

Cancer in Oklahoma Data Brief Series: Cancer among the Hispanic Population in Oklahoma - Update 2025

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Introduction

A data brief written in 2022 summarized cancer incidence and mortality rates for the Hispanic population of Oklahoma; this report will update and reconsider essential points for that population in Oklahoma. It is important to keep in mind that Oklahoma's Hispanic population differs significantly from the US overall with 2023 estimates showing: 12.9% of the population as Hispanic or Latino compared to 19.4% in the US; 29.9% having less than a high school education compared to 26.6% in the US; 54.9% of the population is male compared to 51.0% in the US; 37.0% entering the county after 2010 compared to 32.9% in the US; 23.0% having no health insurance compared to 16.6% in the US; 24.0% living in poverty compared to 18.9% in the US; 91.2% of the civilian workforce earning wages compared to 87.7% in the US.¹ Moreover, the differences between Hispanic populations compared to non-Hispanic Whites (NHW) are staggering: 5.5% unemployed vs 2.2% of NHW; 23.0% having no health insurance compared to 8.11% of NHW; 24.0% living in poverty compared to 9.3% of NHW; 37.0% having entered the country after 2010 compared to 22.9% of NHW; a 56,613 median income compared to 66,452 among NHW populations.¹ In 2023, the median age for the Hispanic population in Oklahoma was 23, compared to 36.9 for the state overall.¹ Oklahoma's Hispanic population has less education, higher poverty, and less health insurance. They have entered the country more recently, are more likely to be male, and have a higher civilian employment rate. For this brief, we will re-examine cancer incidence and mortality and cancer screening rates for this population and conclude with a brief discussion of the significance of findings on clinical practice and public health policy.

Methods

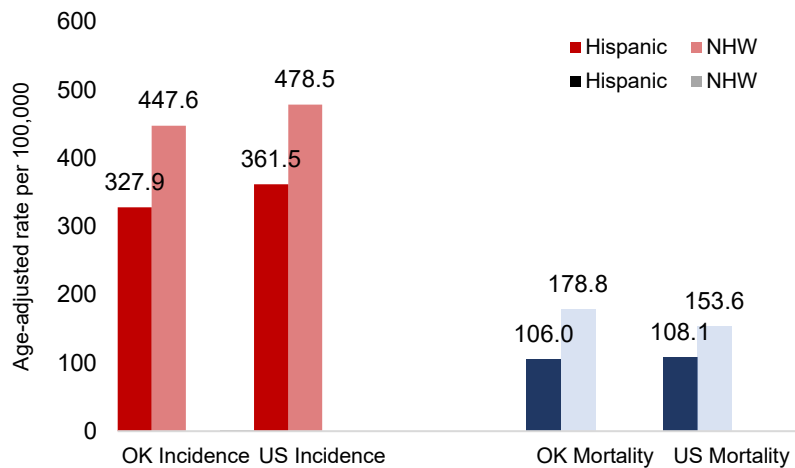
Data for cancer incidence were obtained from the Oklahoma Central Cancer Registry (OCCR), the Centers for Disease Control's (CDC) National Program of Cancer Registries (NPCR), and the NCI's Surveillance, Epidemiology, and End Results (SEER) program. Cancer mortality data were from Oklahoma Vital Statistics and the CDC's National Vital Statistics System (NVSS). Information about cancer screening was obtained from the Oklahoma Behavioral Risk Factor Surveillance System (BRFSS). All data sources used in this brief were publicly available and provided de-identified data.

To ensure stability of estimates and confidentiality, CDC and SEER rates were suppressed if fewer than 5 counts were reported in a specific category, and all rates were age-adjusted to the 2000 US standard population. CDC and SEER data is limited to invasive incident cancers, except bladder cancer, including *in situ* cancers. BRFSS estimates were suppressed for stability if the unweighted sample size for the denominator was less than 50 or if the Relative Standard Error was above 0.3. All unknown values (except staging) were excluded, and resulting percentages were weighted averages estimated from the sample and population sizes. For this data brief, we used the most recent data consistently available 2017-2021 (2018-2022 where applicable).

In this data brief, the US Hispanic population, the US NHW, and the Oklahoma NHW populations serve as comparison groups for the Hispanic population of Oklahoma. Despite the heterogeneity of this group, Hispanic is the only category available for cancer surveillance among the Hispanic population.² Consequently, it is the term used throughout this data brief. All analyses characterizing the US included the 50 states and the District of Columbia (DC), and excluded US territories. Temporal patterns were assessed using Average Annual Percent Change (AAPC) in rates determination by Joinpoint regression analysis.³

We used the 2023 Rural-Urban Continuum Codes (RUCC) for this study.⁴ The 2023 RUCC classifies US counties into three metropolitan and six non-metropolitan categories based on population size, urbanization, and proximity to metropolitan areas, allowing for detailed analysis of county-level data by researchers and policymakers. To analyze different levels of rural Oklahoma, this study uses the following designations: Rural refers to counties in the RUCC 4-6 group, and Small Rural refers to counties in the RUCC 7-9 group. Urban refers to counties in the RUCC 1-3 group.

Figure 1: Overall Age-adjusted Cancer Incidence and Mortality Rates for the Hispanic and Non-Hispanic White Populations in Oklahoma and the United States, 2017-2021



Source: CDC Wonder

same for both Oklahoma and the US (roughly .75 times lower than for NHW). However, for mortality, the rate ratio for the Hispanic population in Oklahoma (.59 times lower than for NHW) is lower than it is for the US (.69 times lower than for NHW).

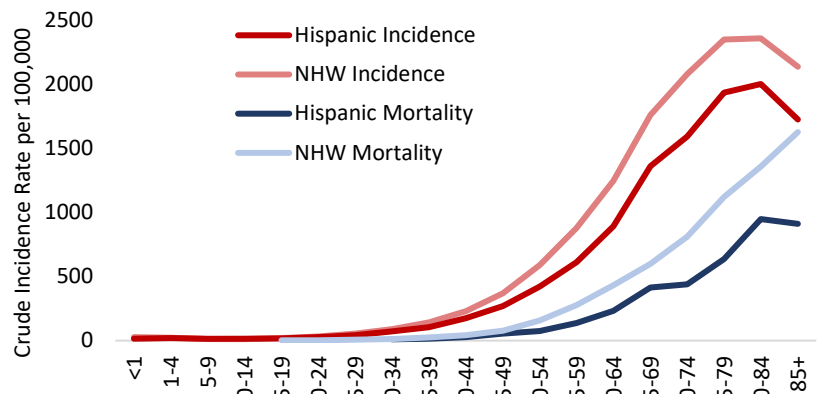
Figure 2 shows age-specific cancer incidence and mortality rates for the Hispanic and NHW populations in Oklahoma. Rates for the Hispanic population were lower than rates for the NHW population for all ages, for both incidence and mortality.

Results

Overall, there were 809,914 cancer cases diagnosed between 2017 and 2021 in the US for the Hispanic population; 3,753 of those cases were in Oklahoma. Also, there were 215,177 cancer deaths in the US among the Hispanic population; 997 of those deaths were in Oklahoma.

Figure 1 shows that for overall cancer incidence and mortality rates, the Hispanic population in both Oklahoma and the US had an overall age-adjusted cancer incidence rate and age-adjusted cancer mortality rate that was lower than for the NHW population. For incidence, the lower rate ratio for the Hispanic population is about the

Figure 2: Overall Crude Cancer Incidence and Mortality Rates for the Hispanic and Non-Hispanic White Populations in Oklahoma by Age, 2017-2021



Source: CDC Wonder

Figure 3 shows trends of overall cancer incidence and mortality over time for the Hispanic and NHW populations in Oklahoma. For both overall cancer incidence and mortality, the figure shows a significant annual percent change of -1.18 (p-value 0.000001) among the Hispanic population, the incidence rate. The NHW population incidence rate showed a smaller but significant decline at -0.40 (p-value 0.000479). Mortality of Hispanic and NHW populations shows similar declines at -0.88 (p-value 0.022459) and -0.78 (p-value <0.000001), respectively.

Figure 3: Trend of Overall Age-Adjusted Cancer Incidence and Mortality Rates for the Hispanic and Non-Hispanic White Populations in Oklahoma, 1999-2018

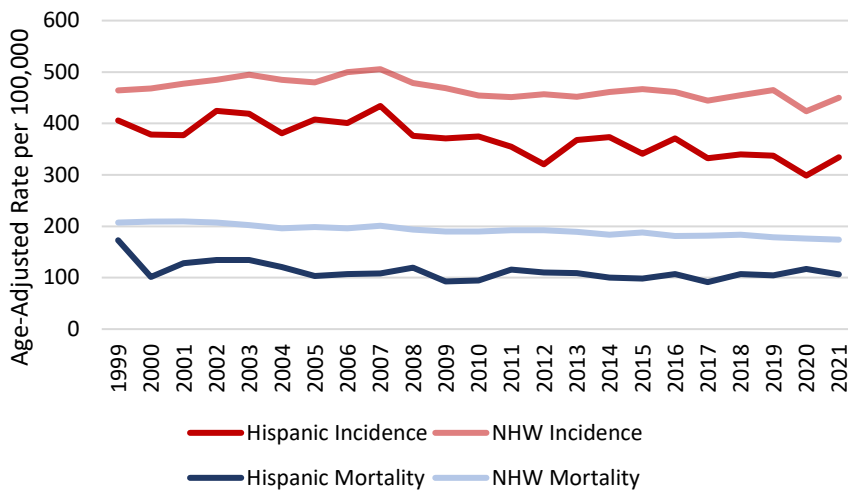
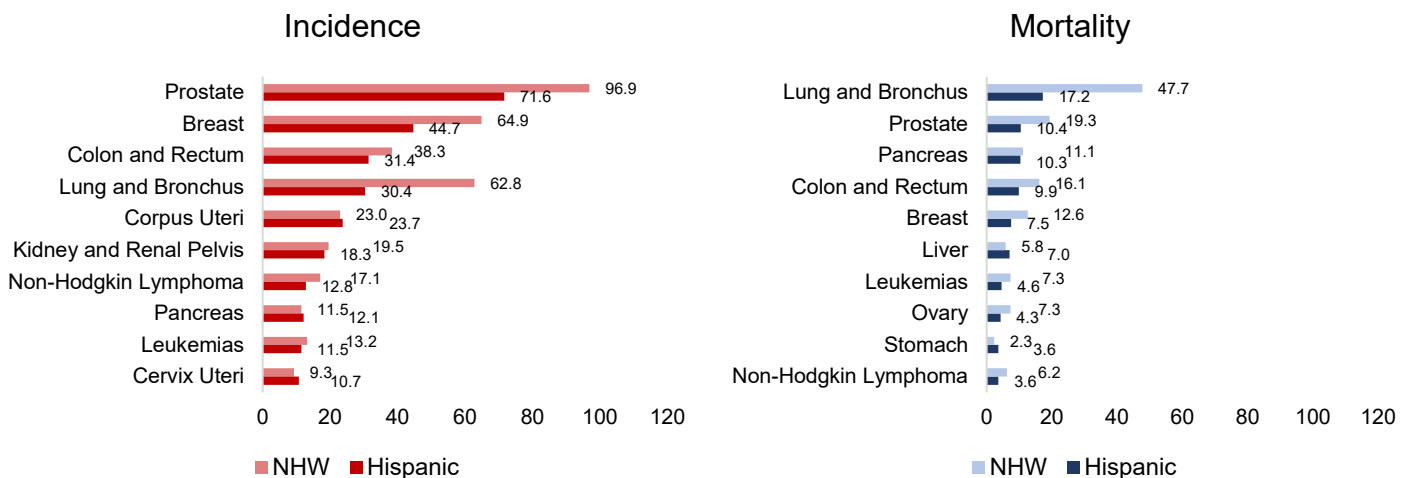


Figure 4 ranks the top 10 cancers for incidence and mortality for the Hispanic population and compares rates for these cancers to the corresponding rates for the NHW population in Oklahoma. While most incident cancers were lower among the Hispanic population, among the top 10 cancers, uterine (1.03 times), pancreas (1.05 times), and cervix uteri (1.15 times) were higher. When examining mortality, all are lower except liver (1.21 times) and stomach (1.57 times).

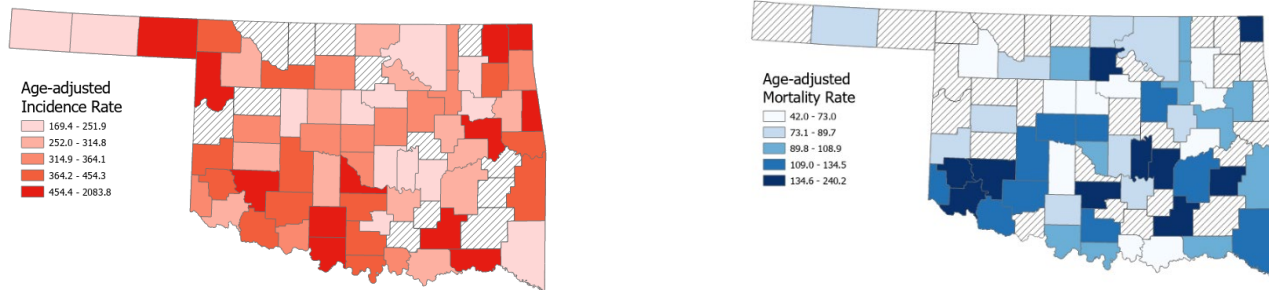
Figure 4: Top 10 Cancers for Incidence and Mortality for the Hispanic and NHW Populations in Oklahoma 2017-2021



Source: CDC Wonder

Figure 5 maps the overall age-adjusted cancer incidence and mortality for the Hispanic populations by county in Oklahoma. Counties with hash marks represent those with suppressed cancer rates. This figure shows that all-cause cancer mortality rates for the Hispanic population are highest in Oklahoma's southern counties. For more detailed rates, refer to Appendix 1

Figure 5: Overall Age-adjusted Cancer Incidence and Mortality by Oklahoma County among the Hispanic Population, 2013-2022



Source: OK2SHARE

for incidence and mortality tables of the underlying count and rates for each county in Oklahoma. When looking at 2018-2022 AAIR by urban and rural geographic location, we see that the Urban population had a slightly higher rate than the rural population among the Hispanic (331.7 vs 316.2) or NHW (467.9 vs 456.7) populations (data not shown). For mortality, we see that among the Hispanic population, urban areas have higher rates (109.0 vs 92.8), which is not true for the NHW population (168.6 vs 191.1) (data not shown).

Table 1: Percent of cancers for screenable cancer sites by stage at diagnosis, Oklahoma, 2018-2022

		Localized	Regional	Distant	Unstaged
Colorectal	Hispanic	31.0	39.1	22.8	7.1
	NHW	33.3	39.4	21.6	5.8
Female Breast	Hispanic	59.8	30.9	6.1	3.2
	NHW	68.8	23.7	5.5	2.0
Lung	Hispanic	24.0	20.6	48.7	6.7
	NHW	29.1	22.5	43.8	4.7
Cervix	Hispanic	43.8	36.3	12.7	7.1
	NHW	43.6	35.2	15.8	5.4
Prostate	Hispanic	64.2	14.2	10.0	11.5
	NHW	71.3	14.2	7.9	6.6

Source: OK2SHARE

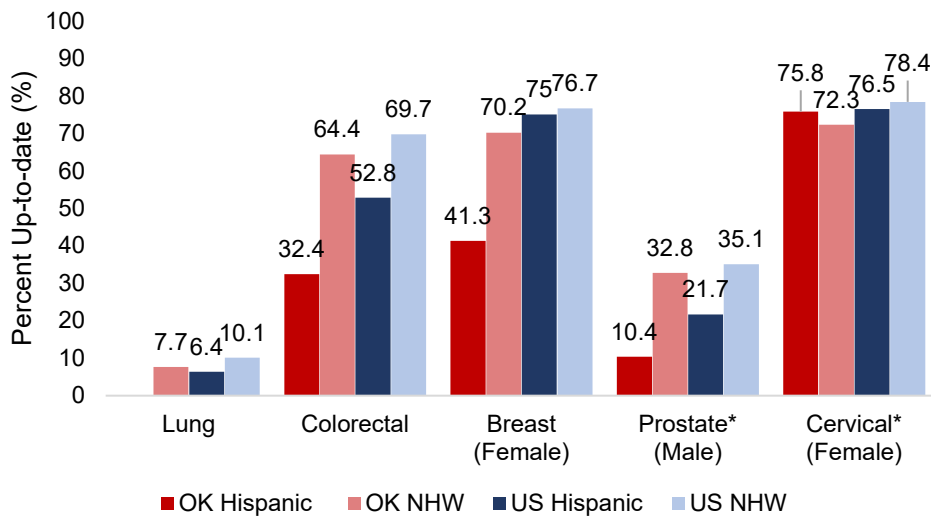
Table 1 shows the percentage of cancers diagnosed by stage for the five screenable cancers. The Hispanic population has a slightly higher distant stage for prostate, colorectal, and female breast cancers. Substantially worse for lung cancer screening and better for cervical cancer.

Figure 6 shows that when comparing Hispanic persons to NHW ones in Oklahoma and the US, Hispanic women in Oklahoma are the least likely to be up-to-date with breast cancer screening. For cervical cancer screening, Hispanic women are more likely to

be up-to-date than NHW women in Oklahoma, but less likely to be up-to-date than Hispanic or NHW women in the United States. The figure also shows that the Hispanic individuals in Oklahoma are the least likely of the four groups to be up-to-date with colorectal cancer screening by a wide margin. Hispanic men in Oklahoma are also the least likely of the four groups to have had prostate cancer screening. The sample was not large enough to determine the lung cancer screening for the Hispanic population in Oklahoma.

Oklahoma's Hispanic population differs from the NHW population when looking at insurance status at diagnosis. They were much more likely to be uninsured (12% vs 2%), have private insurance (37% vs 31%), have Medicaid (13% vs 5%), but less likely to have Medicare (29% vs 52%) (data not shown). One important aspect is that when looking at rural and urban differences, the largest difference was that Hispanic populations in urban areas were twice as likely to be uninsured (14% vs 7%)(data not shown).

Figure 6: Cancer Screening for the Hispanic and Non-Hispanic White Populations in Oklahoma and the United States, 2022 (*2020)



Source: BRFSS

BRFSS Cancer Screening Definitions

Lung: Adults aged 55 to 80 who have a significant smoking history (30 pack-years or more) and are either current or former smokers (within 15 years of quitting).

Colorectal: Adults aged 50-75 years who have fully met the USPSTF recommendation (blood stool test in the past year, and/or sigmoidoscopy in the past 5 years, and/or colonoscopy in the past 10 years, and/or stool DNA test within the past 3 years, and/or virtual colonoscopy within the past 5 years).

Breast: Women aged 40-74 years who have received a mammogram in the past 2 years

Prostate: Men aged 40 years and above who have received a PSA test.

Cervical: Women aged 21-65 years who have received a Pap test in the past 3 years.

Conclusions and Implications for Practice and Policy

In Oklahoma, the Hispanic population has lower cancer incidence and mortality rates than the NHW population overall and for most specific types of cancer. However, findings from this report demonstrate that there is a pressing need to address specific cancer types among this population, including liver, stomach, and cervical cancers. Hispanic individuals are especially vulnerable to cancer inequalities because of disproportionate levels of poverty, a higher percentage of individuals who lack health insurance coverage, and other barriers to optimal health.² Among patients aged 18 to 64 years who were diagnosed with cancer, Hispanic individuals were six times more likely than NHW individuals to be uninsured at their cancer diagnosis, but also more likely to have private insurance.

Timely receipt of evidence-based cancer screening can improve cancer outcomes. The Hispanic population lags other groups on breast cancer screening and has alarmingly low rates of screening for colorectal cancer and prostate cancer. Patient demand for evidence-based cancer screenings could be increased by creating culturally tailored cancer education and awareness programs through partnerships with Hispanic communities across Oklahoma. Access to cancer screenings could be improved by continuing to fund programs such as the National Breast and Cervical Cancer Early Detection Program (NBCEDP), which provides community-based breast and cervical cancer screenings to low-income women. Cancer screening also could be improved through programs that keep health care providers up-to-date with the latest cancer screening guidelines and give them feedback on how frequently their patients receive appropriate screening tests.

Programs to reduce or eliminate financial barriers to high-quality cancer care are warranted. Financial concerns cause many individuals with symptoms to delay health care, which can be devastating in terms of cancer outcomes.⁵ Notably, the expansion in 2021 of Medicaid coverage in Oklahoma for individuals between the ages of 19-64 through the Affordable Care Act helped reduce financial barriers to cancer-related preventive care for many low-income individuals in the state.

Clinical trials advance cancer treatment, so it is imperative that clinical trials enroll participants from diverse backgrounds. Funding for research should be directed in ways that ensure diversity among patients enrolled into cancer clinical trials. Also, funding should be directed towards research that aims to gain a better understanding of why some cancers, such as liver and stomach cancers, are particularly lethal among Hispanic patients.

Data Sources:

Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2018.

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/Registries/cancer/Final/mortality.shtml>

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3. *Joinpoint Regression Program, Version 5.3.0*. Version 5.3.0. 2025. Accessed 4/23/2025. <https://surveillance.cancer.gov/help/joinpoint>
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