

# Public Health Cancer Data Sources

Technical Assistance for Brownfields Program  
EPA Region 1

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**UConn**  
HEALTH



# Public Health Cancer Data Sources

## Welcome & Introduction

- ▶ Sara Wakai, PhD, Assistant Professor
  - UConn Health, Center for Population Health

## Acknowledgement - Technical Assistance of Brownfields Program

- ▶ Randi Mendes, PhD, Program Director
  - Civil and Environmental Engineering, UConn
  - Program Director UConn Technical Assistance for Brownfields Program (TAB).  
Region 1 (New England States)
- ▶ Marisa Chrysochoou, PhD, Dean of Engineering
  - School of Engineering, University of Missouri
  - Program Director UConn Technical Assistance for Brownfields Program (TAB).  
Region 1 (New England States)

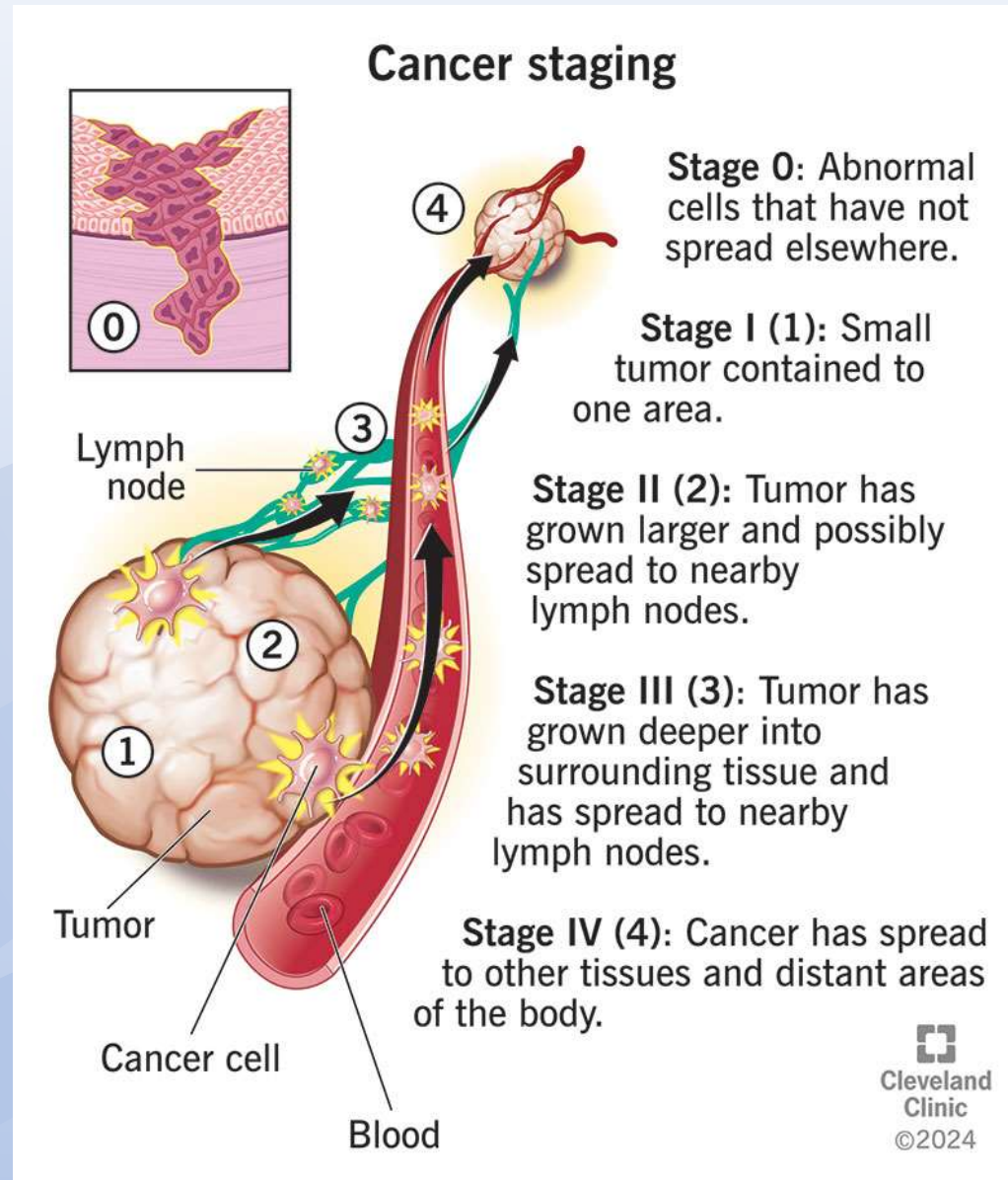


# Learning Objectives

- ❖ Define cancer and associated terms
- ❖ Review potential risk factors of cancer
  - ❖ Focus on environmental exposures
- ❖ Explore data sources that monitor cancer health risks
  - ❖ Focus on TAB Region 1 states

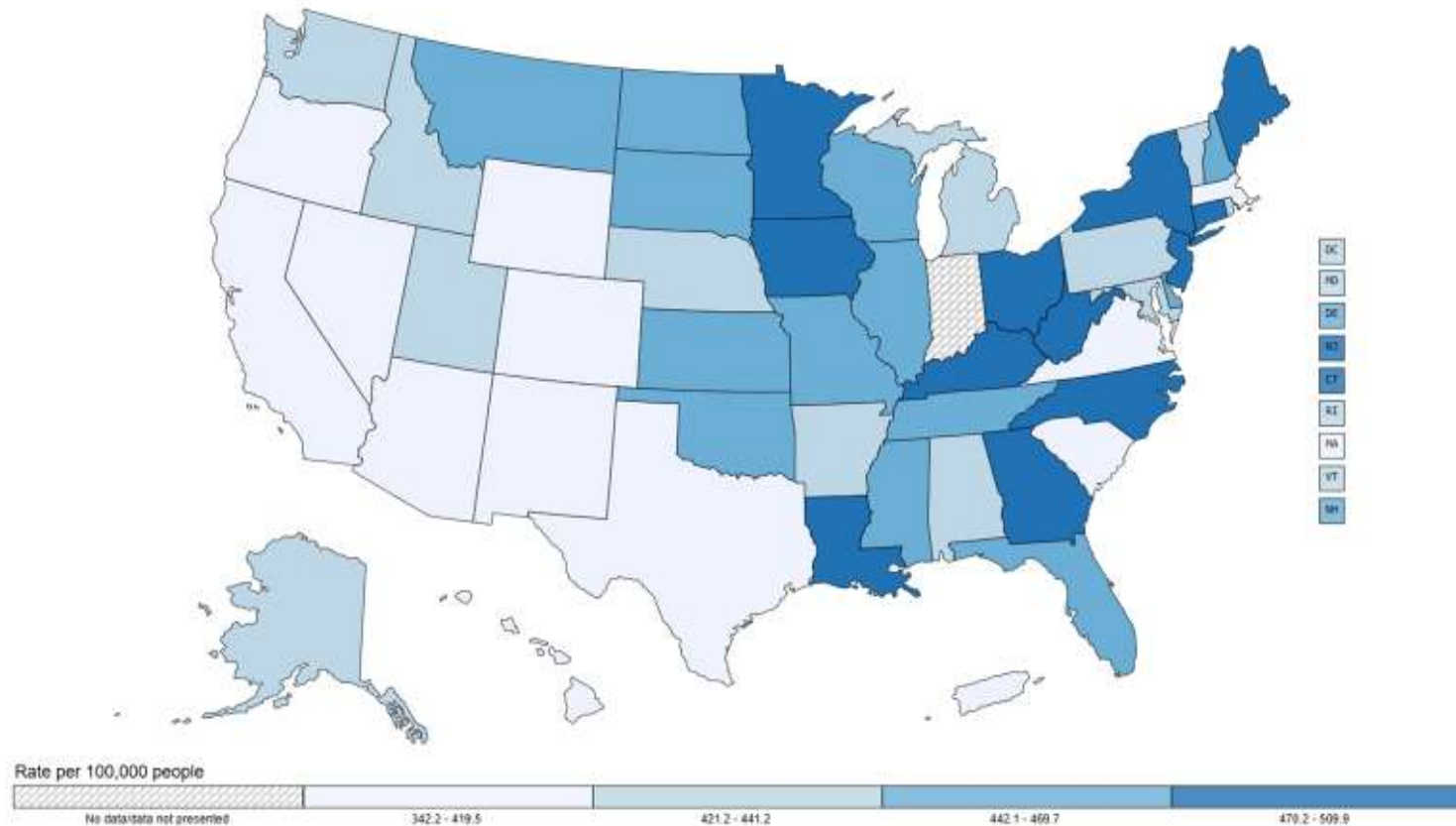


# Cancer Definitions and Terminology



# Cancer Incidence Rates Map

Rate of New Cancers in the United States, 2021  
All Types of Cancer, All Ages, All Races and Ethnicities, Male and Female

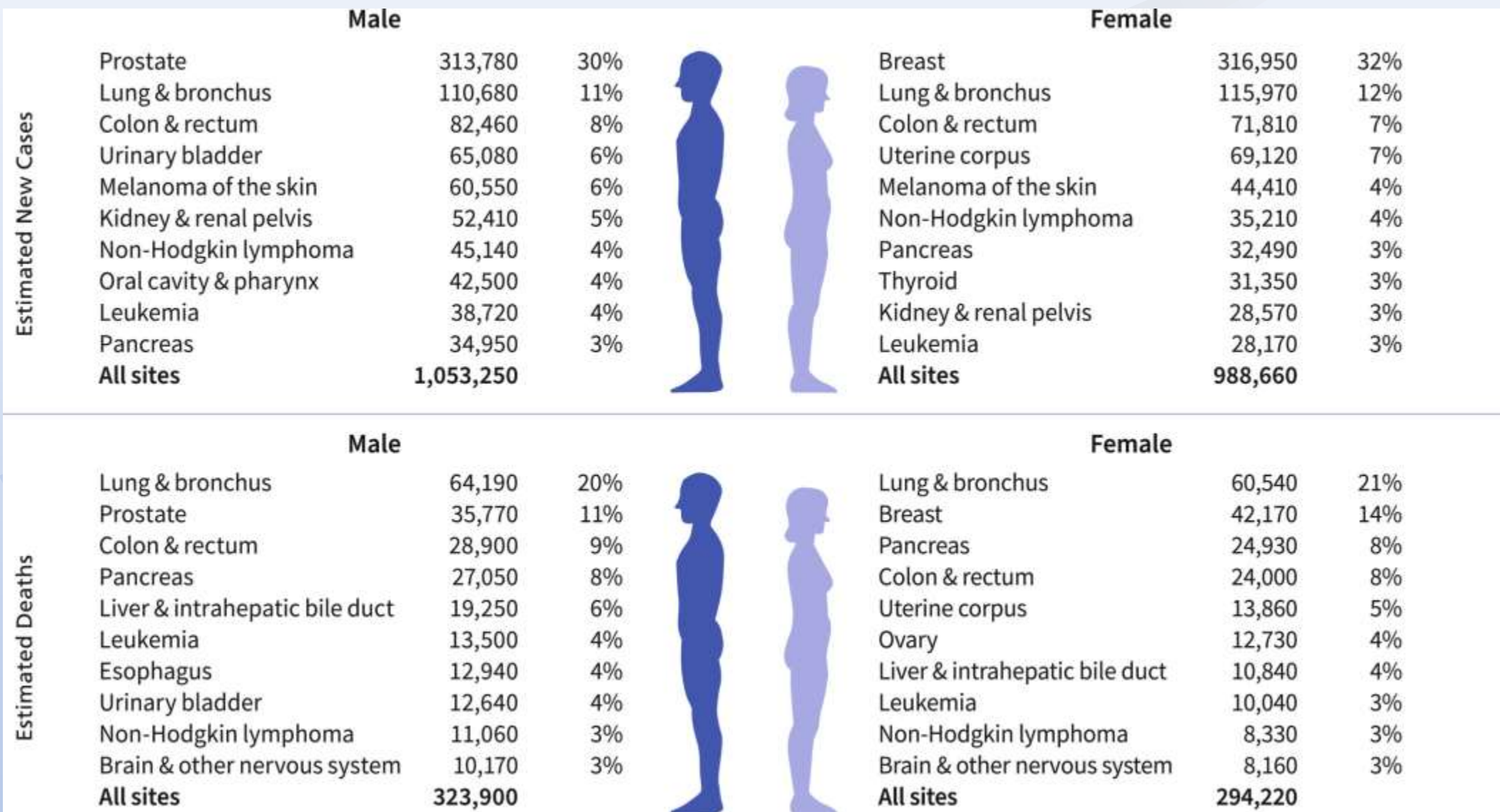


Source - U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; <https://www.cdc.gov/cancer/dataviz>, released in June 2024.

Source: <https://gis.cdc.gov/Cancer/USCS/#/AtAGlance/>

# Cancer Rates: Incidence and Mortality

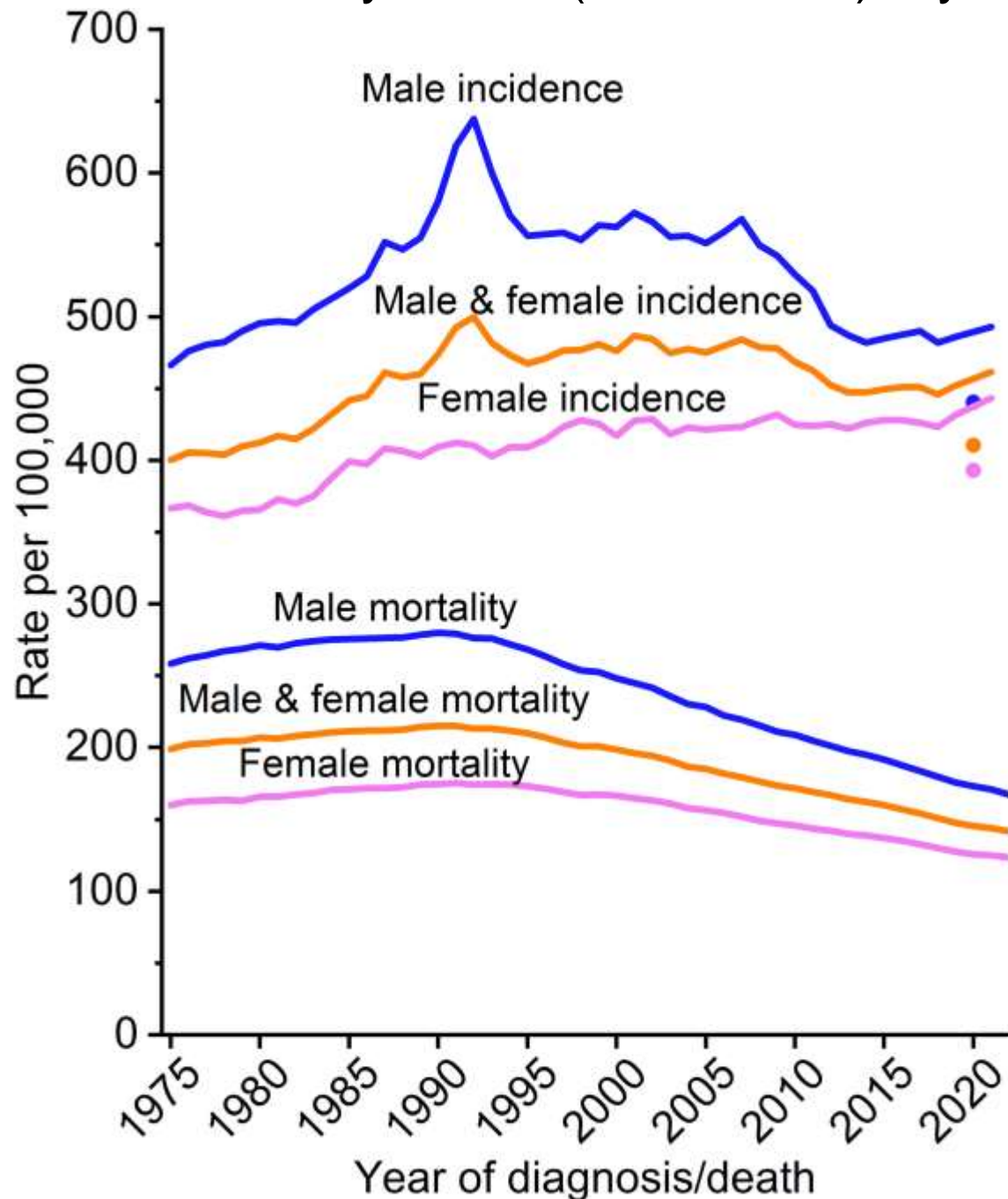
Most common cancers diagnosed in men and women in 2025



<https://acsjournals.onlinelibrary.wiley.com/doi/10.3322/caac.21871>

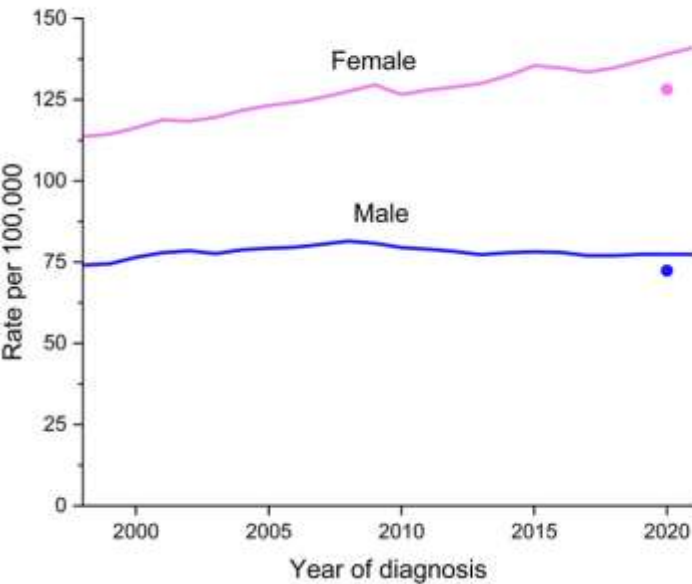


# Trends in Cancer Incidence (1975-2021) and Mortality Rates (1975-2022) by sex

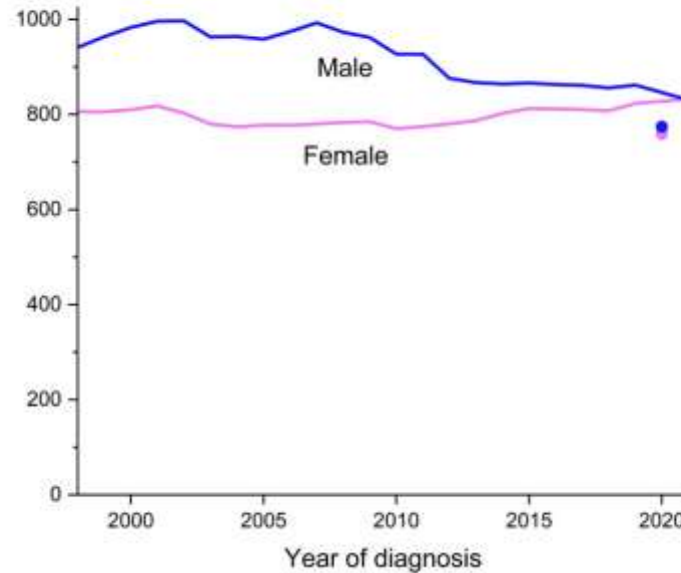


# Cancer Incidence by Age and Sex

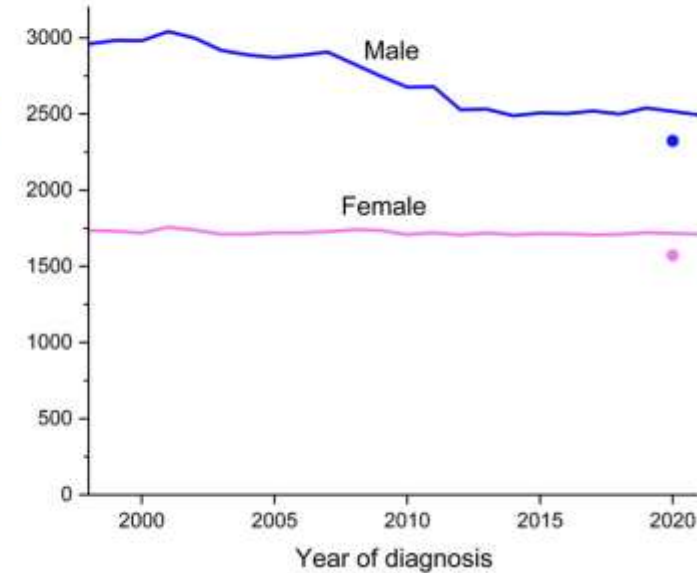
0-49 years



50-64 years



65+ years

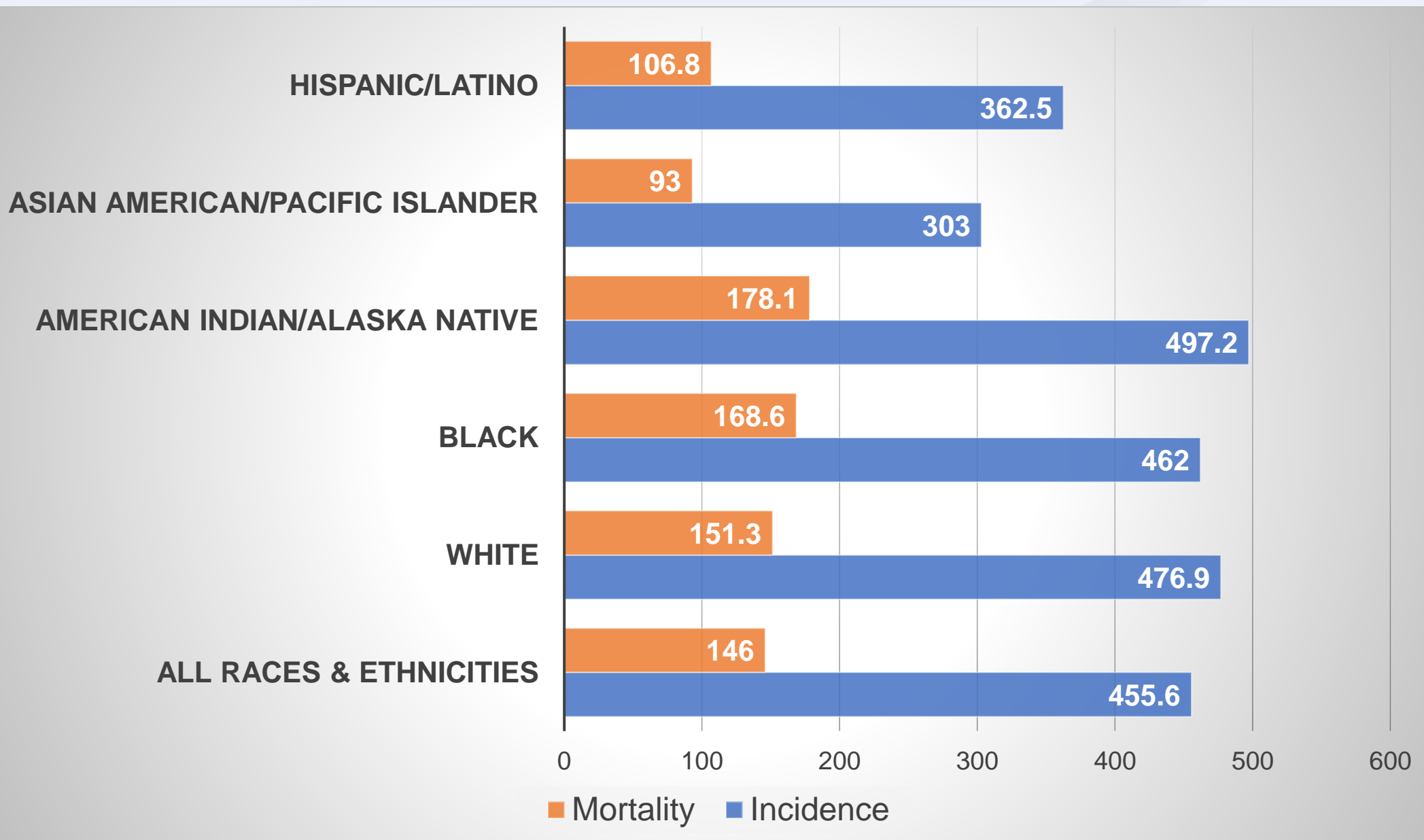


<https://acsjournals.onlinelibrary.wiley.com/doi/10.3322/caac.21871>





# All Cancer Incidence (2017-2021) & Mortality (2018-2022) Rates by Race & Ethnicity

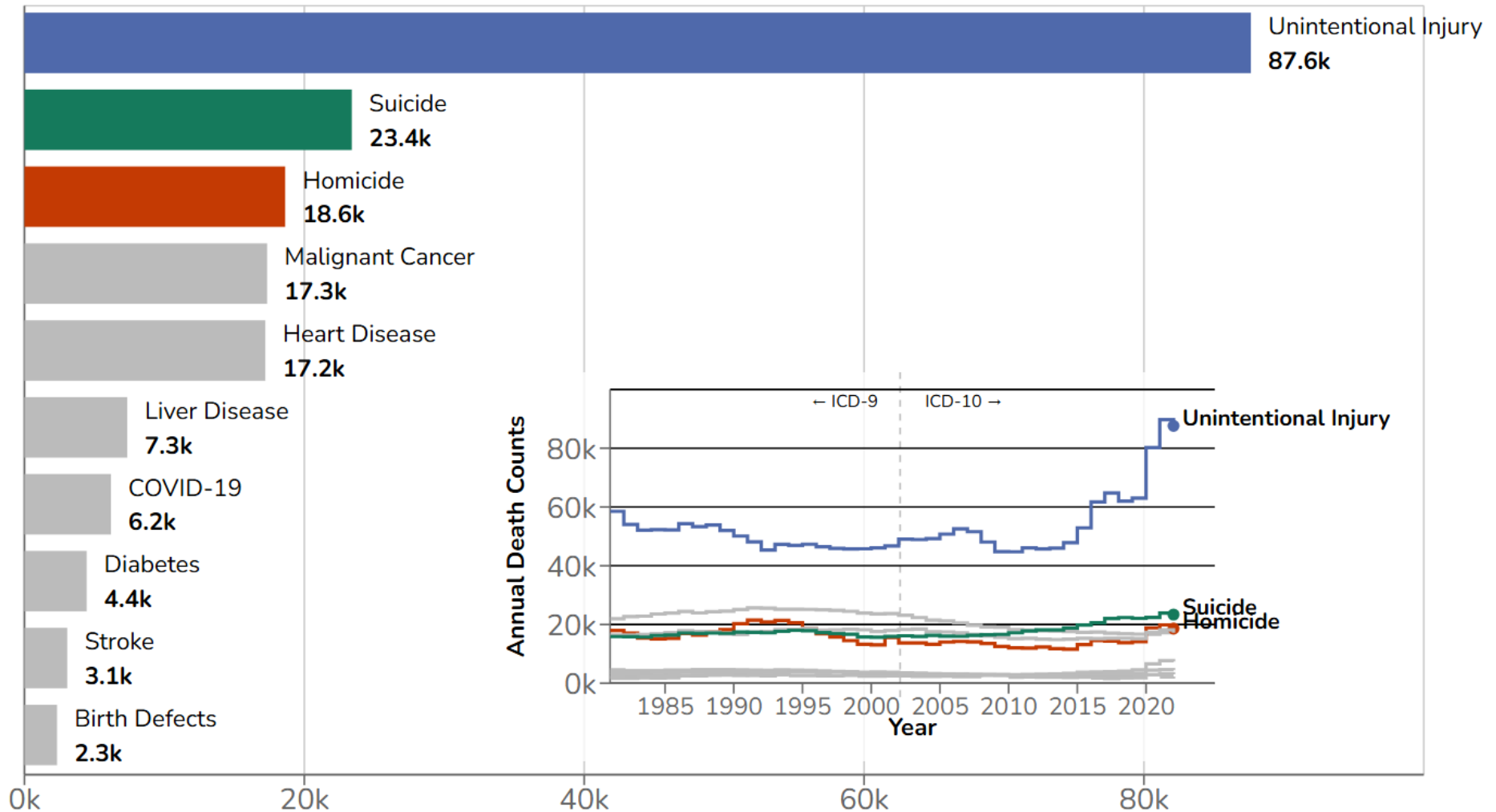


<https://acsjournals.onlinelibrary.wiley.com/doi/10.3322/caac.21871>



# Leading Causes of Death in U.S.: 1981-2022

## Total Death Counts per Year



<https://wisqars.cdc.gov/animated-leading-causes/>



# Leading Causes of Death by Age Group 2022

10 Leading Causes of Death, Connecticut, Northeast, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont

2022, All Deaths with drilldown to ICD codes, All Sexes, All Races, All Ethnicities

■ Unintentional Injury ■ Homicide ■ Suicide

	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	All Ages
1	Congenital Anomalies 896	Unintentional Injury 236	Unintentional Injury 164	Unintentional Injury 188	Unintentional Injury 3,350	Unintentional Injury 9,944	Unintentional Injury 12,414	Unintentional Injury 10,942	Malignant Neoplasms 34,998	Heart Disease 208,958	Heart Disease 248,586
2	Short Gestation 638	Congenital Anomalies 108	Malignant Neoplasms 146	Malignant Neoplasms 140	Suicide 1,244	Suicide 2,042	Malignant Neoplasms 3,334	Malignant Neoplasms 10,374	Heart Disease 28,096	Malignant Neoplasms 158,696	Malignant Neoplasms 209,278
3	Sids 374	Malignant Neoplasms 80	Congenital Anomalies 66	Suicide 94	Homicide 1,228	Homicide 1,556	Heart Disease 3,296	Heart Disease 8,776	Unintentional Injury 12,512	Covid-19 52,650	Unintentional Injury 74,390
4	Maternal Pregnancy Comp. 340	Homicide 78	Homicide 26	Heart Disease Homicide	Malignant Neoplasms 448	Malignant Neoplasms 1,044	Suicide 2,014	Covid-19 2,674	Covid-19 7,408	Cerebrovascular 40,174	Covid-19 64,412
5	Unintentional Injury 226	Influenza & Pneumonia 40	Heart Disease 24	Heart Disease 66	Heart Disease 236	Heart Disease 1,030	Liver Disease 1,196	Liver Disease 2,388	Diabetes Mellitus 4,556	Chronic Low Respiratory Disease 35,696	Cerebrovascular 45,932
6	Bacterial Sepsis 174	Covid-19 34	Chronic Low Respiratory Disease 22	Congenital Anomalies 56	Covid-19 138	Covid-19 414	Homicide 1,046	Suicide 2,118	Liver Disease 4,316	Alzheimer's Disease 27,776	Chronic Low Respiratory Disease 41,204
7	Placenta Cord Membranes	Heart Disease	Cerebrovascular	Chronic Low Respiratory Disease 22	Congenital Anomalies 110	Liver Disease 340	Covid-19 1,014	Diabetes Mellitus 1,786	Chronic Low Respiratory Disease 4,266	Unintentional Injury 24,400	Diabetes Mellitus 29,578

<https://wisqars.cdc.gov/lcd/?o=LCD&y1=2022&y2=2022&ct=10&cc=ALL&g=09&g=91&g=23&g=25&g=33&g=34&g=36&g=42&g=44&g=50&s=0&r=0&ry=2&e=0&ar=lcd1age&at=groups&ag=lcd1age&a1=0&a2=199>



# NIH National Cancer Institute Cancer Risk Factors

The NIH National Cancer Institute (NCI) has created a list of the most-studied known or suspected risk factors for cancer.

- Age
- Alcohol
- Cancer-Causing Substances
- Chronic Inflammation
- Diet
- Hormones
- Immunosuppression
- Infectious Agents
- Obesity
- Radiation
- Sunlight
- Tobacco

<https://www.cancer.gov/about-cancer/causes-prevention/risk>



# Registry for Environmental Exposures Which Cause Cancer

## ➤ National Toxicology Program (NTP)

- [Report on Carcinogens](#)  
Released every five years, most recently in 2021
- [15th RoC Dashboard](#)  
Searchable by substance and cancer type

## ➤ International Agency for Research on Cancer (IARC)



# The National Cancer Institute's Surveillance, Epidemiology, and End Results Program (SEER)

- [Surveillance, Epidemiology, and End Results Program](#)
- [Cancer Statistics Explorer Network](#)
- [Cancer Stat Facts](#)
- [Preliminary Cancer Incidence Rates and Trends, 2000-2022](#)



# Examining Urban Brownfields through the Public Health “Macroscopic”

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Efforts to cope with the legacy of our industrial cities—blight, poverty, environmental degradation, ailing communities—have galvanized action across the public and private sectors to move vacant industrial land, also referred to as brownfields, to productive use; to curb sprawling development outside urban areas; and to reinvigorate urban communities. Such efforts, however, may be proceeding without thorough investigations into the environmental health and safety risks associated with industrial brownfields properties and the needs of affected neighborhoods. We describe an approach to characterize vacant and underused industrial and commercial properties in Southeast Baltimore and the health and well being of communities living near these properties. The screening algorithm developed to score and rank properties in Southeast Baltimore ( $n = 182$ ) showed that these sites are not benign. The historical data revealed a range of hazardous operations, including metal smelting, oil refining, warehousing, and transportation, as well as paints, plastics, and metals manufacturing. The data also identified hazardous substances linked to these properties, including heavy metals, solvents, polycyclic aromatic hydrocarbons, plasticizers, and insecticides, all of which are suspected or recognized toxicants and many of which are persistent in the environment. The health analysis revealed disparities across Southeast Baltimore communities, including excess deaths from respiratory illness (lung cancer, chronic obstructive pulmonary disease, influenza, and pneumonia), total cancers, and a “leading cause of death” index and a spatial and statistical relationship between environmentally degraded brownfields areas and at-risk communities. Brownfields redevelopment is a key component of our national efforts to address environmental justice and health disparities across urban communities and is critical to urban revitalization. Incorporating public health into brownfields-related cleanup and land-use decisions will increase the odds for successful neighborhood redevelopment and long-term public health benefits. *Key words:* brownfields, cumulative risk, health disparities, urban health, waste management. *Environ Health Perspect* 110(suppl 2):183–193 (2002).

<http://ehpnet1.niehs.nih.gov/docs/2002/suppl-2/183-193litt/abstract.html>

sources (municipal wastewater treatment plants and industrial discharges) and non-point sources of pollution that are required by federal, state, or local environmental laws. The U.S. EPA defines “institutional controls” as they relate to hazardous waste sites as “legal mechanisms designed to control exposures to chemicals in environmental media, including soil and groundwater” (5).

The cleanup and redevelopment of vacant industrial land are issues that will affect poor, working-class, and minority communities, for better or worse (6,7). At first glance, the prospects of cleanup and concomitant redevelopment may be tantalizing given the promised economic benefits. At second glance, however, expedited cleanup and redevelopment may come at the community’s expense—environmental, social, economic, and public health harm—given the environmental unknowns of brownfields and the sensitive populations living in affected areas (7).

This study provides a starting point for investigators to examine brownfields through a public health lens—that is, to examine the potential hazards of brownfields both at a



# State Cancer Data Sources

State	Website	Data Type
CT	The <a href="#">DPH Interactive Map of CT Tumor Registry</a>	Data for different types of cancer by town for two time periods: 1998-2002 and 2010-2014
MA	<a href="#">MA Environmental Public Health Tracking: Cancer</a>	Click on Explore Maps and Tables Massachusetts age-and gender-specific cancer rates applied to local (i.e., community or census tract) population
ME	<a href="#">Maine Cancer Registry – Available Reports</a>	Annual reports and snapshots of specific cancer types
NH	<a href="#">NH DHHS Data Portal: Cancer</a>	The program is organized into three components, the Breast and Cervical Cancer Program, the Comprehensive Cancer Control Program, and the New Hampshire State Cancer Registry.
RI	<a href="#">Rhode Island Cancer Data</a>	Links to the RI Comprehensive Cancer Control Program and Cancer Registry
VT	<a href="#">Cancer in Vermont</a>	Link to a series of state and county-based data reports about cancer incidence in Vermont



CIVIL AND ENVIRONMENTAL ENGINEERING

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