Cancers Associated with Overweight and Obesity in New York State

2018 – 2022

NEW YORK STATE | Department of Health

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Introduction

Overweight and obesity were recognized as major public health problems nationally in 2001.[1] In New York State, nearly two out of every three adults have overweight (36%) or obesity (28%).[2]

Overweight and obesity contribute to a number of health risks, including cancer.

- In 2016, the International Agency for Research on Cancer concluded that there was sufficient evidence to support an association between excess body weight and cancer risk for 13 cancers: postmenopausal breast cancer; cancers of the colon and rectum, kidney, endometrium (corpus uterus), thyroid, pancreas, liver, ovary, gallbladder, and gastric cardia; multiple myeloma; meningioma; and adenocarcinoma of the esophagus.[3]
- The extent to which obesity increases cancer risk varies with cancer site and sex.[4,5] In general, the risk of developing cancer increases with the amount of excess body weight and the interval of time a person has overweight or obesity. Overweight and obesity are also associated with behaviors (e.g., diet, physical activity, alcohol, and tobacco use) known to increase cancer risk.
- Incidence trends show an increase of early-onset cancers in some sites associated with excess body weight, especially colorectal cancer.[6-9]

This report uses data collected by the New York State Cancer Registry and provides an overview of the latest five-year (2018-2022) incidence and disparities by demographics and geography of overweight- and obesity-associated cancers as well as the incidence trends from 2008 to 2022. **Please note:** The data for these cancers are based only on cancer site/type[10] and do not estimate the proportion of cancers caused by excess weight. In addition, the report highlights major initiatives the New York State Department of Health has launched to combat obesity and promote cancer prevention and control.

Results

Table 1. Incidence of Overweight- and Obesity-Associated Cancers, New York State 2018-2022*

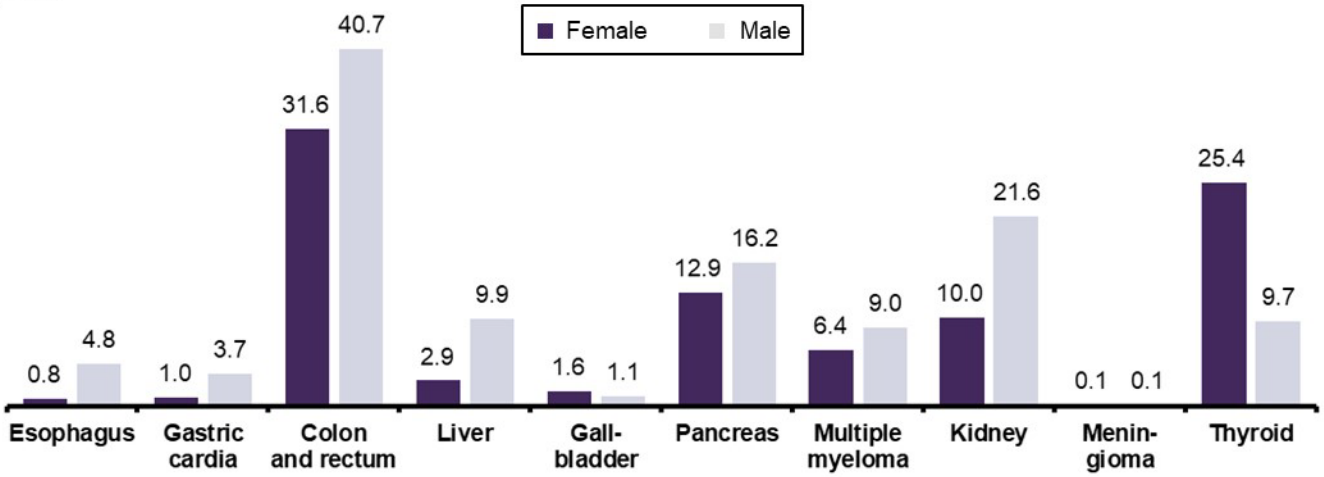
Cancer Site/Type	Cases[a]	Rate[b]
Esophageal adenocarcinoma	692	2.6
Gastric cardia	565	2.2
Colon and rectum	8,828	35.8
Liver	1,619	6.1
Gallbladder	353	1.4
Pancreas	3,740	14.4
Multiple myeloma	1,941	7.5
Kidney	3,846	15.4
Meningioma	23	0.1
Thyroid	3,807	17.7
Breast (females, ages 50 or older)	14,129	351.9
Corpus and uterus (females only)	4,280	30.9
Ovary (females only)	1,392	10.9
All overweight- and obesity-associated cancers	45,214	177.9

[a] Average number of new cases per year; [b] per 100,000 persons,

- Over 45,200 cases of overweight- and obesity-associated cancers were diagnosed each year in New York, representing 38% of the nearly 117,700 new cancer cases diagnosed each year.[11]
- Colon and rectum (19.5%) and female breast (31.2%) were the most common cancers among overweight- and obesity-associated cancers in the state.

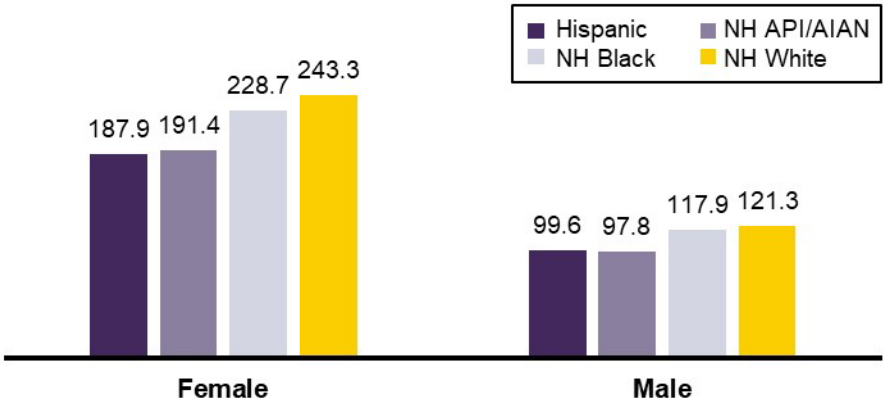
Figure 1. Incidence Rates (per 100,000 persons) of Overweight- and Obesity-Associated Cancers by Demographics, New York State 2018-2022*

(A) Sex



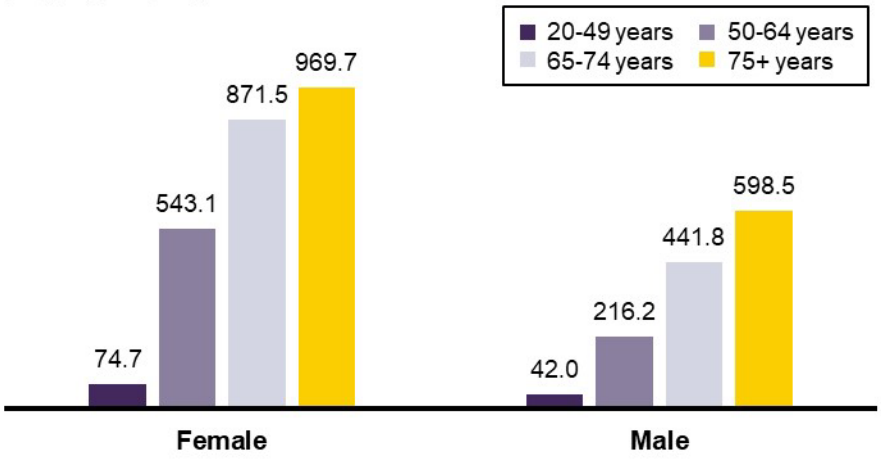
- For most cancers, incidence rates were significantly higher in males than females.
- Only rates of thyroid and gallbladder cancers were significantly higher in females than males.
- Females and males had similar incidence of meningioma.

(B) Race and ethnicity† by sex



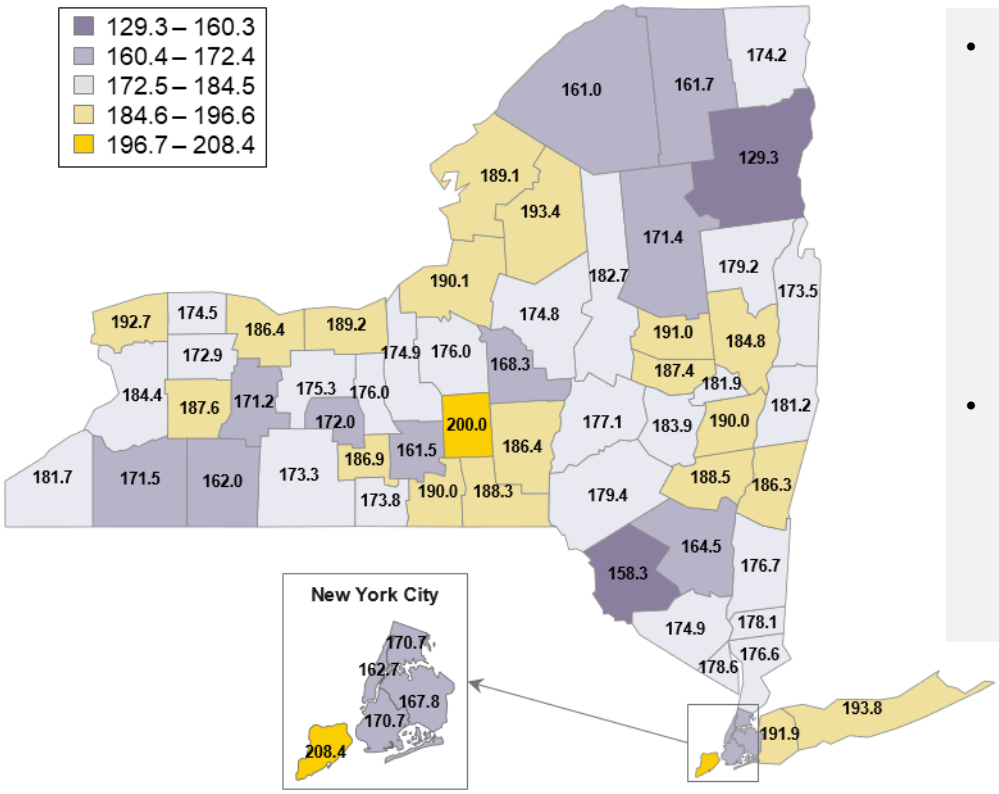
- For both sexes, when all overweight- and obesity-associated cancers were combined, incidence rates were generally higher in non-Hispanic (NH) Black and non-Hispanic White persons than persons in the remaining two racial and ethnic groups.

(C) Age group by sex



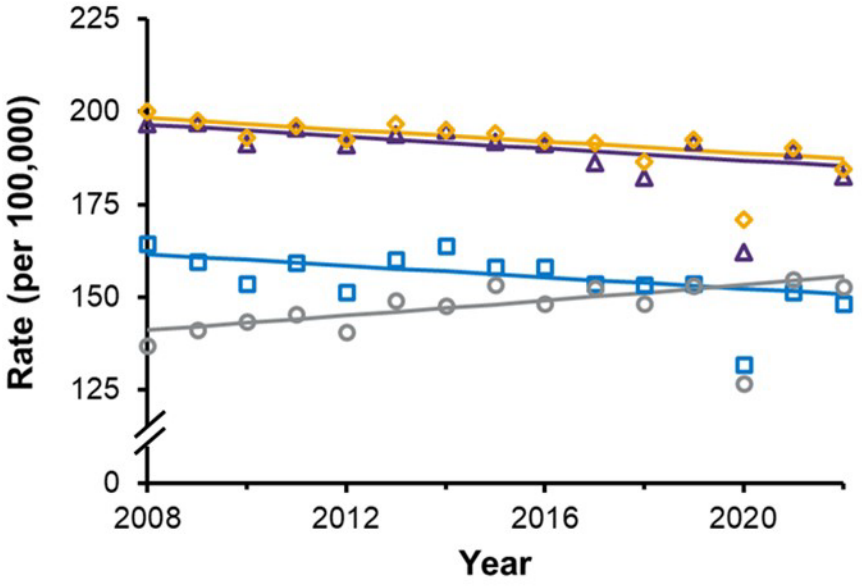
- Incidence rates were higher among older age groups for both sexes.
- Compared with ages 20-49 years, the 7-fold higher rate among females ages 50-64 years was partially due to the addition of breast cancer cases among females ages 50 and older.

Figure 2. Incidence Rates (per 100,000 persons) of Overweight- and Obesity-Associated Cancers by Geography, New York State 2018-2022*,‡



- There are five levels of shading in the map with the grayish violet representing lower rates and the gold representing higher rates. The different shade levels do not represent statistical differences between counties.
- When all overweight- and obesity-associated cancers were combined, incidence rates ranged from 129.3 to 208.4 per 100,000 persons across the 62 counties.

Figure 3. Trends in Incidence of Overweight- and Obesity-Associated Cancers by Race and Ethnicity, New York State 2008-2022*,†,§



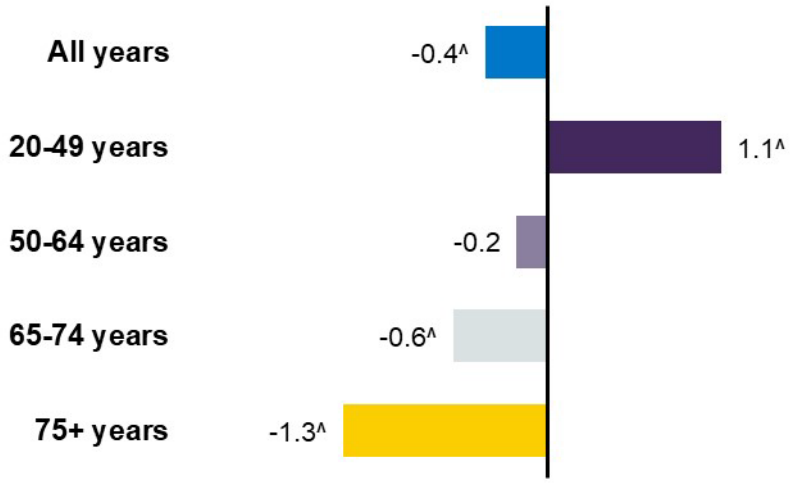
Summary of Average Annual Percent Change

Race and Ethnicity	Estimate
Hispanic	-0.5^
NH API/AIAN	0.7^
NH Black	-0.4^
NH White	-0.4^

^ *Significantly different from zero at the $\alpha = 0.05$ level.*

- From 2008 to 2022, incidence rates of all overweight- and obesity-associated cancers combined decreased significantly by 0.4% to 0.5% per year among Hispanic, non-Hispanic Black, and non-Hispanic White individuals. In contrast, incidence increased by 0.7% per year among Asian, Pacific Islander, American Indian, or Alaska Native persons of non-Hispanic origin collectively.

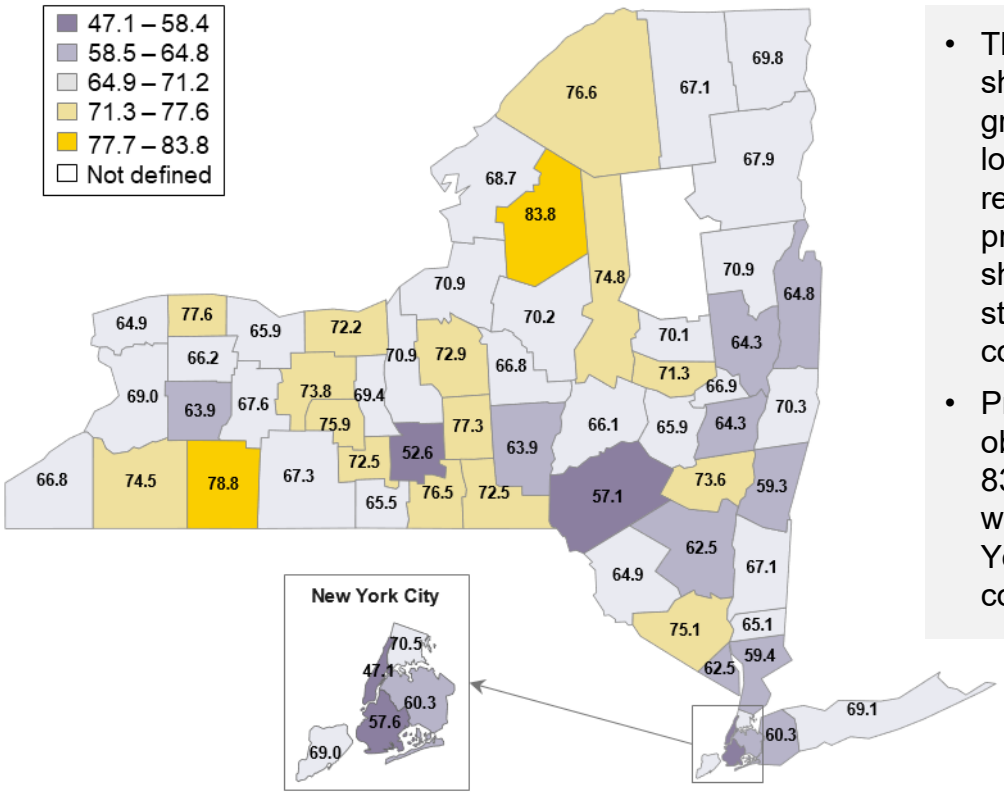
Figure 4. Average Annual Percent Change in Overweight- and Obesity-Associated Cancers by Age Group, New York State 2008-2022[*,§]



- Incidence rates of overweight- or obesity-associated cancers decreased by 0.4% per year on average from 2008 to 2022 among people of all ages.
- Incidence rates increased by 1.1% per year among individuals ages 20-49 years, whereas rates either decreased or remained stable among individuals in the older age groups.

^ *Indicates that the average annual percent change is significantly different from zero at the $\alpha = 0.05$ level.*

Figure 5. Prevalence of Overweight or Obesity Among Adults by County, New York State 2021[‡,¶]



- There are five levels of shading in the map with the grayish violet representing lower prevalence and the gold representing higher prevalence. The different shade levels do not represent statistical differences between counties.
- Prevalence of overweight or obesity varied from 47.1% to 83.8% across 62 counties and was generally lower in New York City and its neighboring counties.

- Current patterns of overweight or obesity prevalence may not correspond with patterns of cancer incidence because risk of overweight- and obesity-associated cancers depends on many factors over a person's lifetime.

New York State Department of Health Initiatives

New York State's 2025-2030 Prevention Agenda and Health Equity[12]

The Prevention Agenda is New York State's Health Improvement Plan. The 2025-2030 Prevention Agenda serves as a framework for coordinated state and local actions to reduce health disparities and promote health equity with a strong emphasis on prevention.

Across domains, there are many priorities that address obesity, nutrition, and/or physical activity. These include poverty, healthy eating, nutrition security, opportunities for active transportation and physical activity, and preventive services for chronic disease prevention and control. Evidence-informed strategies include:

- Make safe and accessible physical activity opportunities the norm through community design policies such as Complete Streets and Safe Routes to Schools.
- Address food insecurity by expanding food access points.
- Make healthy food choices easier and accessible such as by promoting nutrition guidelines and healthy food procurement in facilities where food is sold, served, or distributed.
- Support environments for breastfeeding.
- Provide weight-bias education and sensitivity training to health care providers to improve patient-provider relationships and reduce obesity stigma.

Physical Activity and Nutrition Programs and Activities

The New York State Department of Health works with many partners and contractors to develop and implement a range of physical activity and nutrition programs and activities in community, child care, school, and health care settings:

- *Hunger Prevention and Nutrition Assistance Program (HPNAP)* provides funding to contractors and their 2,400 emergency food programs to provide nutritious food to supplement meals to those in need throughout New York State.
- *Commodity Supplemental Food Program (CSFP)* works to improve the health of low-income individuals at least 60 years of age by supplementing their diets with nutritious United States Department of Agriculture (USDA) Foods.
- *Farmers' Market Nutrition Program (FMNP)*, in collaboration with Agriculture and Markets, is designed to encourage low-income families at nutritional risk to increase their consumption of fresh fruits and vegetables through the issuance of "checks" that may be redeemed at participating farmers' markets throughout the state.
- *Expansion of Fruit and Vegetable Incentive Programs help people buy and consume more fruits and vegetables.*
- *Nourish New York* is a state-funded program that aims to increases the availability of New York State grown and produced foods through the food banks and emergency food programs, including improving access to fruits, vegetables, dairy products, and meat.
- *Special Supplemental Nutrition Program for Women, Infants and Children (WIC)* provides supplemental food, participant-centered nutrition education and counseling, breastfeeding support, and linkages with health and social services for eligible low-income women and children to improve pregnancy outcomes, promote optimal growth and development for infants and children, and influence lifetime nutrition and health behaviors.

- *Creating Healthy Schools and Communities (CHSC), 2021-2026* takes a comprehensive, community-based participatory approach to increasing opportunities for physical activity and improved nutrition for people across the age span.
- *Child and Adult Care Food Program (CACFP)* is a federal program that provides nutrition education and reimbursement for nutritious meals and snacks served to eligible children and adults who are enrolled for care at participating child care centers, after school programs, day care homes, emergency shelters, and adult day care centers.
- *Breastfeeding, Chestfeeding, and Lactation Friendly New York (BFFNY), 2023-2028* provides funding to contractors to implement policy, systems, and environmental changes across community settings to improve continuity of care for breastfeeding/chestfeeding families.
- *Breastfeeding Friendly Child Care* encourages child care centers and family day care homes to support breastfeeding families and recognizes these providers with Breastfeeding Friendly certificates.
- *Breastfeeding Friendly Practices Designation* indicates dedication to improving and establishing optimal maternity and newborn care in support of breastfeeding.

Comprehensive Cancer Control Plan

The New York State Comprehensive Cancer Control Plan is a guide to identify and address the cancer burden in New York State. Since 2003, the Plan has been developed by the New York State Cancer Consortium, a statewide network of over 400 members from the public and private sectors. The New York State Department of Health is a major partner in and facilitator of/for the Consortium. The New York State Comprehensive Cancer Control Plan Dashboard displays progress on key indicators and measurable objectives on various priority areas of the Plan. The 2018-2023 Plan Final Progress Report summarizes the progress made toward the goals and objectives of the 2018-2023 Comprehensive Cancer Control Plan.

The 2025-2030 NYS Comprehensive Cancer Control Plan is in development and will include measurable objectives and suggested strategies spanning the cancer continuum, including cancer-related health equity, health promotion and cancer prevention, early detection, treatment, and survivorship. The goal of the "Nutrition, Food Security, Physical Activity, and Breastfeeding" section will be to increase awareness about the connection between these factors and the risk of cancer and to advance policy, systems, and environmental changes that ensure all people, regardless of factors like race, ethnicity, or socioeconomic status, are food secure and have equitable access to safe places to be physically active, eat nutritious foods, and to breastfeed. Once released, the 2025-2030 Plan will be available on the NYS Cancer Consortium website.

Conclusion

The burden of overweight- and obesity-associated cancers among New Yorkers remains high. When all 13 cancers were combined, there was a small but significant downward trend in cancer incidence among all New Yorkers from 2008 to 2022. Because cancers associated with excess weight are related to other factors known to increase cancer risk, trends in their incidence may not reflect progress made addressing overweight and obesity in the population, which continued to increase from 2008 to 2022.[2]

Another key finding is that incidence among adults ages 49 years or younger showed a marked increase of 1.1% per year. This observation is consistent with recent research findings,[6-9] though the extent to which obesity, particularly earlier in life, plays a role in early-onset cancer remains unclear.

To reduce the burden of cancer in New York State, the Department of Health's cancer control and community chronic disease prevention programs work with the New York State Cancer Consortium, health care systems, community-based organizations, and other partners and contractors to support opportunities to be physically active, have a healthy weight, eat recommended foods, and address food insecurity.

Endnotes

- New York State Cancer Registry. Rates are per 100,000 persons, age-adjusted to the 2000 U.S. standard population. Data provisional, November 2024. www.health.ny.gov/statistics/cancer/registry/
† Non-Hispanic API/AIAN refers to Asian, Pacific Islander, American Indian or Alaska Native persons of non-Hispanic origin. Due to low case counts, these persons were included in an aggregated race and ethnicity category.
‡ Counties are classified into 5 categories based on the mean and standard deviation (SD): (1) min ≤ rate < mean – 1.5 SD (dark purple); (2) mean – 1.5 SD ≤ rate < mean – 0.5 SD (light purple); (3) mean – 0.5 SD ≤ rate < mean + 0.5 SD (gray); (4) mean + 0.5 SD ≤ rate < mean + 1.5 SD (yellow); and (5) mean + 1.5 SD ≤ rate ≤ max (gold).
§ Trend analysis was conducted using the Joinpoint Regression Program, Version 5.4.0.0 April 2025; 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
¶ New York State Behavioral Risk Factor Surveillance System (BRFSS) Health Indicators by County and Region. health.data.ny.gov/Health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/jsy7-eb4n/about_data. Prevalence is age-adjusted to the 2000 U.S. standard population and not defined for cells with less than two observations.

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