Screening-Detectable Cancers in New York State, 2015-2019
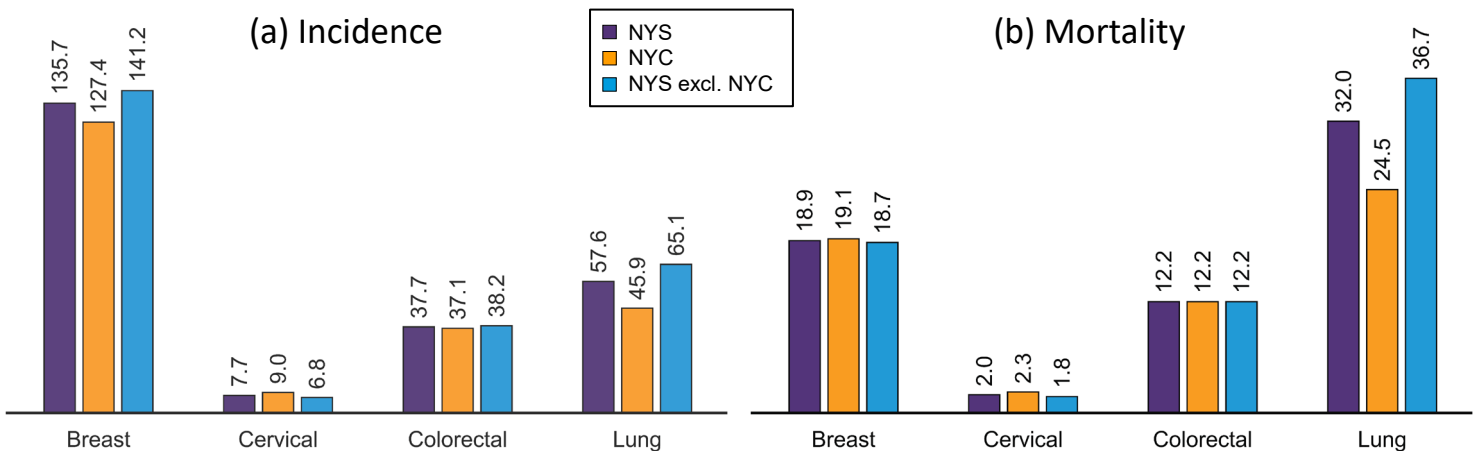
Screening-detectable cancers

- Cancer screening refers to the use of tests to detect cancer, or conditions that may lead to cancer, before symptoms appear. Generally, cancer treatment is more effective when the disease is found earlier.
- As of spring 2022, there were four primary cancer sites for which the United States Preventive Services Task Force (USPSTF) found screening to be beneficial in reducing the number of cancer-related deaths among the general population (https://www.uspreventiveservicestaskforce.org/BrowseRec/Index):
  - ✓ Breast cancer - women aged 50-74 years.
  - ✓ Cervical cancer - women aged 21-65 years.
  - ✓ Colorectal cancer - adults aged 45-75 years.
  - ✓ Lung cancer - adults aged 50-80 years with a current or recent 20 pack-year smoking history.
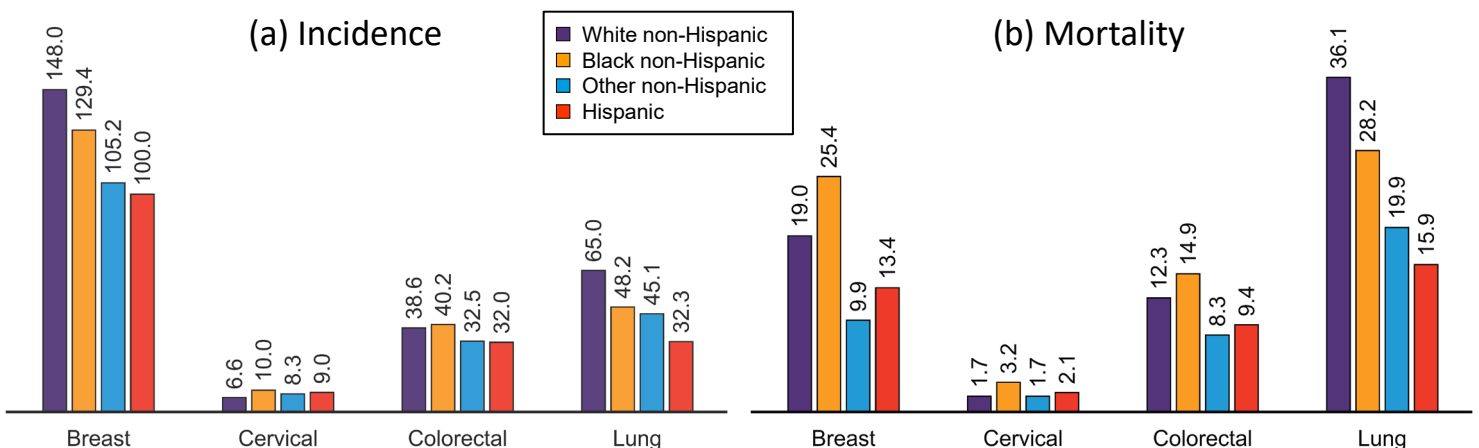
Incidence[*] and mortality[†] rates[‡] (per 100,000 persons) by region

- Incidence rates of breast, colorectal, and lung cancer were statistically significantly lower in New York City (NYC) than those in the rest of the state, while incidence of cervical cancer was higher in NYC.
- Mortality for cervical cancer was statistically significantly higher in NYC compared to the rest of the state, but mortality for lung cancer was lower in NYC.

(a) Incidence / (b) Mortality — by region. Legend: NYS, NYC, NYS excl. NYC.

Incidence values — Breast: 135.7, 127.4, 141.2; Cervical: 7.7, 9.0, 6.8; Colorectal: 37.7, 37.1, 38.2; Lung: 57.6, 45.9, 65.1.

Mortality values — Breast: 18.9, 19.1, 18.7; Cervical: 2.0, 2.3, 1.8; Colorectal: 12.2, 12.2, 12.2; Lung: 32.0, 24.5, 36.7.

Incidence[*] and mortality[†] rates[‡] (per 100,000 persons) by race/ethnicity[§]

- Among non-Hispanics, Black individuals had lower breast cancer incidence but higher mortality than Whites.
- Hispanics and individuals of other races had lower cancer incidence and mortality except for cervical cancer.

(a) Incidence / (b) Mortality — by race/ethnicity. Legend: White non-Hispanic, Black non-Hispanic, Other non-Hispanic, Hispanic.

Incidence values — Breast: 148.0, 129.4, 105.2, 100.0; Cervical: 6.6, 10.0, 8.3, 9.0; Colorectal: 38.6, 40.2, 32.5, 32.0; Lung: 65.0, 48.2, 45.1, 32.3.

Mortality values — Breast: 19.0, 25.4, 9.9, 13.4; Cervical: 1.7, 3.2, 1.7, 2.1; Colorectal: 12.3, 14.9, 8.3, 9.4; Lung: 36.1, 28.2, 19.9, 15.9.

Trends[¶] in breast cancer incidence[*] and mortality[†] rates[‡] (per 100,000 women) by race[§] and ethnicity, 2005-2019
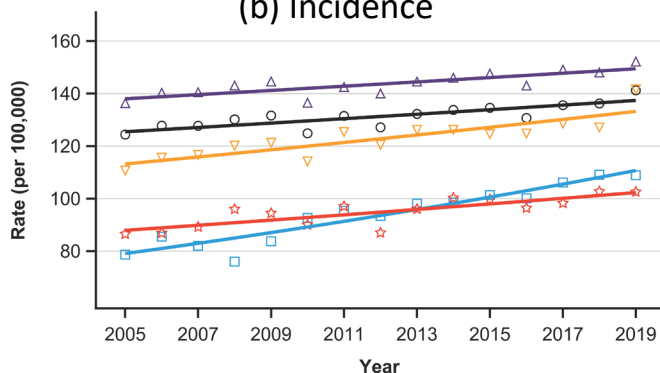
- Incidence rates of breast cancer have been increasing with a statistically significant average annual percentage change (AAPC) among all four race/ethnicity groups. Other non-Hispanics had the sharpest rise with an increase of 2.4% per year.
- Mortality has been decreasing with a statistically significant AAPC among all race/ethnicity groups except for Other non-Hispanics, among whom the rate remained low and stable over time.

(a) Average Annual Percent Change

Race/Ethnicity	Incidence		Mortality	
All	0.7	^	-1.9	^
White non-Hispanic	0.6	^	-2.0	^
Black non-Hispanic	1.2	^	-1.5	^
Other non-Hispanic	2.4	^	-0.3	
Hispanic	1.1	^	-1.7	^

^ indicates that the AAPC is significantly different from zero at α=0.05 level.

(b) Incidence

(c) Mortality

Legend: ○ All △ White non-Hispanic ▽ Black non-Hispanic ☐ Other non-Hispanic ☆ Hispanic
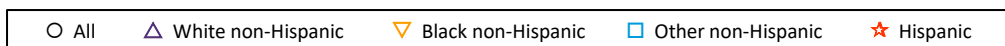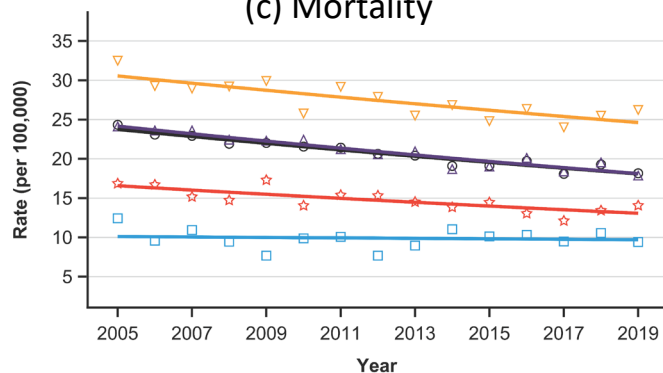
Trends[¶] in cervical cancer incidence[*] and mortality[†] rates[‡] (per 100,000 women) by race[§] and ethnicity, 2005-2019
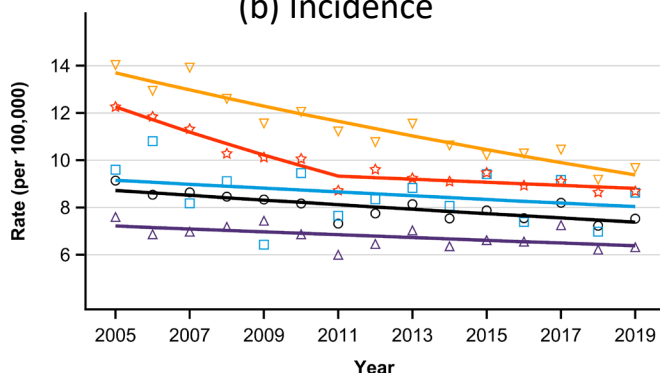
- Incidence rates of cervical cancer have been decreasing in every race/ethnicity group, though the decline among Other non-Hispanics was not statistically significant. Additionally, among Hispanic women, incidence started to level off in 2011 after years of marked decline.
- Across all race/ethnicity groups, mortality has been decreasing significantly by 1.8% per year since 2005. This is primarily driven by the marked decline among Black non-Hispanics (-4.0%) and Hispanics (-3.1%).
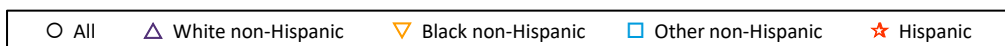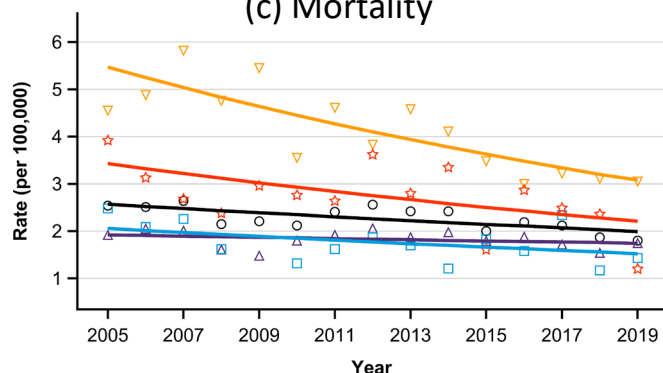
(a) Average Annual Percent Change

Race/Ethnicity	Incidence		Mortality	
All	-1.2	^	-1.8	^
White non-Hispanic	-0.9	^	-0.7	
Black non-Hispanic	-2.7	^	-4.0	^
Other non-Hispanic	-0.9		-2.1	
Hispanic	-2.3	^	-3.1	^

^ indicates that the AAPC is significantly different from zero at α=0.05 level.

(b) Incidence

(c) Mortality

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

Trends¶ in colorectal cancer incidence* and mortality† rates‡ (per 100,000 persons) by race§ and ethnicity, 2005-2019

- Incidence rates have been decreasing sharply in every race/ethnicity group from 2005 through 2019. On average, the rate among all New York residents decreased by 2.3% per year.
- Mortality has been decreasing with a statistically significant AAPC in all four race/ethnicity groups. Other non-Hispanics and Hispanics saw the largest decline of 3.5% per year.
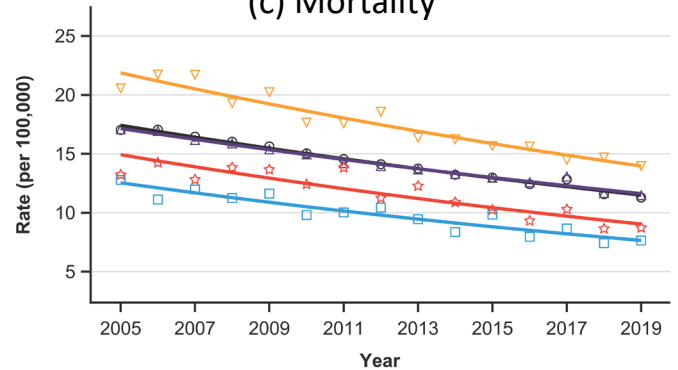
(a) Average Annual Percent Change

Race/Ethnicity	Incidence	Mortality
All	-2.3 ^	-2.9 ^
White non-Hispanic	-2.2 ^	-2.7 ^
Black non-Hispanic	-2.6 ^	-3.2 ^
Other non-Hispanic	-1.5 ^	-3.5 ^
Hispanic	-2.5 ^	-3.5 ^

^ indicates that the AAPC is significantly different from zero at α=0.05 level.
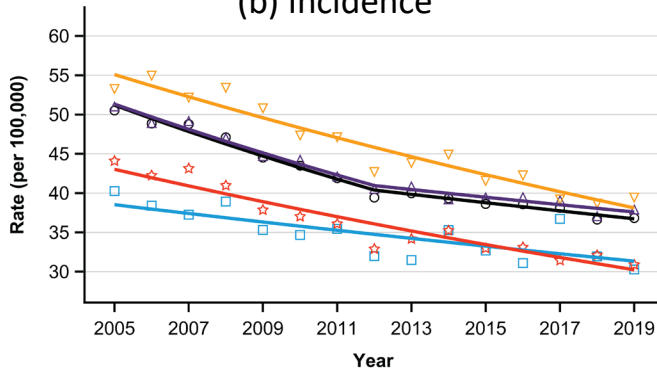
(b) Incidence

(c) Mortality

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

Trends¶ in lung cancer incidence* and mortality† rates‡ (per 100,000 persons) by race§ and ethnicity, 2005-2019

- It is concerning that among Other non-Hispanics the incidence of lung cancer has been rising with a statistically significant AAPC of 1.4%, while rates in the other three groups showed marked decline.
- The mortality declined on average by 3.2% per year among all New Yorkers since 2015. Furthermore, all race/ethnicity groups, except Other non-Hispanics, saw a sharper downward trend starting in 2012-2013.
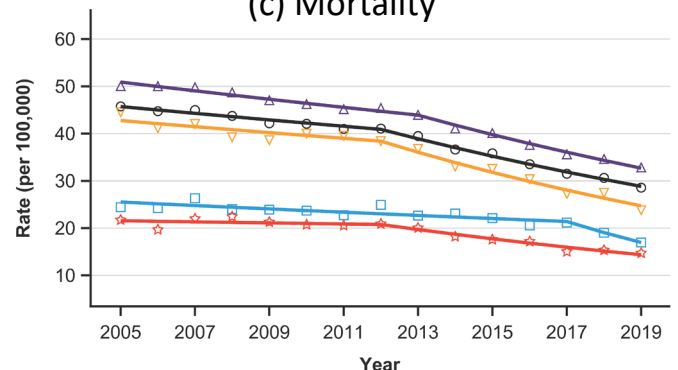
(a) Average Annual Percent Change

Race/Ethnicity	Incidence	Mortality
All	-1.2 ^	-3.2 ^
White non-Hispanic	-1.1 ^	-3.1 ^
Black non-Hispanic	-1.8 ^	-3.8 ^
Other non-Hispanic	1.4 ^	-2.9 ^
Hispanic	-0.7 ^	-2.9 ^

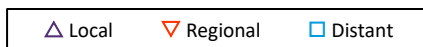^ indicates that the AAPC is significantly different from zero at α=0.05 level.
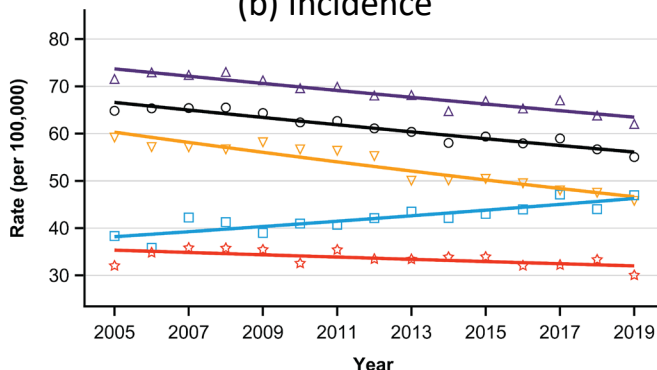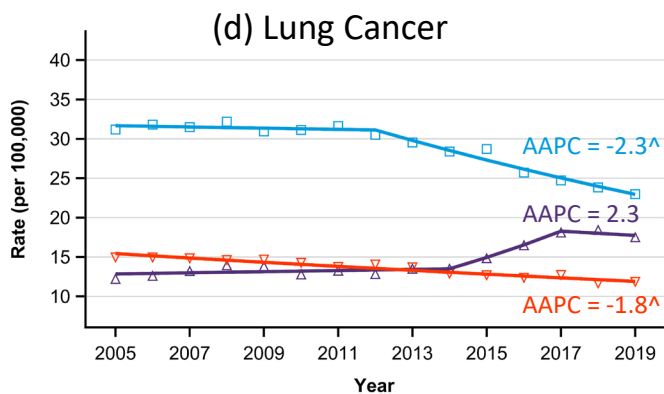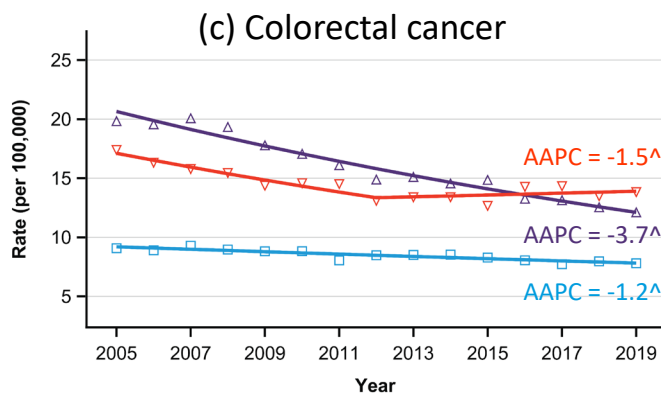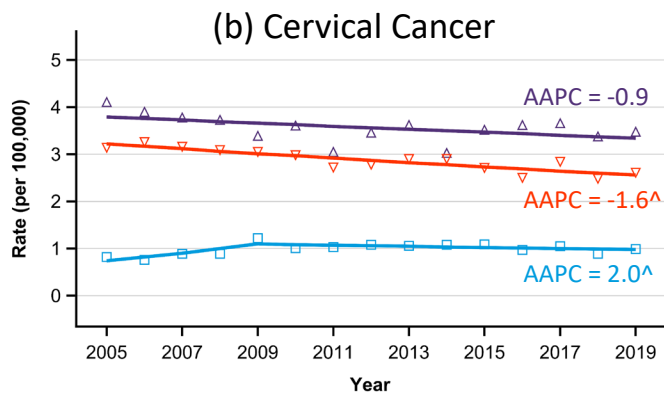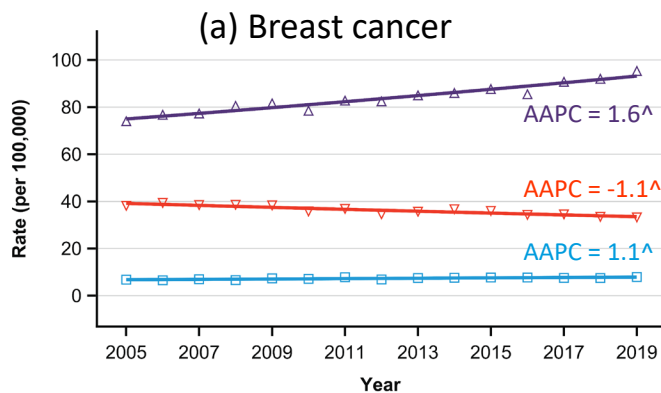
(b) Incidence

(c) Mortality

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

Trends[¶] in cancer incidence[*] rates[‡] by stage[**] at diagnosis, 2005-2019
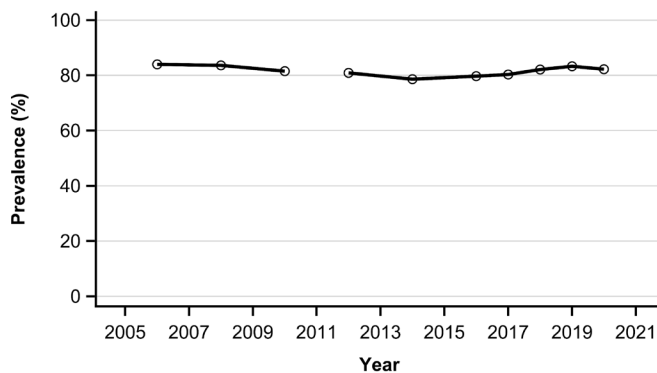
- Incidence of screening-detectable cancers diagnosed at local, regional, or distant stage generally followed a downward trend from 2005 to 2019, though the average annual decline was not always statistically significant.
- There were a few exceptions such as local- and distant-stage breast cancers and distant-stage cervical cancer, which had been increasing with a statistically significant AAPC over time.

(a) Breast cancer

AAPC = 1.6^
AAPC = -1.1^
AAPC = 1.1^

(b) Cervical Cancer

AAPC = -0.9
AAPC = -1.6^
AAPC = 2.0^

(c) Colorectal cancer

AAPC = -1.5^
AAPC = -3.7^
AAPC = -1.2^

(d) Lung Cancer

AAPC = -2.3^
AAPC = 2.3
AAPC = -1.8^

△ Local   ▽ Regional   ☐ Distant

Trends[¶] in cancer screening prevalence, 2006-2020[††]

- Prevalence of screening for breast, cervical, and colorectal cancers has been high and steady in New York State.
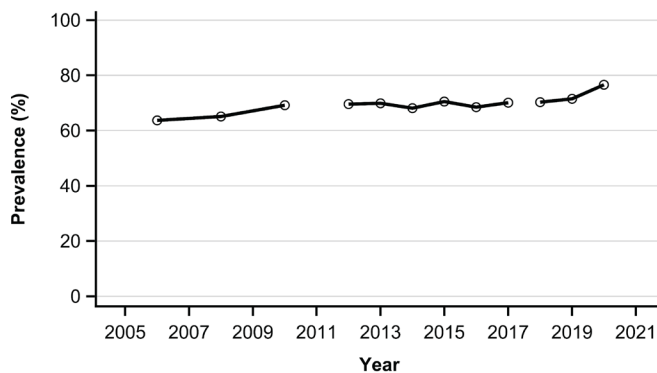- No data are available on lung cancer screening uptake.

(a) Mammogram within past 2 years
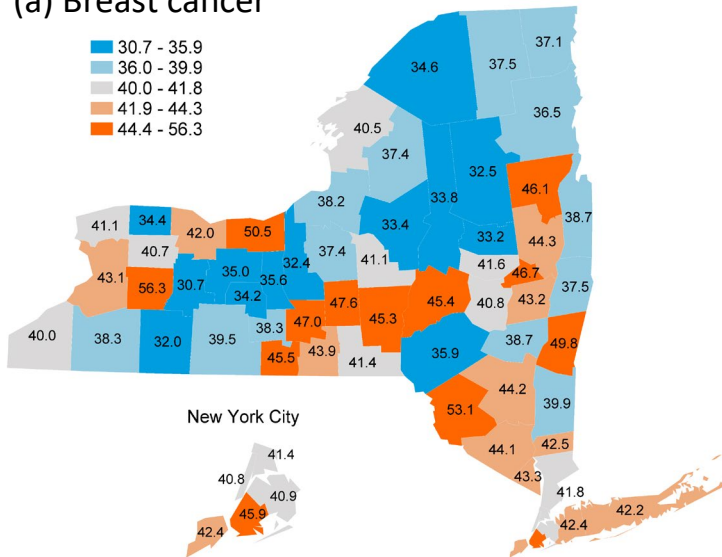
(b) Pap test within past 3 years
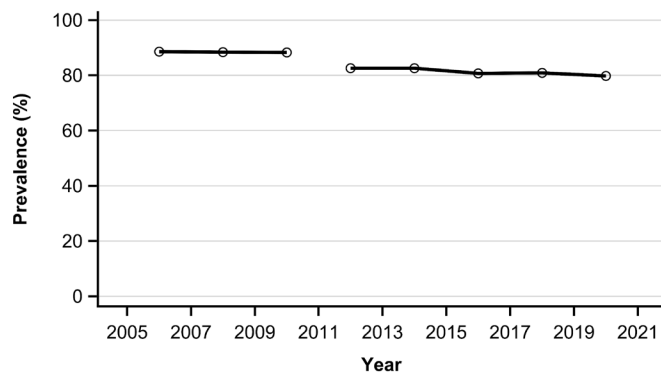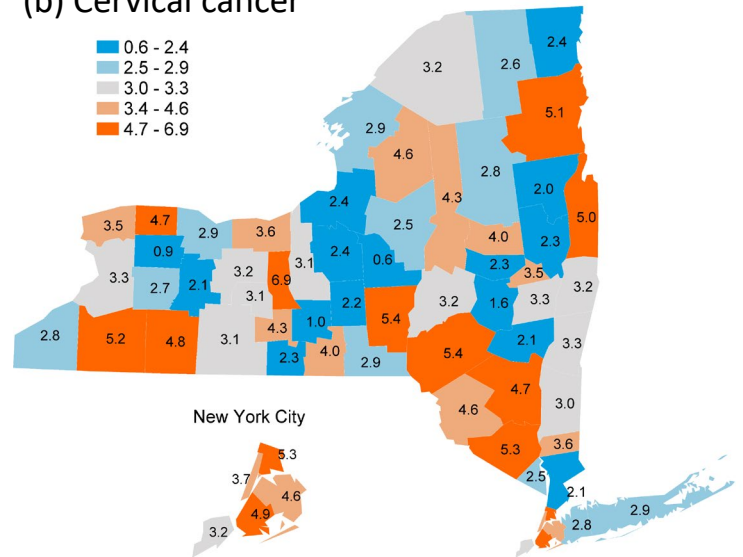
(c) Up-to-date[‡‡] with colorectal screening

Incidence* rates‡ (per 100,000 persons) of regional/distant stage** cancers by county

- Except for lung cancer, rates of regional/distant stage screen-detectable cancers do not follow any clear pattern based on geography. Most of the counties with relatively low late-stage lung cancer incidence are in New York City, Long Island, and the Mid-Hudson region.
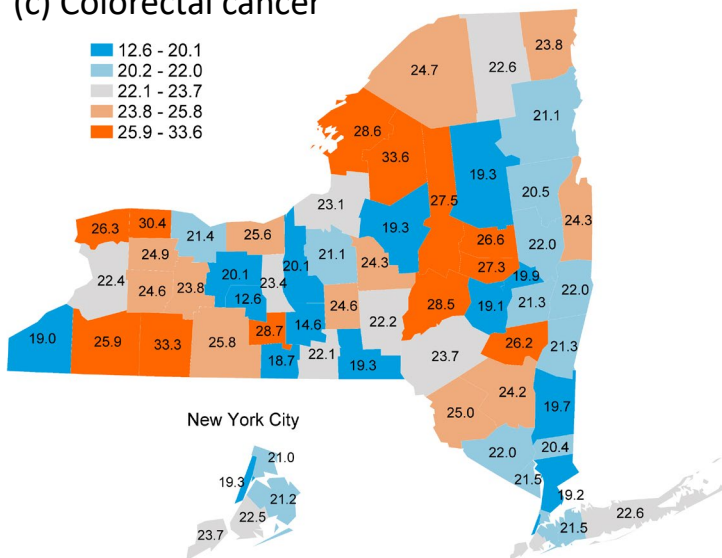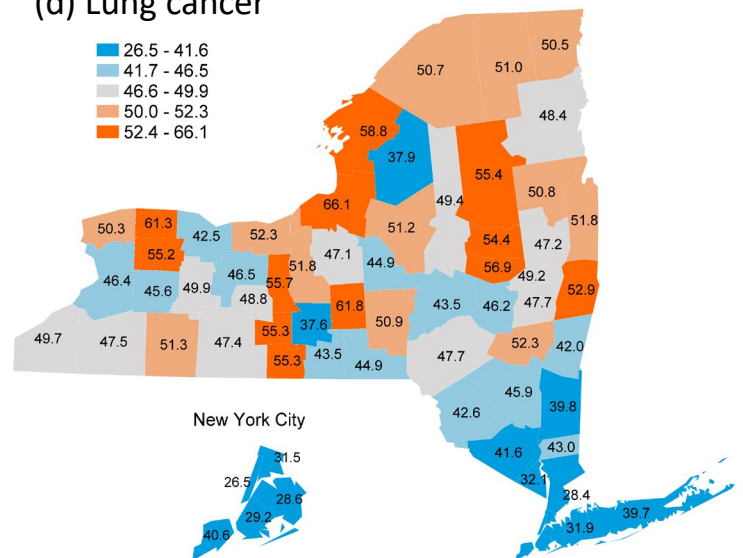
(a) Breast cancer

Legend:
- 30.7 - 35.9
- 36.0 - 39.9
- 40.0 - 41.8
- 41.9 - 44.3
- 44.4 - 56.3

New York City

(b) Cervical cancer

Legend:
- 0.6 - 2.4
- 2.5 - 2.9
- 3.0 - 3.3
- 3.4 - 4.6
- 4.7 - 6.9

New York City

(c) Colorectal cancer

Legend:
- 12.6 - 20.1
- 20.2 - 22.0
- 22.1 - 23.7
- 23.8 - 25.8
- 25.9 - 33.6

New York City

(d) Lung cancer

Legend:
- 26.5 - 41.6
- 41.7 - 46.5
- 46.6 - 49.9
- 50.0 - 52.3
- 52.4 - 66.1

New York City

Footnotes

* Source of data: New York State Cancer Registry. Data provisional, November 2021. https://www.health.ny.gov/statistics/cancer/registry/

† Source of data: Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Mortality - All COD, Aggregated With State, Total U.S. (1990-2019) <Katrina/Rita Population Adjustment>, National Cancer Institute, DCCPS, Surveillance Research Program, released April 2021. Underlying mortality data provided by NCHS (www.cdc.gov/nchs).

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

§ Other race refers to Asian, Pacific islander, and American Indian/Alaskan Native.

¶ Trend analysis was conducted using the Joinpoint Regression Program, Version 4.9.0.0, March 2021; Statistical Research and Application Branch, National Cancer Institute. https://surveillance.cancer.gov/joinpoint

** Local — Cancer is limited to the place where it started, with no sign that it has spread. Regional—Cancer has spread to nearby lymph nodes, tissues, or organs. Distant—Cancer has spread to distant parts of the body.

†† Source of data: 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. https://www.health.ny.gov/statistics/brfss/

‡‡ Prior to 2018, the BRFSS' methodology for determining adherence with colorectal cancer screening was based on the USPSTF 2008 recommendations (https://www.acpjournals.org/doi/full/10.7326/0003-4819-149-9-200811040-00243). Since 2018, the definition of being up-to-date with colorectal cancer screening used by the BRFSS was based on the USPSTF 2016 recommendations (https://jamanetwork.com/journals/jama/article-abstract/2529486).