

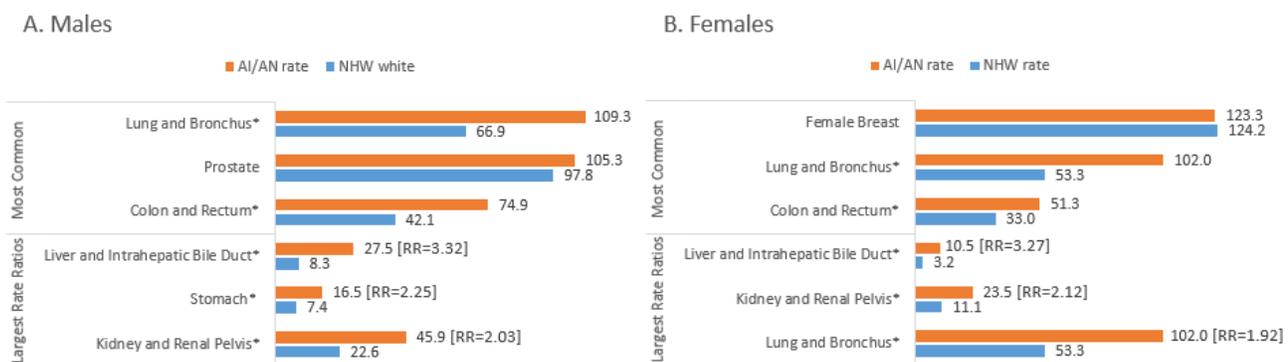
Cancer Incidence Among American Indian and Alaska Native Populations, 2012–2016 (Purchased/Referred Care Delivery Areas)

[Purchased/Referred Care Delivery Areas \(PRCDA\)](#) are counties that contain federally recognized tribal lands or are adjacent to tribal lands. Race classification for the American Indian/Alaska Native (AI/AN) population is more accurate in these counties.

New cancer diagnoses (cancer incidence) data from the central cancer registries have been linked with the Indian Health Service (IHS) patient registration database to improve the accuracy of the category of race for AI/AN persons diagnosed with cancer. Data from earlier years showed geographic variation in incidence rates (counts of new cases divided by the population count) for the most common cancers (the cancers with highest numbers) among AI/AN populations. Rate ratios (the ratio of AI/AN cancer incidence rates to cancer incidence rates among non-Hispanic white populations, adjusted for differences in population age distributions) provide a relative measure of cancer burden. Large rate ratios indicate a disproportionate burden for that cancer among AI/AN populations.¹ This data brief highlights the most common types of cancer among the AI/AN population and the cancers with the largest rate ratios (compared to white populations) in 6 geographic regions: Northern Plains, Alaska, Southern Plains, Pacific Coast, East, and Southwest.

- During 2012 to 2016, a total of 32,411 new cancer cases were reported for the AI/AN population in PRCDA counties in the United States: 15,197 among males and 17,214 among females.
- The types of cancer that were diagnosed most often among AI/AN men were prostate, lung, and colorectal. Breast, lung, and colorectal were the most frequent cancer types diagnosed among AI/AN women.
- Liver cancer had the largest rate ratio among AI/AN men and women compared to white populations overall.

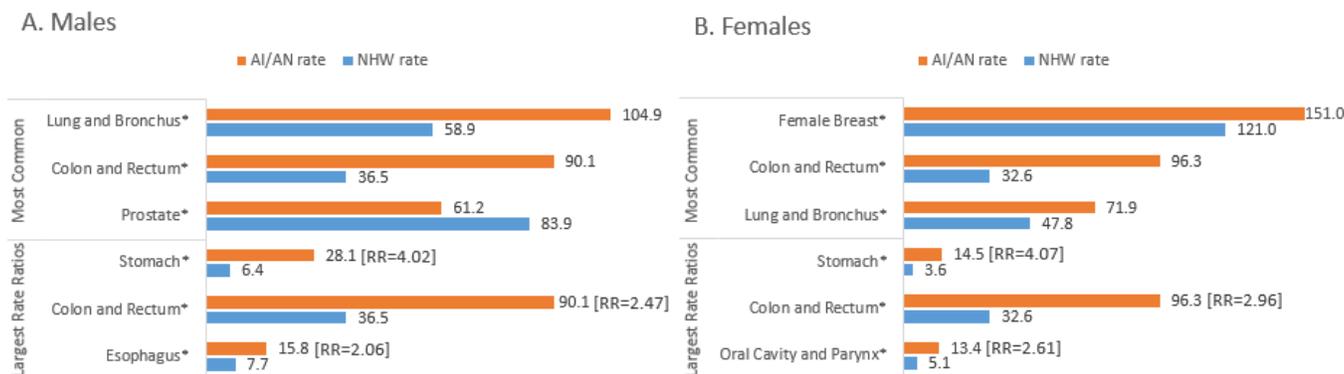
Figure 1. Cancer incidence rates per 100,000 for the most common cancer and cancers with the largest rate ratios (AI/AN versus non-Hispanic white) in the Northern Plains, US 2012-2016.



* Age-adjusted rates in the AI/AN population and the non-Hispanic white population living in PRCDA counties were significantly different.

- Lung and breast cancers were the most common cancers among AI/AN males and females, respectively, in the Northern Plains.
- Liver cancer had the highest rate ratio among both males (RR = 3.32) and females (RR = 3.27).

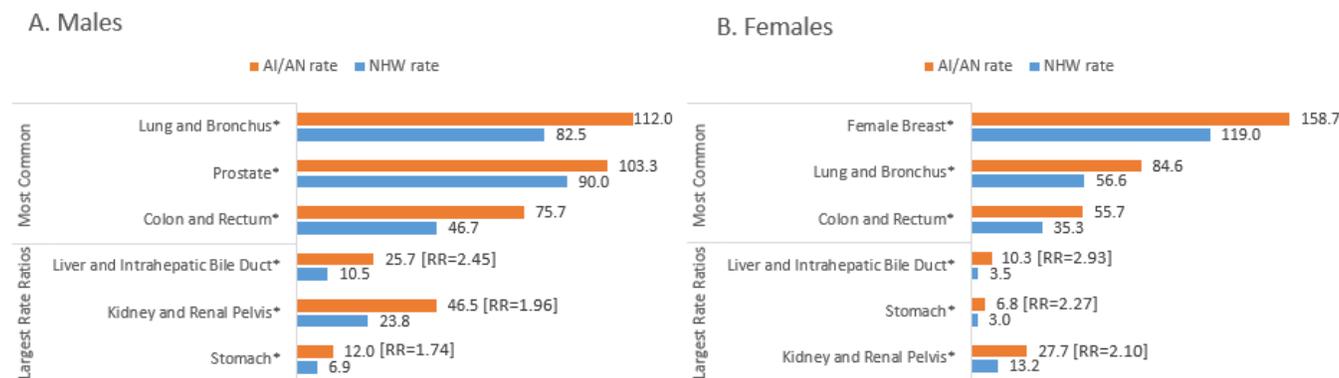
Figure 2. Cancer incidence rates per 100,000 for the most common cancer and cancers with the largest rate ratios (AI/AN versus non-Hispanic white) in Alaska, US 2012-2016.



* Age-adjusted rates in the AI/AN population and the non-Hispanic white population living in PRCDA counties were significantly different.

- Lung and breast cancers were the most common cancers among AI/AN males and females, respectively, in Alaska.
- Colorectal cancer was the second most common cancer among AI/ANs for both sexes, and had the second largest rate ratio among males (RR = 2.47) and females (RR = 2.96).
- Stomach cancer had the highest rate ratio among males (RR = 4.02) and females (RR = 4.07).

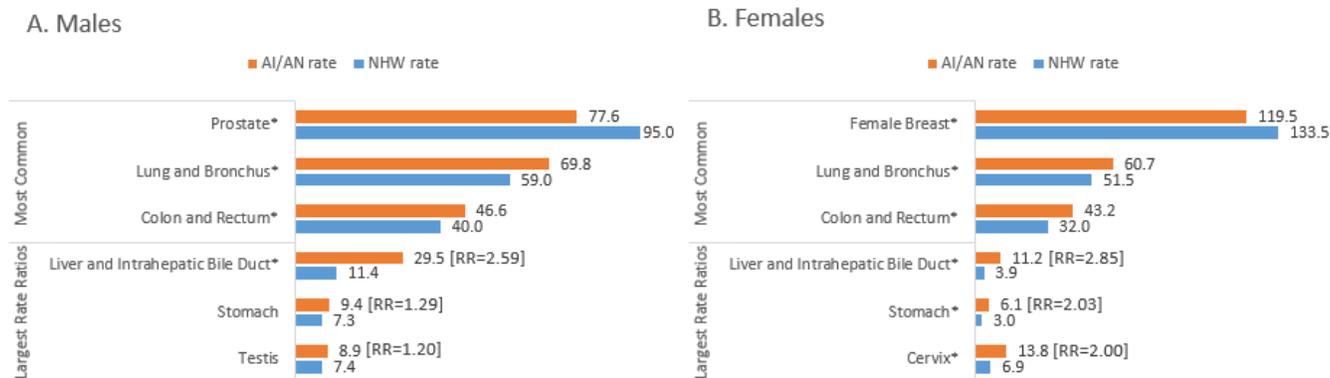
Figure 3. Cancer incidence rates per 100,000 for the most common cancer and cancers with the largest rate ratios (AI/AN versus non-Hispanic white) in the Southern Plains, US 2012-2016.



* Age-adjusted rates in the AI/AN population and the non-Hispanic white population living in PRCDA counties were significantly different.

- Lung and breast cancers were the most common cancers among AI/AN males and females, respectively, in the Southern Plains.
- Liver cancer had the highest rate ratio among both males (RR = 2.45) and females (RR = 2.93).
- Kidney and stomach cancers had the second and third largest rate ratios among AI/AN males, and the third and second largest rate ratios among AI/AN females.

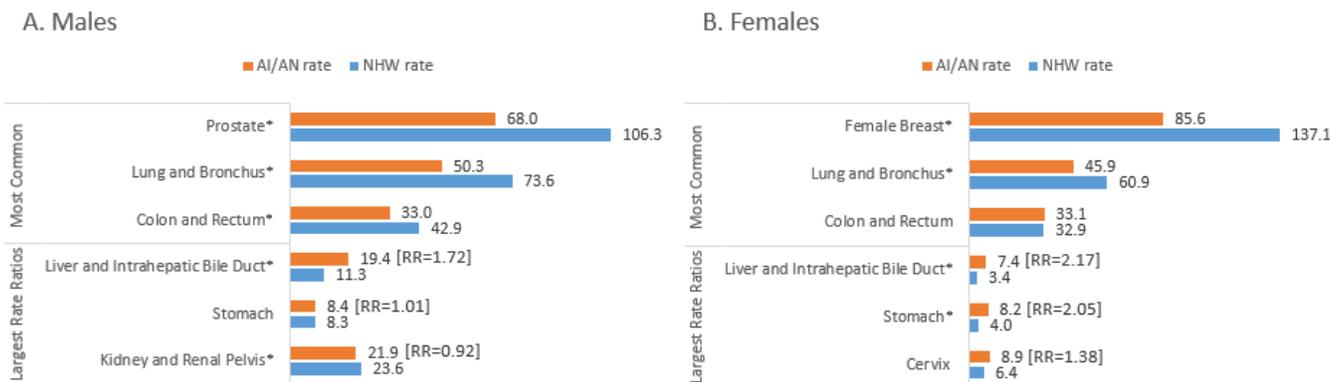
Figure 4. Cancer incidence rates per 100,000 for the most common cancer and cancers with the largest rate ratios (AI/AN versus non-Hispanic white) in the Pacific, US 2012-2016.



* Age-adjusted rates in the AI/AN population and the non-Hispanic white population living in PRCDA counties were significantly different.

- Prostate and breast cancers were the most common cancers among AI/AN males and females, respectively, in the Pacific Coast.
- Lung and colorectal cancers were the second and third most common cancers among both AI/AN males and females.
- Liver cancer had the highest rate ratio among both males (RR = 2.59) and females (RR = 2.85).

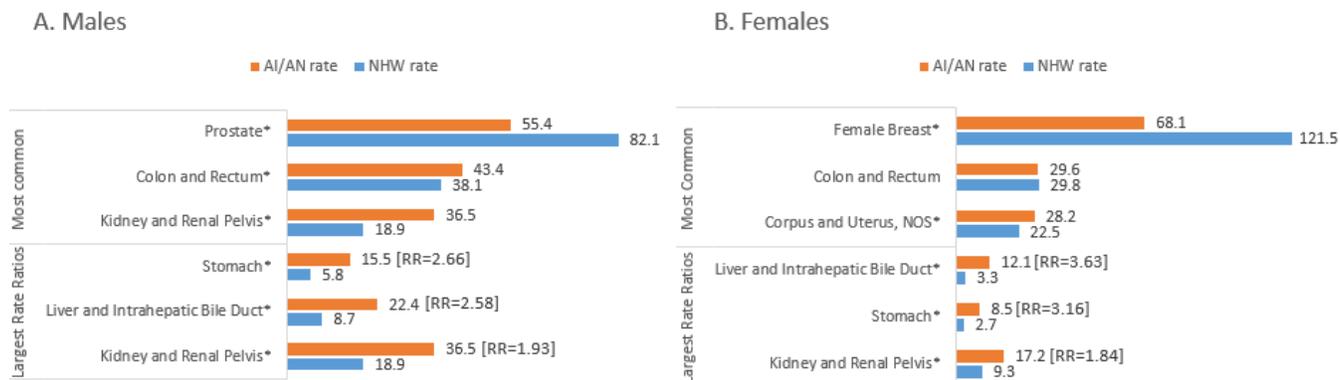
Figure 5. Cancer incidence rates per 100,000 for the most common cancer and cancers with the largest rate ratios (AI/AN versus non-Hispanic white) in the East, US 2012-2016.



* Age-adjusted rates in the AI/AN population and the non-Hispanic white population living in PRCDA counties were significantly different.

- Prostate (males) or breast (females), lung, and colorectal cancers were the most common cancers among AI/AN males and females in the East.
- Liver cancer (RR=1.72) was the only cancer with a rate ratio significantly higher than 1 among males.
- Liver cancer had the highest rate ratio among females (RR = 2.17).

Figure 6. Cancer incidence rates per 100,000 for the most common cancer and cancers with the largest rate ratios (AI/AN versus non-Hispanic white) in the Southwest, US 2012-2016.



* Age-adjusted rates in the AI/AN population and the non-Hispanic white population living in PRCDA counties were significantly different.

- Prostate and breast cancers were the most common cancers among AI/AN males and females, respectively, in the Southwest.
- Stomach cancer had the highest rate ratio among males (RR = 2.66), and liver cancer had the highest rate ratio among females (RR = 3.63).

Data Sources

Data are from the [U.S. Cancer Statistics American Indian and Alaska Native Incidence Analytic Database](#) (USCS AIAD).

This database includes data from cancer registries participating in CDC's National Program of Cancer Registries or the National Cancer Institute's Surveillance, Epidemiology, and End Results program that have been linked with the Indian Health Service Patient Registration Database.

The USCS AIAD and PRCDA counties have been described previously.² These linkages address racial misclassification of the AI/AN population in the central cancer registries. These data met [quality criteria](#) for 2012 to 2016.

Suggested Citation

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More Information

Cancer Health Disparities Among American Indians and Alaska Natives

https://www.cdc.gov/cancer/healthdisparities/what_cdc_is_doing/aian.htm

U.S. Cancer Statistics Data Visualizations Tool

www.cdc.gov/cancer/dataviz

References

¹ AI/AN versus white rate ratios (RR) that are significantly higher than 1 indicate disproportionate burden among the AI/AN population. Cancers were selected from the 15 leading causes of cancer. Only cancers with counts greater than 6 are displayed.

² Espey DK, Wiggins CL, Jim MA, Miller BA, Johnson CJ, Becker TM. [Methods for improving cancer surveillance data in American Indian and Alaska Native populations.](#) *Cancer* 2008;113:1120–1130. <https://doi.org/10.1002/cncr.23724>