

Living Near an Oil Refinery May Be a Cancer Risk Factor

People within 30 miles of a refinery have higher rates of several cancers.

December 7, 2020 By [Caroline Tien](#)

Medical and environmental concerns intersect in a new study that found that Texans who live within 30 miles of an oil refinery—more than 6 million people— have higher rates of cancer. The risk appears to correlate with proximity. For example, Texans who live within 10 miles of a refinery are at higher risk than those who live within 20 miles of a refinery, who in turn are at higher risk than those who live within 30 miles of a refinery.

The United States is the world's top crude oil producer, and Texas is the crown jewel of the nation's oil industry. The Lone Star State is home to no fewer than 31 oil refineries, some of which, like the Motiva Port Arthur Refinery and the Marathon Galveston Bay Refinery, can process hundreds of thousands of barrels of crude oil per day.

The study was conducted by researchers at the University of Texas Medical Branch (UTMB) in Galveston and published in the [Journal of the National Cancer Institute](#). “Our findings are important and certainly support the need for further individual-level investigation into the risks of carcinogenesis linked to proximity to an oil refinery,” lead author Stephen B. Williams, MD, said in a [UTMB press release](#).

Williams led several UTMB students, physicians and environmental scientists in analyzing data collected by the U.S. Census and the Texas Cancer Registry between 2001 and 2014 to examine the impact of close proximity to an oil refinery on risk for several cancers, including lymphoma and lung, breast, colon, bladder and prostate cancers.

Their analysis showed that living within 30 miles of an oil refinery was associated with an increased risk for all cancer types. Older people and men appeared to be particularly susceptible.

Living within 10 miles of an oil refinery was associated with the greatest increase in risk. People who lived within 10 miles, for example, were significantly more likely to develop lymphoma than people who lived within 30 miles. Living within 10 miles was also associated with later diagnosis. People with bladder cancer who lived within 10 miles, for instance, were significantly more likely to

be diagnosed with metastatic disease than those who lived within 30 miles.

The researchers controlled for personal risk factors such as age, sex and income bracket, and environmental risk factors, such as air pollution and oil well density. However, the researchers wrote that their “ability to make a strong causal inference is limited because of a lack of granularity among these ‘big lens’ data.”

Williams recommends that people who live within 30 miles of a refinery keep up with annual medical checkups and follow cancer screening guidelines. But given the scale of the problem, policy changes at the local, state and federal levels may be necessary to ensure the health and safety of residents.

One way to reduce cancer risk may be better enforcement of existing federal laws. Oil refineries produce pollutants known to be carcinogenic, including xylene, benzene, toluene and ethylbenzene compounds; refineries whose emissions reach levels above the federal threshold, therefore, pose a danger to public health. Indeed, several Texas refineries have been found to emit benzene at levels above this threshold, reported the [Texas Observer](#).

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