

MCKENZIE ET AL. (2017): CHILDHOOD CANCER INCIDENCE

February 15, 2017

Lisa McKenzie, a researcher at the University of Colorado, and her team have conducted several important studies on the associations between exposure to shale oil and gas development and health. In this study, she and colleagues look at the two most common forms of childhood cancer – acute lymphocytic leukemia (ALL) and non-Hodgkin lymphoma (NHL) – and their association with exposure to shale well pads. Existing research has already shown that exhaust fumes, PAHs, and other chemicals, including benzene, may be factors in the development of these cancers. They are also known to be released on or around well pads.

McKenzie compared the incidence of ALL and NHL between 2001 and 2013 with the incidence of all other childhood cancers in rural Colorado, then looked at the likelihood that ALL and NHL cases were exposed to wells. To get a more comprehensive assessment on exposure, the researchers estimated the density of the wells within a 16.1 km radius of the home, weighting those closer to the home more than those further from it. The researchers grouped the exposures into four categories: high, medium, low, and no well exposure within 16.1 km of the home.

The researchers found that for ages 5-24, ALL cases were 4.3 times as likely to be found in the highest level of well exposure, compared to those diagnosed with other, non-hematologic types of cancer. This is *not* saying that, in general, youth in high exposure circumstances are 4.3 times more likely to get ALL than youth in other exposures. It is comparing exposure to wells only among young people with a cancer diagnosis, finding 25 ALL cases and 130 non-hematologic cases in the highest exposure grouping. The researchers also found that ALL incidence declined from the high well count to the medium, and further declined in the low well group. The lowest incidence was found in the group with no wells within 16.1 km. No associations were found between ALL for children aged 0-4 years, and no associations were found between NHL and well exposure.

To learn more about this study, check out this link:

Full text: [McKenzie LM, Allshouse WB, Byers TE, Bedrick EJ, Serdar B, Adgate JL \(2017\) Childhood hematologic cancer and residential proximity to oil and gas development. PLoS ONE 12\(2\): e0170423. https://doi.org/10.1371/journal.pone.0170423](https://doi.org/10.1371/journal.pone.0170423)