

SHALE GAS & OIL HEALTH EFFECTS REGISTRY

**REPORT ON THE FIRST 100 PARTICIPANTS**  
 October 2018 Registry Update

Thank you for joining EHP's Shale Gas & Oil Health Registry. As of October, over 100 individuals have registered. As the number grows, the registry data from those who live or go to school within 5 miles of unconventional oil & gas development (UOGD) will be extremely useful in understanding the scope of the public health problem generated by the industry.

Selected researchers (without identifying participant information) and EHP will be able to use the

|          | Within ¼ mile of a site (33) | At least one mile from a site (26) |
|----------|------------------------------|------------------------------------|
| Cough    | 33% (11)                     | 15% (4)                            |
| Eye      | 36% (12)                     | 15% (4)                            |
| Headache | 39% (13)                     | 0% (0)                             |
| Fatigue  | 73% (24)                     | 73% (19)                           |
| Anxiety  | 48% (16)                     | 35% (9)                            |

data to better understand the potential effects of UOGD exposure. The insights that EHP gains will be shared with communities and with decision-makers at the local, state and federal level. Unlike many existing reports, the registry will allow EHP and researchers to see – over time – whether there are trends in

residents' exposures to UOGD pollution and health symptoms. Not all health effects occur immediately. Some only become evident months or years after exposure. A registry can document and track conditions that emerge months or years later.

Here is some of what your registry responses are telling us.

Exposure: 53% of participants use private well water. 29% live within ¼ mile of a well pad, compressor station or processing plant; 37% live between 1 and 5 miles of

one of these sites. Symptoms: The most frequently reported symptoms include: anxiety, stress, fatigue, painful joints, eye irritation or burning, persistent or frequent cough, throat irritation, frequent sinus problems, sleep disturbance, and numbness or tingling. Of those reporting itchy or irritated

**PARTICIPANTS FROM ACROSS THE COUNTRY**

The first 100 participants of the Registry come from eleven states. They are: Colorado, Louisiana, Massachusetts, Maryland, North Dakota, New York, Ohio, Pennsylvania, Tennessee, Texas, West Virginia. As the registry grows, we will more comprehensively represent experiences with UOGD across the country. In addition, as more people join, we will be able to provide you with region- or state-specific summaries of the health and exposure data we've collected.



Encourage your friends, neighbors, and families to join at [www.environmentalhealthproject.org/health-effect-registry](http://www.environmentalhealthproject.org/health-effect-registry)

skin, about half reported using well water in their home.\*

\* Not everyone who registered reported being within 5 miles of a UOGD site. Percentages here are based on those who live, or lived within the last year, within 5 miles of a site; and who answered the health or exposure question being reported.

How should we think about these numbers? People who join registries are often particularly concerned about their health or are symptomatic. They are not a “random sample.” The purpose of the registry is to be a depository for data that can be used for many purposes. It

provides the early information needed to support in-depth investigations necessary to understand, and stop, an emerging public health outbreak. Symptoms and exposures are similar in states across the country.

Symptoms reported here are consistent with what researchers have found; what EHP has previously documented; and with the known potential health effects produced by identified air and water toxics released by UOGD activities.

## WHAT'S IN THE UOGD HEALTH EFFECTS RESEARCH?

### Spotlight: Birth Outcomes

The research on shale-related air and water contamination, along with health conditions in those exposed, has grown tremendously in the last few years. A number of researchers have focused on reproductive risks and birth outcomes. The findings are important and troubling. Whitworth et al in “[Drilling and Production Activity Related to Unconventional Gas Development and Severity of Preterm Birth](#),” studied birth outcomes in exposed women in the Barnett Shale area of Texas, finding increased odds of pre-term birth, especially in women who are highly exposed in the second and third trimester.

In “[Shale Gas Development and Infant Health: Evidence from Pennsylvania](#),” Hill shows that the introduction of hydraulic fracturing for shale gas increased low birth weight, *small for gestational age*, and low APGAR scores. APGAR scores reflect an

assessment of infant health just after birth and can indicate that immediate medical action is necessary. Currie and colleagues, in “[Hydraulic Fracturing and Infant Health: New Evidence from Pennsylvania](#),” analyzed records of more than one million births and found an increase in probability of low birth rate suggesting that within 1 km risks are greatest, and beyond 3 km, there is little evidence of risk based on the measures that they used. Casey, in “[Unconventional natural gas development and birth outcomes in Pennsylvania, USA](#)” found that women living near active shale fracturing were at increased risk for premature births. In “[Birth Outcomes and Maternal Residential Proximity to Natural Gas Development in Rural Colorado](#),” McKenzie et al studied birth records in Colorado and suggest that congenital heart defects and possibly neural tube defects in newborns are

associated with density and proximity of natural gas wells. Stacy and others, in their paper, “[Perinatal Outcomes and Unconventional Natural Gas Operations in Southwest Pennsylvania](#)” conclude that the more exposure pregnant women have, the higher the risk of delivering a baby who is *small for gestational age*.

The research, taken together, does not converge around one set of potential gestational or infant health effects, although there is some overlap in the studies' conclusions. Different studies focused on different measures of exposure and measures of impacts. That may account for some of the differences in findings. Still there are questions that need to be answered in this highly sensitive health area. We hope and expect that more research will follow to further explain the risks.

For more information about EHP and how we can assist your community, call 724.260.5504 or email [info@environmentalhealthproject.org](mailto:info@environmentalhealthproject.org). For information about the Shale Gas & Oil Health Registry and UOGD exposures and health, call Beth Weinberger (724.263.5925) or Jill Kriesky (724.260.5504) or email [bweinberger@environmentalhealthproject.org](mailto:bweinberger@environmentalhealthproject.org)