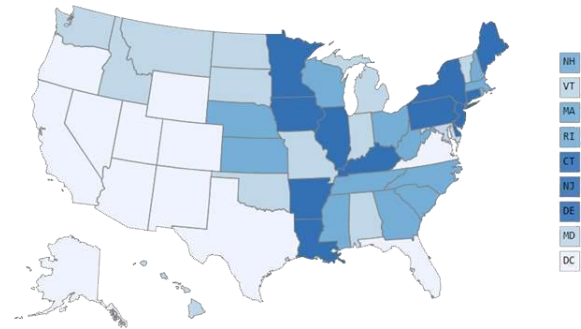


The health and safety of Colorado residents and oil and natural gas employees is industry’s top value. Colorado’s oil and natural gas industry is one of the most regulated in the country, and scientific data supports the conclusion that these regulations are effectively protecting health and safety. A review of federal and state studies, as well as some questionable studies used by opponents to oil and gas development, can be found below.

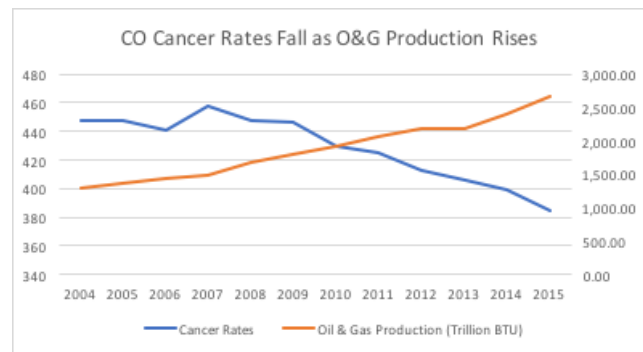


CDC: [Rates of New Cancers in the United States](#)

Federal and State Agency Studies

Multiple data-driven, scientific studies from federal and state health agencies show that Colorado’s strict regulations are protecting the health and safety of all Coloradans.

- Colorado Department of Public Health and Environment** – [The state health department \(CDPHE\) studied over 10,000 air samples collected over a decade](#) in oil and natural gas producing areas in Colorado. That analysis concluded: “All measured air concentrations were below short-and long-term safe levels” and “the risk of harmful health effects is low for residents living near oil and gas operations.” In fact, drawing from thousands of air measurements, CDPHE did not find one single exceedance of federal and state health protective guideline values.
- Weld County** – Data collected by public health regulators at both the national Center for Disease Control (CDC) and CDPHE were recently analyzed by [Energy in Depth](#). Reviewing Weld County data between 2002 and 2015, they found no link between oil and natural gas operations and adverse health effects. This was true even as oil production in the county increased 12 times, natural gas production increased three times, and well counts more than doubled. In fact, during that same timeframe, Weld County cancer rates decreased by 1.9 percent, respiratory illness decreased by 9.1 percent, and heart disease decreased by 21.4 percent.
- CDPHE & RAQC** – [Emission inventory data](#) compiled by the Regional Air Quality Council (RAQC) and CDPHE found that “new regulations and advancements in technology” have resulted in a “significant change” in reducing ozone-causing emissions. Between 2011 to 2017, [the industry cut its emissions of Volatile Organic Compounds \(VOCs\)](#) in the Denver Metro/North Front Range ozone nonattainment area by **nearly 50 percent** even as oil production quadrupled statewide.
- Oil Production & Cancer Rates** – There is no correlation between high oil production and cancer rates, according to a comparison of U.S. Energy Information Administration oil production [data](#) and CDC cancer rate [data](#). Looking at 2015, which is the most recent year for CDC cancer rate data, Colorado ranked 7th in oil production and had the 4th lowest cancer rate nationally. Similarly, Texas ranked 1st in oil production and had the 6th lowest cancer rate nationally, New Mexico ranked 6th in production and had the 2nd lowest cancer rate nationally, and Wyoming ranked 8th in production and had the 5th lowest cancer rate nationally. A full list comparing production and cancer rates may be found [here](#).





Questionable Studies

There are a handful of reports commonly referred to as “The McKenzie Studies,” in reference to Lisa McKenzie, PhD, an assistant research professor at the Colorado School of Public Health. They are frequently cited by activists who want to shut down Colorado’s oil and natural gas industry. However, they have frequently been discredited and debunked by health officials. Even McKenzie has stated publicly that her research does not definitively link oil and natural gas development to health issues, [conceding](#) multiple flaws in her analysis.

- **March 2012** – This [study](#) incorrectly [exaggerated emissions](#) for well sites by at least 10 times. Researchers failed to include exhaust fumes from a major interstate nearby. In fact, no background emissions data was included at all.
- **January 2014** – This [study](#) reviewed birth records from CDPHE to determine if there was an association with oil and natural gas development and birth outcomes. At the time, CDPHE’s Chief Medical Officer and Executive Director Dr. Larry Wolk [said](#) health officials “disagree with many of the specific associations” in the study. “As Chief Medical Officer, I would tell pregnant women and mothers who live, or who at-the-time-of-their-pregnancy lived, in proximity to a gas well not to rely on this study as an explanation of why one of their children might have had a birth defect. Many factors known to contribute to birth defects were ignored in this study.” Additionally, the results found that the nearer a mother lived to a well the less likely she was to give birth prematurely or have a low-birth-weight baby.
- **February 2017** – This [study](#) claimed increased childhood cancer risks within 10 miles of an oil and natural gas well. The Colorado Department of Public Health and Environment (CDPHE) [debunked the study](#) calling it “misleading” and said “it does not prove or establish such a connection.” The study focused on only 16 cases. CDPHE further concluded that “the lack of a conclusive association is a result of many limitations.”
- **April 2018** – This [study](#) looked at acute and chronic health risks from non-methane hydrocarbons. [Analysis](#) showed that the study relied on just 29 samples to claim oil and natural gas “could” increase cancer risk by one-tenth of 1 percent. Notably, the 29 samples were taken inside the state’s 500-foot setback requirement. The state health department wrote: “This study confirms our 2017 findings of low risk for cancer and non-cancer health effects at distances 500 feet and greater.” The average American has a 30 to 40 percent chance of cancer over their lifetime. After pointing to a theoretical risk increase of 1/10th of one percent, the study ultimately concludes that there are “substantial uncertainties and the need for more research.”
- **December 2018** – This [study](#) announced a “possible connection” among volunteer participants to increased early indicators of cardiovascular disease as a result of living near oil and gas activity areas. [A closer look](#) revealed the study did not account for multiple other non-oil and gas factors that could cause the connection, and did not measure exposures to possible environmental stressors, like air or noise pollution. And, the extremely small sample size of 97 volunteers included a lopsided demographic: “Participants in the high exposer tertile were older and less educated than participants in the other tertiles,” according to the study. The study further concludes that “our results may not be applicable to the general population.”

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