

What are our priorities?

The National Institute for Occupational Safety and Health (NIOSH) Oil and Gas Extraction Safety and Health Program works with partners in industry, trade associations, professional organizations, academia, and labor. The program focuses on these areas:

- Reducing worker fatalities, with an emphasis on motor vehicle crashes;
- Characterizing physical and chemical exposure hazards; and
- Developing and evaluating engineering controls to improve worker safety and health.

What do we do?

- Analyze surveillance data and conduct epidemiologic studies to identify leading causes of death and injury.
- Characterize exposures to hazardous agents, such as chemicals and minerals, to better understand the hazards and risks.
- Develop and test engineering controls in the workplace.
- Investigate possible mechanisms of disease in oil and gas workers through laboratory research.
- Communicate and distribute information to raise awareness of hazards and promote NIOSH recommendations.

What have we accomplished?

- Completed a survey of 500 oil and gas workers on safety and health practices and attitudes that will guide future research.
- Published a [NIOSH science blog](#) informing employers and workers that hydrocarbon gases and vapors continue to pose hazards on well sites.
- Provided industrial hygiene technical assistance to the Department of Interior by evaluating potential exposures of offshore platform inspectors.
- Evaluated engineering controls at multiple oil and gas drilling sites and identified additional intervention opportunities.
- Characterized worker exposures to hydrocarbon gases and vapors and low oxygen environments during fluid transfer.
- Led an 8-hour professional development course at the 2018 OSHA Oil and Gas Safety and Health Conference on the basics of conducting industrial hygiene exposure assessments. Approximately 25 health and safety managers attended.
- Promoted [NIOSH fact sheets](#) on preventing driver fatigue in the oil and gas extraction industry to industry and safety stakeholders. These fact sheets were subsequently shared by other organizations such as the [American Industrial Hygiene Association](#) and the [National STEPS Network](#).

What's next?

- Disseminate findings from the NIOSH safety and health survey of oil and gas workers.
- Publish report describing driver performance using in-vehicle monitoring system data in oil and gas fleets.
- Conduct exposure assessment to identify potential health risks to workers employed by drilling contractors.
- Develop and evaluate engineering controls to protect oil and gas extraction workers from safety and health hazards.
- Develop a self-cleaning dust-containment system for sand movers used during hydraulic fracturing.
- Create an interactive web-based tool to enhance the dissemination of Fatalities in Oil and Gas (FOG) data.
- Partner with industry and CPWR to expand CPWR's [Work Safely with Silica](#) website to include oil and gas content so that oil and gas companies can develop industry-specific exposure control plans for silica.

At-A-Glance

The Oil and Gas Extraction Program conducts research, partners with stakeholders, and develops and communicates workplace solutions to improve safety and health in the oil and gas extraction industry. This snapshot shows recent accomplishments and upcoming work.

Oil and gas extraction worker fatality rate (per 100,000 workers)



Source: BLS [2016] Quarterly Census of Employment and Wages (QCEW). Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics, <https://www.bls.gov/cew/>

[Video on NIOSH Facebook page that highlights hazards of hydrocarbon gases and vapors](#)



[NIOSH fact sheet on preventing driver fatigue in the oil and gas extraction industry](#)



Motor vehicle crashes cause over 40% of work-related deaths in the oil and gas extraction industry! Driver fatigue, which may be a result of insufficient sleep, long distances traveled to well sites, and long work shifts, is a factor in some of these crashes. In addition to the loss of life, the average on-the-job fatal crash is estimated to cost employers \$671,000! Legal settlements can be even more costly. Oil and gas employers are responsible for the health and safety of their employees. **This fact sheet recommends strategies for employers to manage fatigued driving among their workers.**

What factors put workers at risk for fatigued driving?

Time of day

Natural body clocks (circadian rhythms) give strong signals that it's time to sleep at night and early morning hours. Many people also experience a dip in alertness in the afternoon.

Monotonous tasks
Driving for extended periods of time with few changes in routine can increase workers' risk of fatigued or inattentive driving.

To learn more, visit www.cdc.gov/niosh/programs/oilgas

<https://doi.org/10.26616/NIOSH/PUB2019141>
DHHS (NIOSH) Publication No. 2019-141