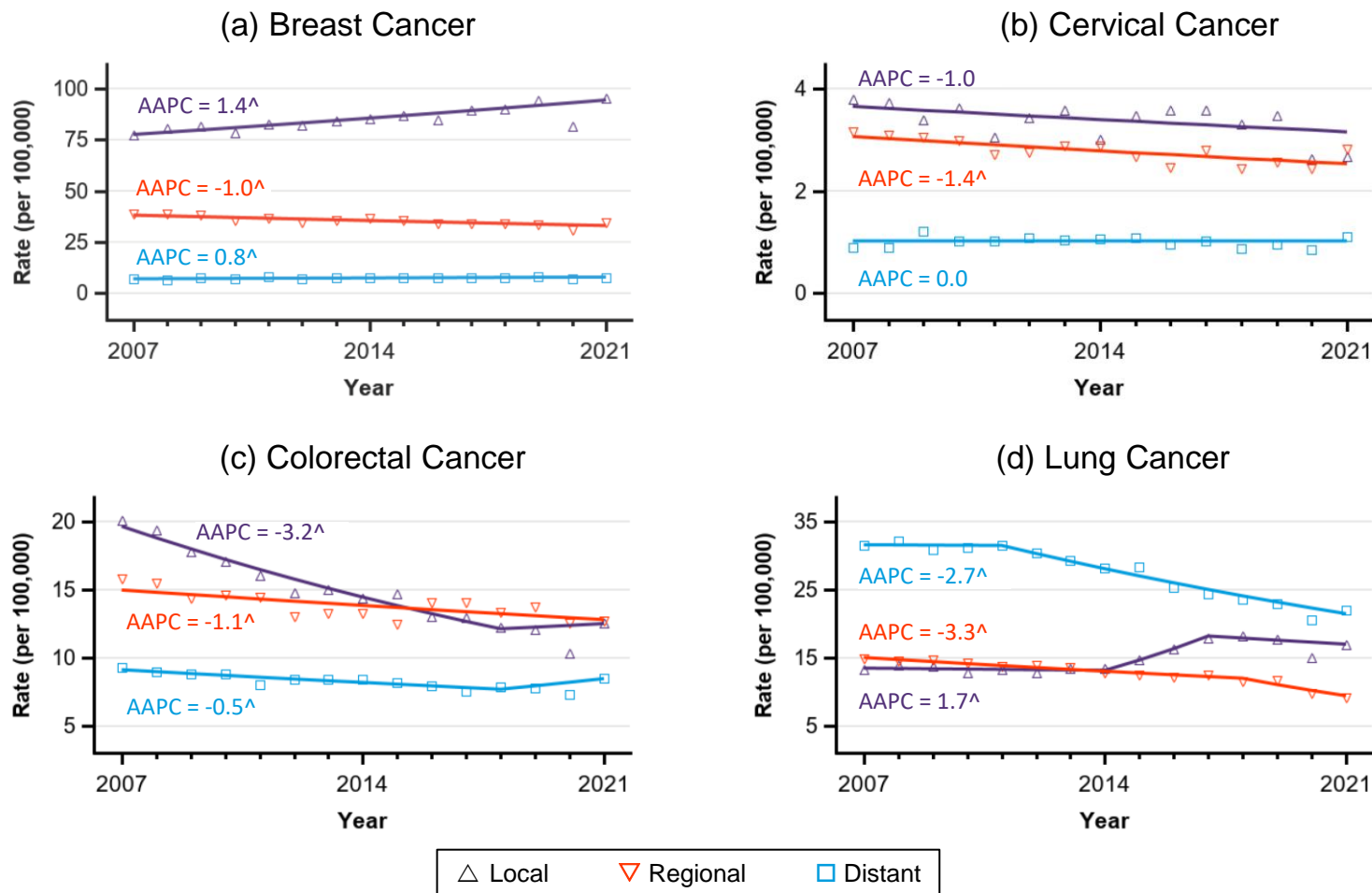### (b) Incidence

(c) Mortality

○ All   △ Hispanic   ▽ Non-Hispanic Black   □ Non-Hispanic White   ☆ Non-Hispanic Other

Trends[**] in incidence[†] rates[§] (per 100,000) differed by stage at diagnosis
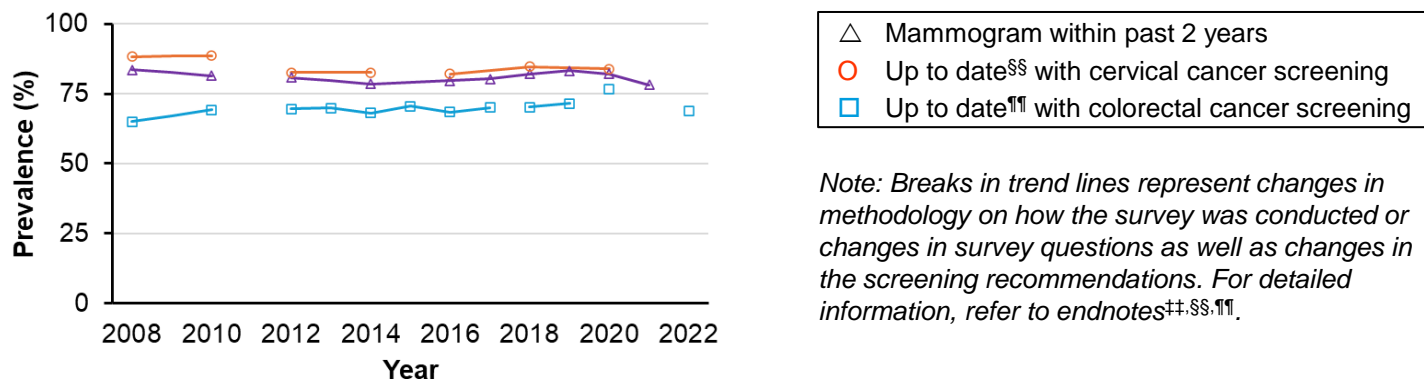
- Incidence of screening-detectable cancers diagnosed at local, regional, or distant stage generally followed a downward trend from 2007 to 2021, though the average annual decline was not always statistically significant.
- There were a few exceptions such as local- and distant-stage breast cancers and local-stage lung cancer, which had been increasing with a statistically significant AAPC over time.

(a) Breast Cancer

AAPC = 1.4^
AAPC = -1.0^
AAPC = 0.8^

(b) Cervical Cancer

AAPC = -1.0
AAPC = -1.4^
AAPC = 0.0

(c) Colorectal Cancer

AAPC = -3.2^
AAPC = -1.1^
AAPC = -0.5^

(d) Lung Cancer

AAPC = -2.7^
AAPC = -3.3^
AAPC = 1.7^

△ Local   ▽ Regional   □ Distant

Note: ^ Average annual percent change (AAPC) is significantly different from zero at $\alpha=0.05$ level.

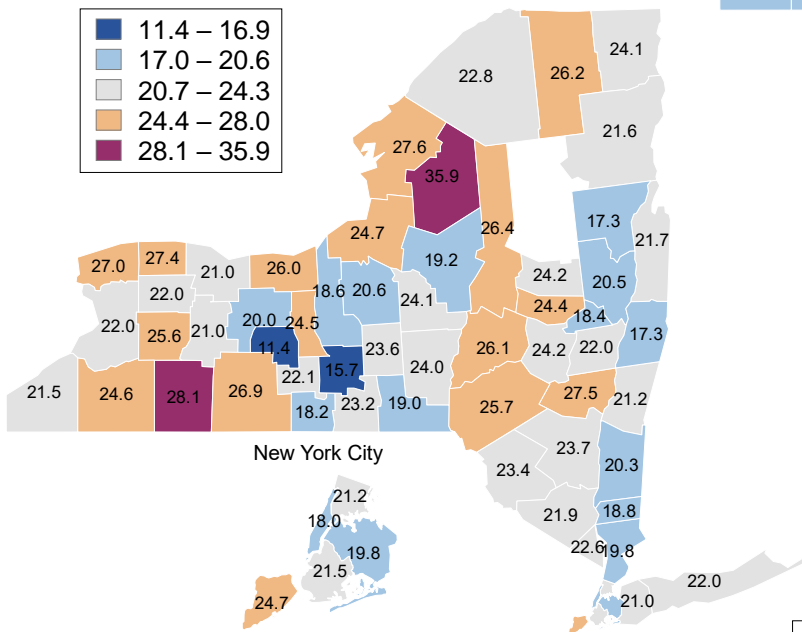# Cancer screening prevalence remained stable from 2008 to 2022[‡‡]

- Prevalence of screening for breast, cervical, and colorectal cancers have been steady in New York State since 2008.
- No data is yet available on lung cancer screening prevalence.
- For more information, visit health.ny.gov/statistics/cancer/.

△ Mammogram within past 2 years
○ Up to date[§§] with cervical cancer screening
□ Up to date[¶¶] with colorectal cancer screening

Note: Breaks in trend lines represent changes in methodology on how the survey was conducted or changes in survey questions as well as changes in the screening recommendations. For detailed information, refer to endnotes[‡‡,§§,¶¶].
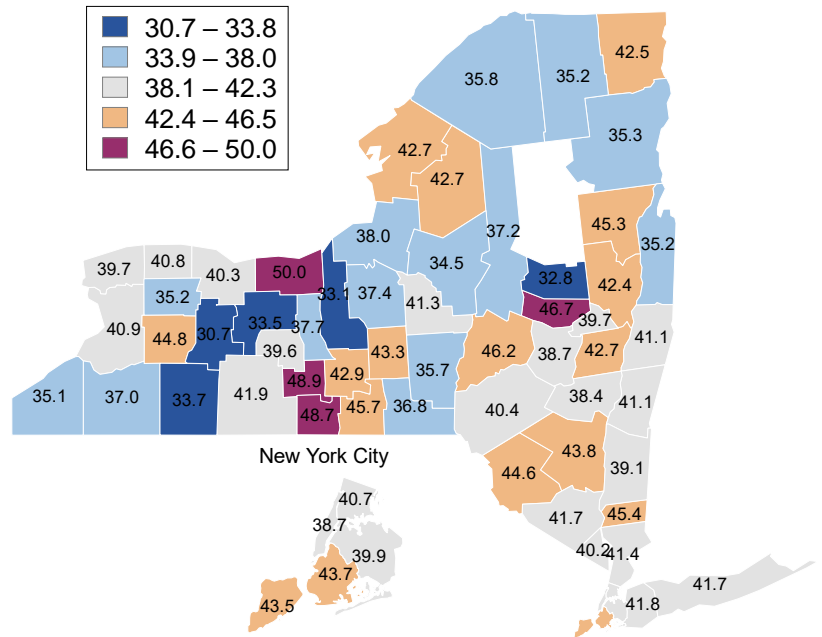
Incidence† rates§ (per 100,000) of regional- and distant-stage cancers varied by county within New York State during 2017-2021

- In each panel, incidence rates were categorized into 5 distinct groups based on the mean and standard deviation of incidence among 62 counties in the state.## Shading levels do not represent statistically significant differences between the groups.
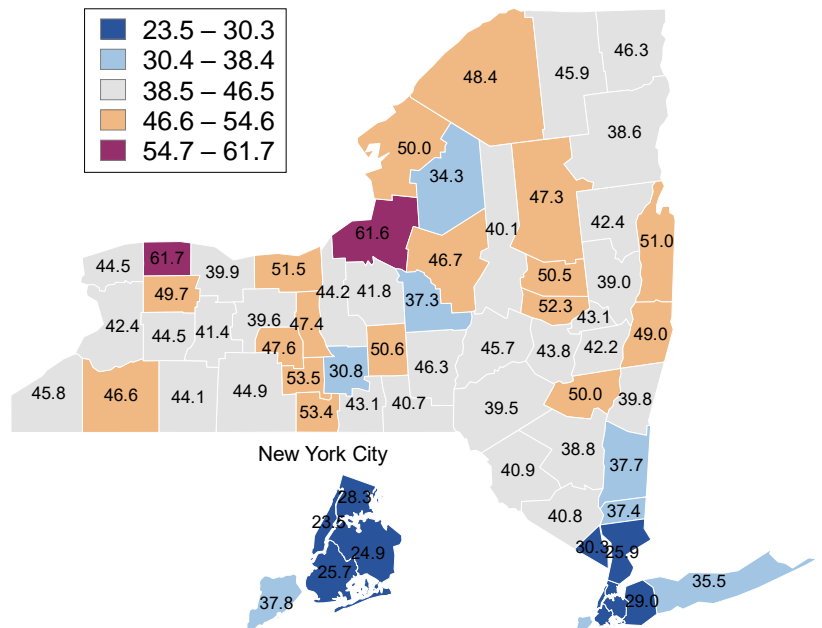- Rates are not displayed for counties that had fewer than 16 cases.††

(a) Breast Cancer

Legend
■ 30.7 – 33.8
■ 33.9 – 38.0
■ 38.1 – 42.3
■ 42.4 – 46.5
■ 46.6 – 50.0

(b) Colorectal Cancer

Legend
■ 11.4 – 16.9
■ 17.0 – 20.6
■ 20.7 – 24.3
■ 24.4 – 28.0
■ 28.1 – 35.9

- Incidence rates of breast and colorectal cancers diagnosed at regional and distant stages did not follow a clear pattern based on geography.
- Counties in the New York City, Long Island, and mid-Hudson regions had relatively low regional and distant stage lung cancer incidence.
- Map of cervical cancer incidence by county is not presented here, because 40 of the 62 counties had fewer than 16 cases diagnosed at regional and distant stages.†† Incidence rates in the remaining 22 counties ranged from 2.3 to 7.7 per 100,000 females.

(c) Lung Cancer

Legend
■ 23.5 – 30.3
■ 30.4 – 38.4
■ 38.5 – 46.5
■ 46.6 – 54.6
■ 54.7 – 61.7

Endnotes

*   United States Preventive Services Task Force (USPSTF).
uspreventiveservicestaskforce.org/BrowseRec

†   Source: New York State Cancer Registry. Data provisional, November 2023.
health.ny.gov/statistics/cancer/registry

‡   Source: Surveillance, Epidemiology, and End Results (SEER) Program (seer.cancer.gov) SEER*Stat Database: Mortality - All COD, Aggregated With County, Total U.S. (1990-2021) <Katrina/Rita Population Adjustment> - Linked To County Attributes - Total U.S., 1969-2022 Counties, National Cancer Institute, DCCPS, Surveillance Research Program, released May 2024. Underlying mortality data provided by NCHS (cdc.gov/nchs).

§   Rates are per 100,000 persons, age-adjusted to the 2000 U.S. standard population.

¶   The non-Hispanic Other races refers to Asian, Pacific islander, or American Indian/Alaska Native persons of non-Hispanic origin. This combined category was created due to low case counts for the individual groups.

Source: Surveillance, Epidemiology, and End Results (SEER) Program (seer.cancer.gov) SEER*Stat Database: Mortality - All COD, Aggregated With State, Total U.S. (1990-2022) <Katrina/Rita Population Adjustment>, National Cancer Institute, DCCPS, Surveillance Research Program, released April 2024. Underlying mortality data provided by NCHS (cdc.gov/nchs).

**   Trend analysis was conducted using Joinpoint Regression Program, Version 5.2.0.0, April 2024; Statistical Research and Applications Branch, National Cancer Institute. surveillance.cancer.gov/joinpoint. The 2020 incidence rate is displayed but not used in the estimation of the trend line. seer.cancer.gov/data/covid-impact

††   For the confidentiality and the reliability concerns, data are suppressed when a case count of incidence or death is fewer than 16. A suppressed rate does not necessarily mean that the rate was low. cdc.gov/united-states-cancer-statistics/technical-notes/suppression.html

‡‡   Source: New York State Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS changed its methods in 2011, and data collected after this year are not directly comparable to prior years. health.ny.gov/statistics/brfss/reports

§§   Prior to 2016, the definition of being up to date with cervical cancer screening was based on the USPSTF 2003 recommendation (uspreventiveservicestaskforce.org/uspstf/recommendation/cervical-cancer-screening-2003). Starting in 2016, the BRFSS included HPV test questions and the definition of being up to date was based on the USPSTF 2018 recommendation (uspreventiveservicestaskforce.org/uspstf/recommendation/cervical-cancer-screening).

¶¶   Prior to 2018, the BRFSS's methodology for determining adherence with colorectal cancer screening was based on the USPSTF 2008 recommendations (acpjournals.org/doi/full/10.7326/0003-4819-149-9-200811040-00243). From 2018-2020, the definition of being up to date with colorectal cancer screening used by the BRFSS was based on the USPSTF 2016 recommendation (jamanetwork.com/journals/jama/article-abstract/2529486) but the survey questions were changed in the 2020 survey. In 2022, the definition of being up to date was based on the USPSTF 2021 recommendation (jamanetwork.com/journals/jama/fullarticle/2779985).

Counties are classified above and below the mean at intervals of 1 standard deviation (SD). Navy: min ≤ rate < mean – 1.5 SD; Blue: mean – 1.5 SD ≤ rate < mean – 0.5 SD; Gray: mean – 0.5 SD ≤ rate < mean + 0.5 SD; Peach: mean + 0.5 SD ≤ rate < mean + 1.5 SD; Purple: mean + 1.5 SD ≤ rate ≤ max.