

Meadows Mental Health Policy Institute

Projected Suicide and Overdose Mortality for Oil and Gas Extraction Workers

In our April projections of suicide and overdose mortality arising from a COVID-19-driven recession, we highlighted oil and gas workers as one group susceptible to large swings in employment. Because data on suicide and overdose mortality lag several years, we cannot yet confirm a rise in these predicted outcomes. However, we do have current unemployment estimates and can provide more specific projected estimates of deaths from suicide and overdose for workers in this industry.

According to the Bureau of Labor Statistics, the national unemployment rate for the broad category of “mining, quarrying, and oil and gas extraction” workers changed from 1.7% in September 2019 to 14.9% in September 2020, a 13.2 percentage point increase.¹ Only “leisure and hospitality” workers, whose unemployment rate increased from 4.8% to 19.0% over the same period, had a higher rate of unemployment.

Based on this increase in unemployment, we forecast between 80 and 100 additional deaths from suicide for workers in this industry – based on an estimate of just over 400 deaths from suicide in 2019 to about 500 in 2020. We made this projection by applying a 1.6% increase in suicide per percentage point increase in unemployment to a 2019 baseline.² Although suicide mortality rates for 2019 are not available by industry, the CDC performed a study using 2017 mortality data. This report estimated that employees in Census codes 0370–0490, which includes oil and gas extraction as well as other mining-related categories, had the highest suicide rate of any industry studied – 54.2 per 100,000 workers.³ We applied this rate to the number of workers in 2019 to determine pre-COVID-19 suicide rates.

Our methodology for forecasting overdose mortality rates does not depend on a baseline level and therefore does not account for the potentially higher levels of overdose deaths at baseline in this industry. We assume 0.334 additional overdose deaths per 100,000 population for each percentage point increase in unemployment.⁴ Using 2019 employment levels, an additional

¹ U.S. Bureau of Labor Statistics. (2020, October 5). Economic news release: Unemployed persons by industry and class of worker, not seasonally adjusted. <https://www.bls.gov/news.release/empsit.t14.htm>

² Phillips, J. A., & Nugent, C. N. (2014). Suicide and the Great Recession of 2007–2009: The role of economic factors in the 50 U.S. states. *Social Science & Medicine*, 116, 22–31. <https://doi.org/10.1016/j.socscimed.2014.06.015>

³ Peterson, C., Sussell, A., Li, J., Schumacher, P. K., Yeoman, K., & Stone, D. M. (2020, January 24). Suicide rates by industry and occupation: National violent death reporting system, 32 states, 2016. *Weekly*, 69(3), 57–62. https://www.cdc.gov/mmwr/volumes/69/wr/mm6903a1.htm?s_cid=mm6903a1_w

⁴ Brown, E., & Wehby, G. L. (2017, July 26). Economic conditions and drug and opioid overdose deaths. *Medical Care Research and Review*, 76(4), 462–477. <https://doi.org/10.1177/1077558717722592>

13.2 percentage points of unemployment corresponds to between 30 and 40 additional overdose deaths. This is likely to be a conservative estimate.