Cancer in Oklahoma Data Brief Series:

Melanoma Cancer in Oklahoma-2026

Esma Sheikh, Kriti Adhikari, Lauri Hunsucker, Mark P. Doescher, and Janis E. Campbell

Community Outreach and Engagement, a program of OU Health Stephenson Cancer Center

OU Health Stephenson Cancer Center
The University of Oklahoma

NCI Cancer Center
A Cancer Center Designated by the National Cancer Institute

Introduction

Melanoma is a relatively uncommon type of skin cancer. Yet, it accounts for the majority of skin cancer-related deaths due to its ability to spread to distant organs such as the brain and liver.[1] Over the past two decades in the US, the incidence of melanoma of the skin has risen substantially: annual cases increased from 41,041 in 1999 to 97,059 in 2022, with age-adjusted incidence rates climbing from 15.1 to 23.8 cases per 100,000 person-years between 1999 and 2022.[2]

Melanoma risk is influenced by a combination of environmental, behavioral, and biological factors. Some risk factors include excessive exposure to ultraviolet (UV) radiation from sunlight or indoor tanning beds, a history of sunburn, a fair skin phenotype, older age, male sex, and low immunity (i.e., organ transplant recipients and those on long-term immunosuppressive therapy).

This data brief presents information on the incidence and mortality of melanoma of the skin in Oklahoma. It also provides a brief discussion of the significance of findings on clinical practice and public health policy.

Methods

Data for cancer incidence were obtained from the Oklahoma Central Cancer Registry (OCCR), the Centers for Disease Control's (CDC) National Program of Cancer Registries (NPCR), and the United States Cancer Statistics. Cancer mortality data were obtained from Oklahoma Vital Statistics and the CDC's National Vital Statistics System (NVSS). All data sources used in this brief were publicly available and provided de-identified data. In this report, we used the most recent available data for each specific analysis variable. For incident cases, the period was 2018 to 2022; for mortality, it was 2019 to 2023.

Melanoma of the skin, melanoma for this data brief, was defined as ICD-0-3 topology codes C44.0-44.9 and morphology codes 8720-8790. It includes in situ and invasive melanoma cancer cases. We did not include melanomas originating from sites other than the skin.

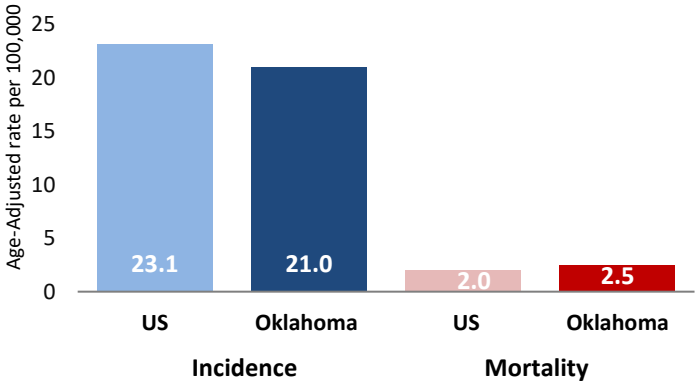
For this study, Hispanic persons were classified as Hispanic regardless of race. Those who identified as White, Black or African American, American Indian or Alaska Native, or Asian or Pacific Islander were non-Hispanic. To ensure the stability of estimates and confidentiality, rates were suppressed if fewer than 10 incidence or 5 mortality counts were reported in a specific category. All rates, except age-specific rates, were adjusted for age to the 2000 US standard population. All incidence and mortality rates are reported per 100,000 population. Staging for this data brief used the SEER summary stage.

Temporal patterns were assessed using the Average Annual Percent Change (AAPC) measure, calculated via Joinpoint regression.[3] For all analyses, unknown values were excluded, and resulting percentages were weighted averages estimated from the sample and population sizes, except for stage at diagnosis.

Because melanoma is rare, analyses comparing geographic locations were conducted at the sub-state planning district (SSPD) level rather than the county level. SSPDs are voluntary associations of local governments formed under Oklahoma law that address problems and planning needs that transcend the boundaries of individual local governments, such as counties, cities, and towns. See Appendix 1 for counties in each SSPD. We used the 2023 Rural Urban Continuum Codes (RUCC), which classify U.S. counties into three metropolitan and six non-metropolitan categories based on population size, degree of urbanization, and proximity to metropolitan areas.
In this brief, rural refers to counties in the RUCC 4-9 group and urban refers to counties in the RUCC 1-3 group.

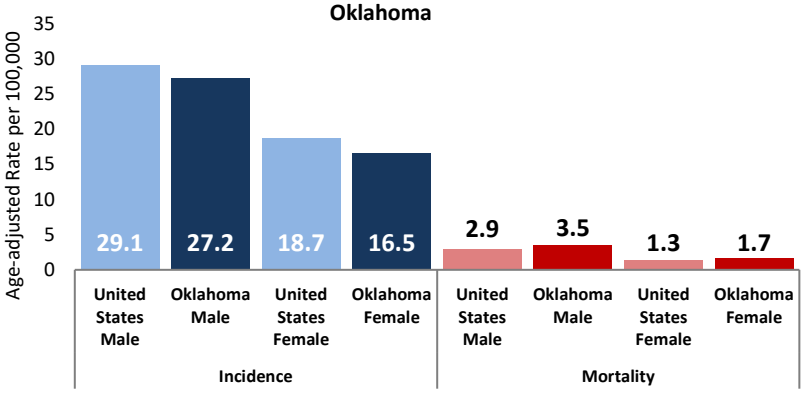
Results: From 2018 to 2022, 455,600 cases of melanoma were diagnosed in the US, including 4,741 in Oklahoma. From 2019 to 2023, 41,123 individuals died of melanoma, of which 574 were in Oklahoma. Age-adjusted melanoma cancer incidence rates in Oklahoma are slightly lower than the national average (21.0 vs 23.1 per 100,000) (**Figure 1**). In contrast, melanoma mortality rates were higher in Oklahoma compared with the United States overall (2.5 vs. 2.0 per 100,000). (**Figure 1**).

Figure 1: Age-Adjusted Melanoma Cancer Incidence (2018-2022) and Mortality (2019-2023) rates, Oklahoma and the United States



Source: CDC Cancer Data Visualization

Figure 2: Age-Adjusted Melanoma Cancer Incidence (2018-2022) and Mortality (2019-2023) Rates by Sex, United States and Oklahoma

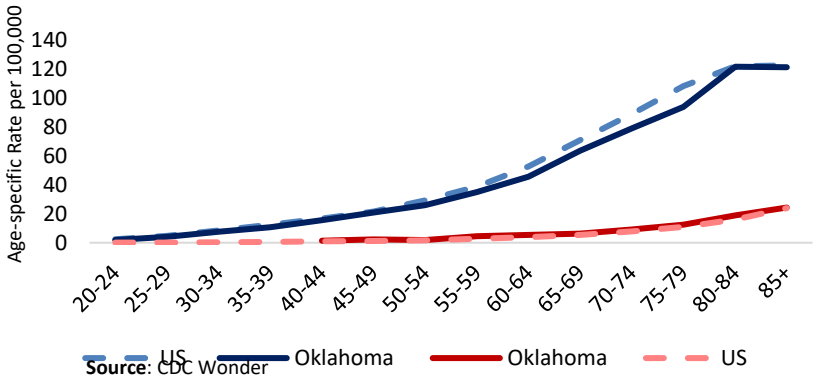


Source: CDC Cancer Data Visualization

Substantial sex-based differences were observed in melanoma incidence and mortality within Oklahoma, with males having higher rates than females (**Figure 2**). Among males, melanoma incidence in Oklahoma (27.2 per 100,000) was slightly lower than the US male rate (29.1 per 100,000), while mortality was higher (3.5 vs. 2.9 per 100,000) (**Figure 2**). A similar pattern was observed among females, with lower incidence in Oklahoma compared with U.S females (16.5 vs. 18.7 per 100,000) but higher mortality (1.7 vs. 1.3 per 100,000).

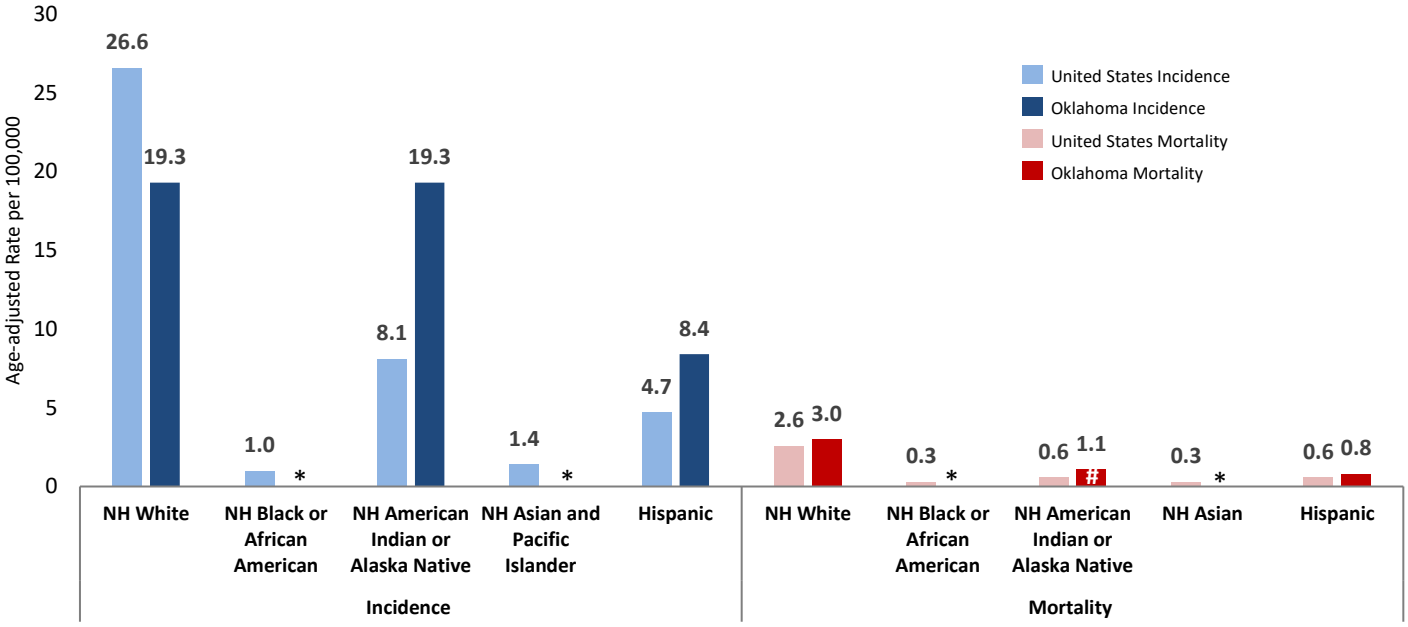
Cancer incidence in Oklahoma closely tracks national patterns, rising steadily with age, exceeding 120 cases per 100,000 among adults aged 80 years and older (**Figure 3**). Across most age groups, Oklahoma's incidence was slightly lower than the comparable national rates. In contrast, Oklahoma's mortality rates were higher than the US beginning in mid-adulthood, with the disparity widening at older ages.

Figure 3: Incidence (2018 - 2022) and Mortality (2019-2023) Melanoma Cancer Rates by Age Group, Oklahoma and US



Source: CDC Wonder

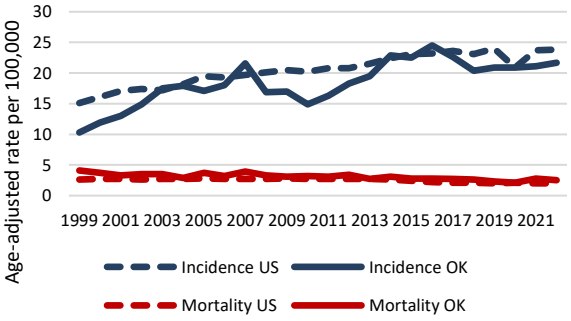
Figure 4: Age-Adjusted Melanoma Cancer Incidence (2018-2022) and Mortality (2019-2023) Rates by Race and Ethnicity in Oklahoma and the US



Source: CDC Cancer Data Visualization
*Data Suppressed; # Estimates suggest a 29% high rate of AIAN mortality not accounted for in this chart

Figure 4 shows how melanoma incidence and mortality in Oklahoma varied by race and ethnicity**.** Among non-Hispanic Whites, incidence was lower than the U.S. average (19.3 vs. 26.6 per 100,000), while mortality was higher (3.0 vs. 2.6), indicating poorer outcomes after diagnosis. American Indian or Alaska Native populations in Oklahoma experienced a substantially higher melanoma burden, with incidence more than double the national rate (19.3 vs. 8.1) and higher mortality (1.1 vs. 0.6). Hispanic Oklahomans also have a higher incidence than U.S. Hispanics (8.4 vs. 4.7), with slightly higher mortality (0.8 vs. 0.6). Rates for non-Hispanic Black and Asian populations in Oklahoma are suppressed due to small case counts and should not be interpreted as the absence of disease.

Figure 5: Age-adjusted Melanoma Cancer Incidence And Mortality by Year In Oklahoma and the US, 1999-2022



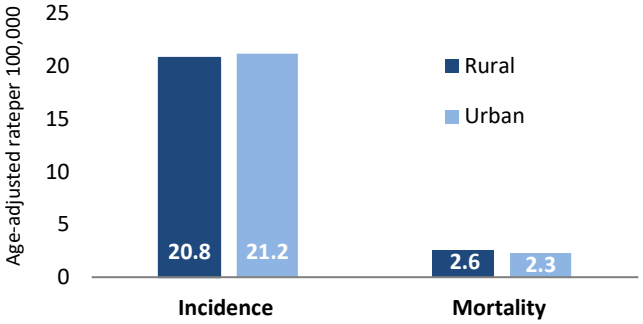
Source: CDC Wonder

From 1999 to 2022, melanoma incidence increased in both the United States and Oklahoma, although Oklahoma consistently had lower absolute rates (**Figure 5**). Nationally, incidence rose significantly from 1999–2022 (AAPC = 1.78, $p < 0.0001$). In Oklahoma, incidence followed a more volatile pattern but overall increased at a higher rate (AAPC = 2.49, $p < 0.0001$). In contrast, melanoma mortality declined steadily in the United States over the years (AAPC = -1.41, $p<0.0001$), reflecting improvements in early detection and treatment, whereas Oklahoma mortality remained consistently higher but declined more quickly (AAPC = -1.94, $p<0.0001$).

While melanoma incidence is marginally higher in urban areas, mortality is greater in rural areas (**Figure 6**). Specifically, the age-adjusted melanoma incidence rate was slightly higher in urban areas (21.2 per 100,000) than in rural areas (20.8 per 100,000). In contrast, melanoma mortality was higher among rural residents, with an age-adjusted rate of 2.6 per 100,000 compared with 2.3 per 100,000 in urban populations.

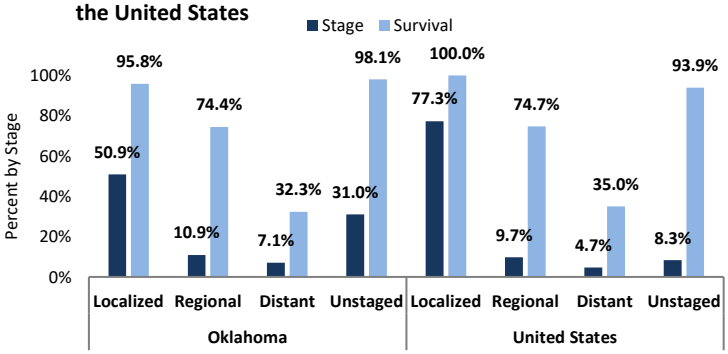
Over 75% of cases in the US were diagnosed at the localized stage compared to only 51% in Oklahoma (**Figure 7**). Oklahoma had a much higher percentage of cases unstaged at 31% compared to only 8% in the US. The 5-year relative survival rate for melanoma cancers is lower in Oklahoma compared to the US overall. Nationally, survival is 95%, while in Oklahoma it is 91%; both men (94% vs. 89%) and women (96% vs. 94%) show reduced survival compared with national averages. There are large differences by stage at diagnosis in Oklahoma and the US; moreover, Oklahoma has lower survival than the US at all stages except unstaged. Of greatest concern are the over 4% lower survival rate in the localized group and the nearly 3% lower survival rate in the distant group.

Figure 6: Melanoma Incidence (2018 - 2022) and Mortality (2019 - 2023) Rates in Urban and Rural Areas, Oklahoma



Source: OK2SHARE

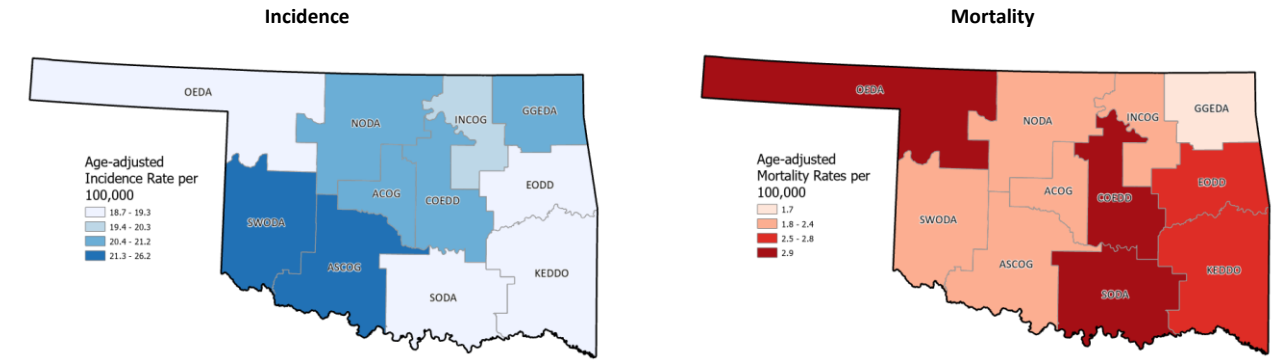
Figure 7: Percent by Stage (2018-2022) and 5-year Survival (2024) of Melanoma by Stage at Diagnosis, Oklahoma and the United States



Source: CDC Cancer Data Visualization

Figure 8 shows age-adjusted melanoma cancer incidence and mortality rates by substate planning districts in Oklahoma. Dark shading indicates high cancer rates, whereas light shading indicates lower rates. Southwestern Oklahoma has the highest incidence rates. Lower incidence rates are observed in parts of southeastern and northwestern Oklahoma. As for mortality, the southeastern and northwestern parts of the state were the highest.

Figure 8: Age-adjusted Incidence (2018 – 2022) and Mortality (2019 – 2023) rates per 100,000 of Melanoma cancer by sub-state planning districts in Oklahoma



Source: OK2SHARE

Conclusions and Implications for Practice and Policy

Melanoma of the skin remains an important public health concern in Oklahoma, with persistent sociodemographic variations in incidence and mortality. While melanoma is less common than other skin cancers, its disproportionate contribution to skin cancer-related deaths underscores the importance of prevention, early detection, and timely treatment. Findings from this data brief demonstrate that melanoma burden is not evenly distributed across the state, suggesting that local-level factors, including UV exposure patterns, occupational risk, health behaviors, and access to dermatologic and oncologic care, may influence outcomes. [1]

To improve cancer outcomes and mitigate disparities, one approach is to increase the receipt of early-stage cancer diagnosis. Barriers to early detection include a lack of education, financial and health insurance barriers[4,5], as well as transportation barriers, such as the need to travel long distances to receive health care.[6,7] Financial barriers to early diagnosis were reduced after Oklahoma voters approved Medicaid expansion through Initiative 802 in 2021, lowering the uninsured rate from 14.4% to under 10%. However, federal reconciliation law H.R. 1 ("One Big Beautiful Bill Act") includes Medicaid changes that could leave an estimated 92,000–128,000 Oklahomans without coverage or with reduced access to care.[8,9] Oklahoma still faces barriers to care due to distance. The recent spate of rural hospital and clinic closures across the state has likely exacerbated this.[10] In addition, primary prevention policies specific to melanoma are critical. Ultraviolet radiation exposure is the most significant modifiable risk factor for melanoma, and indoor tanning beds substantially increase melanoma risk, particularly when exposure begins at a younger age. In response, many states in the US, including Oklahoma, have enacted age-based restrictions on the use of tanning beds, prohibiting access for minors. We must continue to support such important efforts. Moreover, strong and sustained public health efforts are needed to reduce solar ultraviolet exposure, including widespread promotion and normalization of SPF 30+ sunscreen use, consistent adoption of sun-protective clothing (such as long sleeves, hats, and UV-blocking fabrics), and broader education campaigns that encourage sun-safe behaviors as a routine part of daily life.

Furthermore, the gap in cancer mortality can be explained at least in part by delays in diagnosis, leading to late-stage presentation or an unknown stage at the time of diagnosis for many cancers. Reduced access to care and specialist services increases the risk of being diagnosed with advanced disease.[11] Financial concerns cause many individuals with symptoms to delay health care, which can be devastating in terms of cancer outcomes.[12] Importantly, the aforementioned expansion of Medicaid coverage in Oklahoma for individuals between the ages of 19-64 through the Affordable Care Act reduced financial barriers to cancer-related care for many low-income individuals in the state, and particularly in rural areas where poverty rates are highest. Additionally, campaigns to increase public awareness of when to seek health care when specific cancer-related symptoms arise could be directed towards populations to reduce late or unknown stage at the time of initial diagnosis. This could include easy access to clinical evaluation and biopsy services for suspicious moles in high-risk populations.

Efforts to advance cancer treatment in Oklahoma are warranted.[13] Clinical trials advance cancer treatment, and participants have been shown to receive high-quality care.[14,15] This is why clinical trials must enroll participants from diverse backgrounds, including those who live in rural areas. Funding for research should be directed to ensure a range of patients are enrolled in cancer clinical trials. One way to increase clinical trial participation among cancer patients from rural areas is to develop and support partnerships between academic centers with expertise in clinical trial research and community oncology practices.

References:

1. 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. Updated June 2025. Accessed 12/1/2025, https://www.cdc.gov/cancer/dataviz

2. United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. United States Cancer Statistics - Incidence: 1999 - 2022. WONDER Online Database. 2025. Accessed May

10, 2025. http://wonder.cdc.gov/cancer-v2022.html
3. *Joinpoint Regression Program, Version 4.9.1.0*. Version 4.9.1.0. 2022. Accessed May 10 2022. https://surveillance.cancer.gov/help/joinpoint
4. Luo Q, Yu XQ, Cooke-Yarborough C, Smith DP, O'Connell DL. Characteristics of cases with unknown stage prostate cancer in a population-based cancer registry. *Cancer Epidemiol*. Dec 2013;37(6):813-9. doi:10.1016/j.canep.2013.09.008
5. Wang H, Roy S, Kim J, Farazi PA, Siahpush M, Su D. Barriers of colorectal cancer screening in rural USA: a systematic review. *Rural Remote Health*. Aug 2019;19(3):5181. doi:10.22605/RRH5181
6. Charlton M, Schlichting J, Chioreso C, Ward M, Vikas P. Challenges of Rural Cancer Care in the United States. *Oncology (Williston Park)*. Sep 2015;29(9):633-40.
7. Shete S, Deng Y, Shannon J, et al. Differences in Breast and Colorectal Cancer Screening Adherence Among Women Residing in Urban and Rural Communities in the United States. *JAMA Netw Open*. Oct 1 2021;4(10):e2128000. doi:10.1001/jamanetworkopen.2021.28000
8. Morris E. Medicaid expansion's rippling impact on Oklahoma. Oklahoma Policy Institute. Updated June 28, 2022. Accessed 12/1/2025, https://okpolicy.org/medicaid-expansions-rippling-impact-on-oklahoma/
9. Congressional Budget Office. Information Concerning Medicaid-Related Provisions in Title IV of H.R. 1. Updated June 24, 2025. Accessed November 23, 2025, https://www.cbo.gov/publication/61510
10. Chandak A, Nayar P, Lin G. Rural-Urban Disparities in Access to Breast Cancer Screening: A Spatial Clustering Analysis. *J Rural Health*. Mar 2019;35(2):229-235. doi:10.1111/jrh.12308
11. McCarthy S, Moore D, Smedley WA, et al. Impact of Rural Hospital Closures on Health-Care Access. *J Surg Res*. Feb 2021;258:170-178. doi:10.1016/j.jss.2020.08.055
12. Tracey E, McCaughan B, Badgery-Parker T, Young J, Armstrong B. Distance from accessible specialist care and other determinants of advanced or unknown stage at diagnosis of people with non-small cell lung cancer: A data linkage study. *Lung Cancer*. Oct 2015;90(1):15-21. doi:10.1016/j.lungcan.2015.07.018
13. Berk-Krauss J, Stein JA, Weber J, Polsky D, Geller AC. New Systematic Therapies and Trends in Cutaneous Melanoma Deaths Among US Whites, 1986-2016. *Am J Public Health*. May 2020;110(5):731-733. doi:10.2105/AJPH.2020.305567
14. Hanna TP, King WD, Thibodeau S, et al. Mortality due to cancer treatment delay: systematic review and meta-analysis. *BMJ*. Nov 4 2020;371:m4087. doi:10.1136/bmj.m4087
15. Weber JS, Levit LA, Adamson PC, et al. American Society of Clinical Oncology policy statement update: the critical role of phase I trials in cancer research and treatment. *J Clin Oncol*. Jan 20 2015;33(3):278-84. doi:10.1200/JCO.2014.58.2635

Data Sources:

Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics, on Oklahoma Statistics on Health Available for Everyone (OK2SHARE). https://www.health.state.ok.us/stats/

Centers for Disease Control and Prevention, 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 2025.

United States Cancer Statistics - Incidence: 1999 - 2022, WONDER Online Database. United States Department of Health and Human Services, Centers for Disease Control and Prevention, and National Cancer Institute; 2024 submission; 2025 release. www.wonder.cdc.gov

Suggested Citation: Sheikh E, Adhikari K, Hunsucker L, Doescher MP, and Campbell JE. Cancer in Oklahoma Data Brief Series: Melanoma Cancer in Oklahoma-2026. Community Outreach and Engagement, Stephenson Cancer Center, OU Health. 2026.

For more information, please contact: Community Outreach and Engagement, Stephenson Cancer Center, OU Health. Email: SCC-surveillance@ouhsc.edu