Epivantage

Epidemiology data, consulting and insights

Cancer Populations USA

Non-small cell lung cancer in the United States, 2022-2042

Executive Summary

Date of most recent update: May 25, 2023

Contents

Summary of key findings

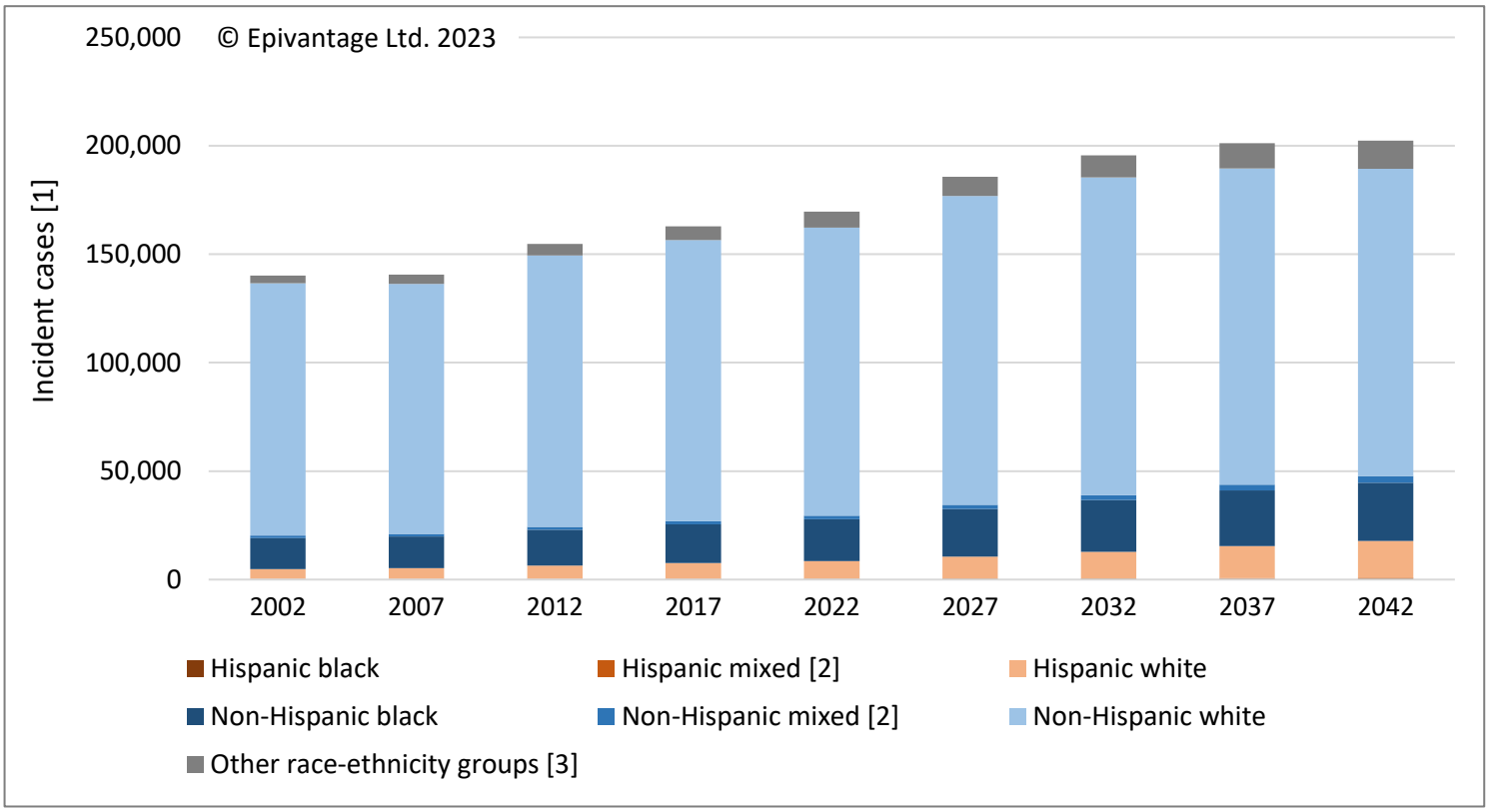
Nationally, we estimate 169,637 newly diagnosed incident cases of Non-small cell lung cancer (NSCLC) in 2022, of which 42% were initially diagnosed at stages of disease amenable to definitive treatment.

We estimate 140,846 advanced 1st line drug-treatable cases nationally in 2022. Of these, we estimate 93,883 (67%) are drug-treated at 1st line, and 46,575 (33%) drug-treated at 2nd line

Nationally, the number of incident cases over our 20-year forecast period will increase by 19%.

When considering trends in the risk of NSCLC within each race-ethnicity group, according to our forecast model, the crude incidence rate across the national population will remain relatively constant, from an estimated 51.7 per 100,000 per year in 2022 to 53.5 per 100,000 per year in 2042.

Historical and forecast number of incident cases of NSCLC in the United States 2002 to 2042, by race-ethnicity group.



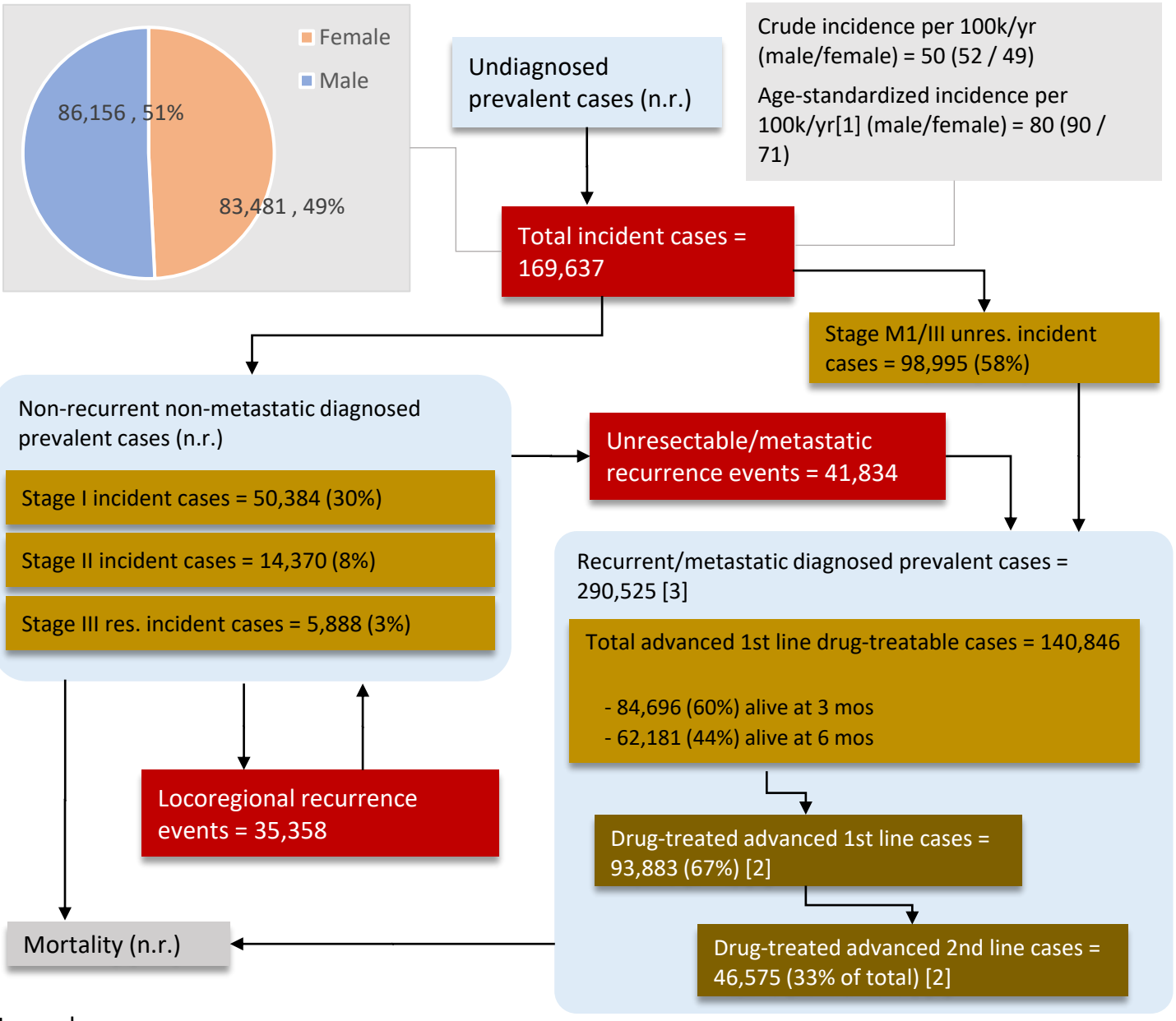
[1] incident cases refers to the number of newly diagnosed incident cases per year; [2] incident cases for mixed race groups is extrapolated from non-mixed racial group estimates within each ethnicity; [3]includes Asian, Pacific Islander, Native American and Alaskan Native race-ethnicity groups.

The age-adjusted risk of NSCLC is highest among black non-Hispanics. The risk of NSCLC is comparable between males and females.

Patient Journey Infographic, 2022

The figure below depicts the size of the NSCLC patient population in 2022 at different points in the patient journey, from diagnosis, staging, and any subsequent recurrence to advanced disease. For specific race-ethnicity groups, more granularity or for different years within the forecast period, please see the interactive version in the accompanying data dashboard.

Patient journey of NSCLC patients in the United States, 2022.



Legend

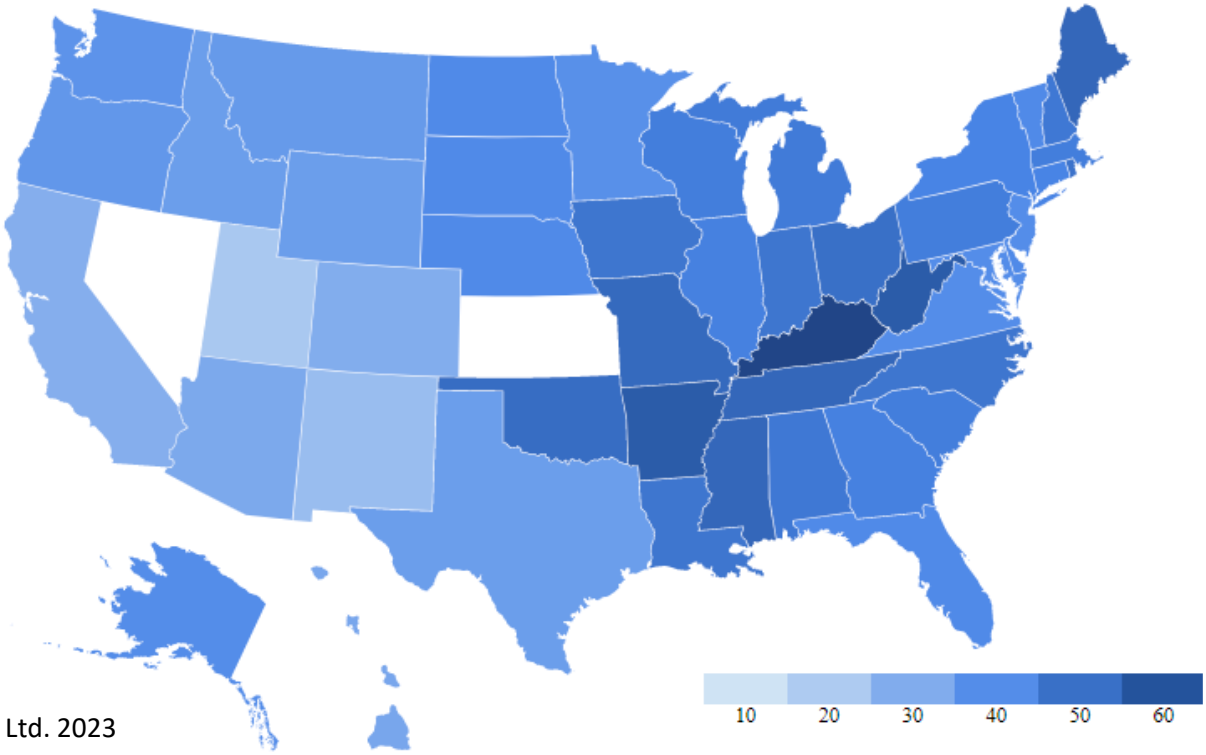
Prevalent populations	Drug-treatable populations
Incident populations	Drug-treated populations

[1] age-standardization is to an arbitrary weighting scheme that assigns equal weight to each age group. Standardized estimates to the US 2000 population are available in the main body of the report; [2] the percentage of those drug-treated in 2022 with antineoplastic drugs is based on published estimates (Maguire et al., 2019; Ryan KJ et al., 2019) and is not forecast beyond 2022, although this may be possible as a custom piece of work along with estimation of later lines of treatment and treatment patterns; contact questions@epivantage.com. [3] prevalent cases estimated using the duration of unresectable/metastatic disease recorded in the MSK-MET dataset (Nguyen et al., 2022). "n.r." = not reported.

National distribution of risk and incident cases, 2022

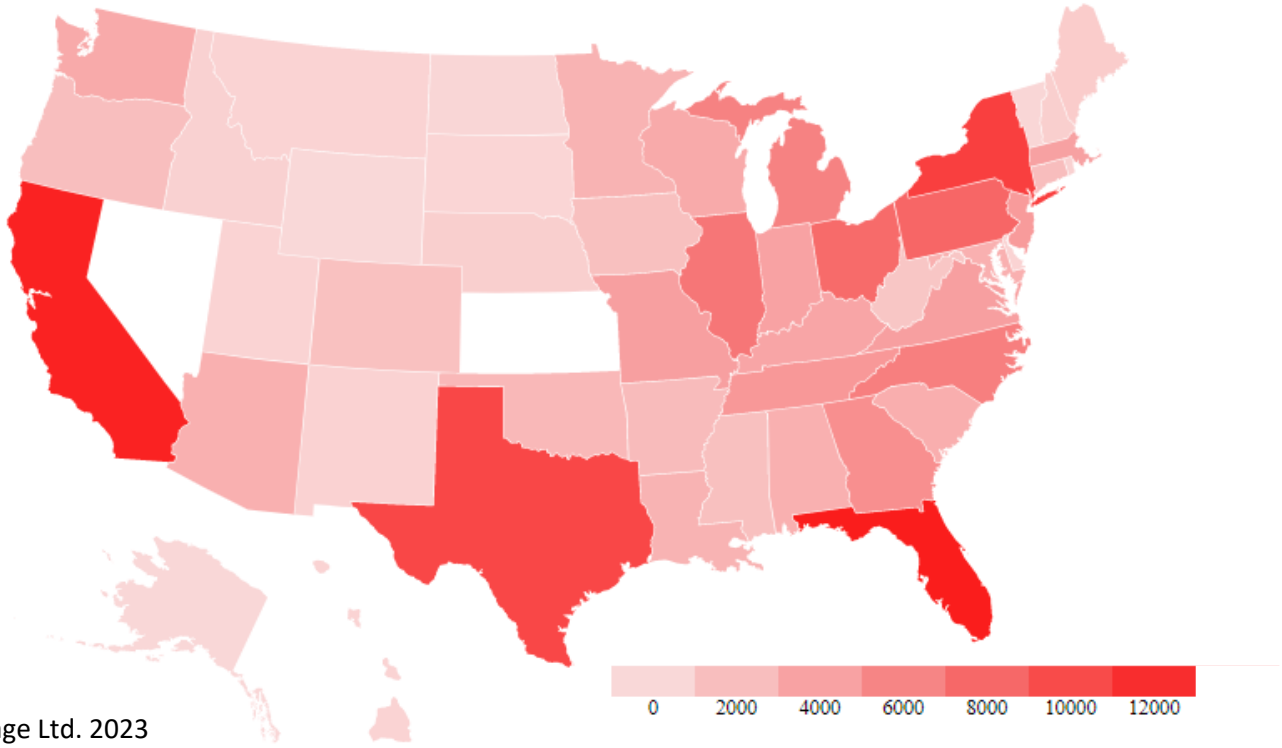
We estimate that the age-standardized risk of NSCLC is highest in Kentucky at 63.7 per 100,000 person years per year in 2022.

State-specific risk by US state in 2022.



Although Florida does not have the highest age-standardized risk of NSCLC, it is the state with the most newly diagnosed cases in 2022 at 13,522.

National distribution of incident cases by US state in 2022.



About Epivantage and the Cancer Populations USA report series

Epivantage is an epidemiology consulting, data and insights company. The *Cancer Populations USA* report series provides detailed descriptive epidemiology estimates, forecast out to 20 years, and insights, to support clinical trial design and enrolment, market opportunity assessment and post-marketing authorization activities. For more information please visit www.epivantage.com or email questions@epivantage.com.

Cancer Populations USA is unique in routinely stratifying key cancer populations by race and ethnicity, which can be used to assess the representativeness of clinical trial populations, as well as identify areas of health inequities between different race-ethnicity population groups.

All Epivantage reports can be downloaded via the Epivantage Library for subscribers. While our coverage is extensive, it may not meet everyone's requirements. In those cases where (for example), a different case definition, or an extended forecast, is needed please contact us at questions@epivantage.com to discuss bespoke work or for any questions regarding methods and data sources.

Methods and data sources overview

All estimates in this report are based on nationally representative datasets, such as population-based cancer registries, large epidemiological studies and published national population forecasts. Modeled estimates are based on the best practice industry methods to estimate recurrence events and, where required, make imputations and extrapolations.

Estimates in this report that are stratified by race and ethnicity use slightly broader groupings than those used by the US Census Bureau. This is to allow for sufficiently large samples to generate stable epidemiological estimates. Despite this, some patients counts are too small to be considered reliable. We supress counts less than 5 in most cases, indicating this by "<5".

In addition to using different race-ethnicity groupings than the census, due to inconsistencies in the recording of race and ethnicity between cancer registries and the census, some extrapolations have been made. Specifically, in the case of mixed racial groups - for whom estimates are not routinely reported by population-based cancer registries - the assumption is made that the unreported parameter would be an average of each racial group within each ethnicity.

When referring to those patients that develop disease not amenable to definitive treatment with curative intent in a given year (whether initially diagnosed as such or through disease progression or recurrence following prior definitive treatment), we use the term 'advanced 1st line drug-treatable cases'.

We provide estimates for the year 2022 and forecast estimates to 2032 and 2042 in the main body of this report. Annualized forecast estimates are provided in supplementary tables at the end of the report, and also in the accompanying data dashboard, if purchased.

Stratification of incident cases by stage is based on the scheme specified by the American Joint Committee on Cancer (AJCC) 8th edition (i.e. stage groups IA, IB, IIA, IIB, IIIA, IIIB, IIIC,). Due to small numbers, some stage groups have been aggregated in this report. Wherever possible, this has been into meaningful groupings based on recommended clinical practice (NCCN, 2023). Note that because the estimates herein are derived independently, they may not equal the sum across the component tumors that we report separately.

Chapter headings, tables and figures contained in the full report

Chapter headings

Figures included in the full report

Tables (excluding those in the accompanying data dashboard)

Tables (continued)

Further information

Epivantage reports and the underlying methods have been designed by Dr Mike Hughes, an epidemiologist with many years' experience in the development of epidemiological forecast models for the pharmaceutical industry. While we focus on cancer indications, comparable reports can be produced for any indication subject to availability of reliable data.

In addition to our syndicated report series, we are also able to provide consulting input into the development of custom epidemiological forecast models, selection of real world evidence (RWE) data sources for the comissioning of custom studies, the design of RWE study protocols, and support the execution of statistical analysis plans.

Our Cancer Populations USA report series covers numerous cancer indications, and can be requested on-demand for any tumor not already covered. Those tumors currently covered are listed below by tumor site. Please email questions@epivantage.com to discuss additional coverage.

CNS, respiratory and head and neck

Astrocytoma and glioblastoma
Large-cell and other lung cancer
Larynx cancer
Lung adenocarcinoma
Mesothelioma
Non-small-cell lung cancer
Non-squamous non-small-cell lung cancer
Squamous-cell carcinoma of the pharynx and oral cavity
Small-cell-lung cancer
Squamous-cell carcinoma of the head and neck
Squamous-cell carcinoma of the larynx
Squamous-cell carcinoma of the oral cavity
Squamous-cell carcinoma of the pharynx and overlapping areas

Digestive and endocrine

Adenocarcinoma of the
Biliary tract cancer
Cholangiocarcinoma
Colon cancer
Colorectal cancer
Esophageal cancer
Exocrine pancreatic cancer
Gastric adenocarcinoma
Gastroesophageal
Gastroesophageal cancer
Hepatocellular carcinoma
Liver and biliary tract cancer
Rectal cancer
Differentiated thyroid cancer
Neuroendocrine tumours

Reproductive and genito-urinary

Bladder cancer
Breast cancer (all subtypes)
Cervical cancer
Endometrial cancer
HER2 positive breast cancer (HR positive or negative)
HR negative, HER2 positive breast cancer
HR positive breast cancer (HER2 positive or negative)
HR positive, HER2 negative breast cancer
HR positive, HER2 positive breast cancer
Non-metastatic prostate cancer
Non-muscle-invasive bladder cancer
Ovarian cancer
Prostate cancer
Renal-cell carcinoma
Squamous-cell carcinoma of the esophagus
Triple negative breast cancer

Hematological and lymphatic

Acute lymphoblastic leukemia
Acute myeloid leukemia
Acute myeloid leukemia and high-risk myelodysplastic syndromes
B-cell non-Hodgkin's lymphoma
Chronic myeloid leukemia
Diffuse large B-cell lymphoma
Follicular lymphoma
Hodgkin's lymphoma
Mantle-cell lymphoma
Mucosa-associated lymphoid tissue lymphoma
Multiple myeloma
Myelodysplastic syndromes
Myelofibrosis
Non-Hodgkin's lymphoma
Small-cell B-cell lymphoma and B-cell chronic lymphocytic leukemia
T-cell non-Hodgkin's lymphoma

Other

Malignant melanoma