

Statement: Pennsylvania Health & Environment Studies (Pitt Study)

- [EHP Statement](#)
- [Background](#)

EHP Statement

- [Study Overview](#)
- [Other Studies & Health Impacts](#)
- [Government Inaction](#)
- [What Should Be Done Next](#)

Study Overview

We at the Environmental Health Project are not surprised that these new studies reveal significant correlations between shale gas development and health issues. The results of the studies complement those of other studies and reinforce the scientific consensus that shale gas development is unsafe, especially for vulnerable populations like children, the elderly, pregnant individuals, and those with existing health conditions.

The asthma study is especially concerning because it shows that asthmatics living close to these sites are 4 to 5 times more likely to develop severe asthma symptoms or to require emergency department visits and hospitalizations. These significant respiratory health impacts can occur up to 10 miles from well sites during the production phase of extraction—the longest phase of shale gas development—which can go on for a decade or more.

The lymphoma study, which found that children living within one mile of one or more wells were 5 to 7 times more likely to develop this relatively rare form of cancer, is also very concerning. Because most forms of cancer have long latency periods, we could expect to see more diagnoses of lymphoma and other cancers going forward.

The birth outcomes study, which found that infants born to pregnant individuals who lived near wells during the production phase were 20-40 grams (about one ounce) smaller at birth, is concerning and adds to the body of research from a number of other birth outcomes studies that show a range of adverse health impacts for pregnant individuals and infants.

Other Studies & Health Impacts

In addition to these new studies, more than [two dozen other epidemiological studies](#) show a correlation between shale gas development and health impacts for residents living nearby. Hundreds of [other investigations](#) and first-hand accounts have shown that shale gas development correlates with poor health outcomes for people living in proximity to such infrastructure.

Approximately [1.5 million Pennsylvanians](#) live within a half mile of oil and gas wells. Health impacts from living in proximity to shale gas development include a higher risk of:

- A range of respiratory problems like asthma, chronic bronchitis, and reduced lung function
- Skin and eye irritation, as well as other symptoms like headaches, dizziness, and nausea
- Hospitalization from heart-related complications
- Cancer, particularly in those who are exposed over a long period of time
- Adverse health effects for pregnant individuals, including preterm birth, low birth weight, and birth defects in infants
- Mental health issues from noise, vibration, and light pollution and the associated stress of shale gas industry activity.

Shale gas development poses other health impacts for every other resident, in Pennsylvania and worldwide. Methane, the primary component of shale gas, is responsible for more than 25 percent of the climate warming we are experiencing today. Climate change has serious health consequences through increases in damaging storms, heat waves, floods, fires, and insect-borne diseases.

Government Inaction

EHP has [closely examined](#) the actions of Pennsylvania's governing bodies over more than a decade and identified a series of egregious and, at times, intentional efforts to undermine public health in the face of shale gas development. These efforts are discussed in detail in our 2022 white paper, [Pennsylvania's Shale Gas Boom: How Policy Decisions Failed to Protect Public Health and What We Can Do to Correct It](#).

To date, the Pennsylvania Department of Health (DOH) and other government bodies have failed to respond in a meaningful way to the health harms associated with shale gas development. The General Assembly has underfunded state agencies, such as the DOH and the Department of Environmental Protection (DEP), that can help to protect the public from health harms related to shale gas development.

Pennsylvania's governing bodies have allowed communities to be excluded from making decisions about the permitting and siting of shale gas infrastructure. Over the years, information about health harms has been withheld from residents, and communication with communities has been sparse or nonexistent.

While researchers should continue to study and monitor the impacts of shale gas development, relying on more studies alone will only delay the health protections residents need.

A reasonable public health approach should be based on a rapid and transparent response. We already have all the evidence we need to take action to minimize further health impacts.

What Should Be Done Next

Given the findings of the Pennsylvania Health and Environment Studies, in addition to the dozens of other peer-reviewed, epidemiological studies that point to health harms in proximity to shale gas development, it is past time for the Pennsylvania legislature and Governor Shapiro to take swift action to protect the health of Pennsylvanians. Appropriate measures include the following:

- Governor Shapiro should publicly acknowledge the health harms associated with shale gas development and publicly commit to supporting—at a minimum—the [recommendations](#) put forth by the 43rd Statewide Grand Jury during his tenure as Attorney General.
- Protective buffers (setbacks) in Pennsylvania should be expanded from the currently required 500 feet to [EHP's recommendations](#) of 1 km (about 3,300 feet or 0.6 miles) for small facilities and 2 km (about 6,600 feet or 1.25 miles) from large facilities, schools, nursing homes, and other structures accommodating vulnerable populations. (Note that, based on findings from existing research, EHP's recommendations are greater than those made in the Grand Jury report.) Additionally, the industry should not be allowed exemptions or waivers to these distances for any reason.
- As part of its permitting process, the DEP should cumulatively analyze all sources of air pollution in a given area (aggregate emissions) to accurately assess air quality and to limit shale gas development in airsheds that are already burdened with pollution. See more specific recommendations regarding aggregate emissions [here](#).
- The Pennsylvania legislature and agencies should hold industry accountable for leaking toxic pollution that harms residents and hastens climate change, including requiring shale gas operators to publicly disclose all chemicals used in drilling and hydraulic fracturing before they are used on-site, as recommended in the Grand Jury report.

- The Pennsylvania legislature and agencies should ensure safer operations throughout the entire shale gas lifecycle. Such actions include closing hazardous waste loopholes and requiring safer transport of the contaminated waste created from fracking sites. Further, state agencies should be required to regulate gathering lines, used to transport shale gas hundreds of miles, presenting the opportunity for leaks, explosions, and other health risks throughout.
- The General Assembly must fully fund agencies like the DOH and the DEP so that they can do their job of protecting Pennsylvania’s resources and the health of residents, including the following:
 - Pennsylvania agencies should conduct a comprehensive health response to the impacts of living near shale gas facilities, as described in the Grand Jury report. Specifically, that approach should include Health Impact Assessments and additional considerations for Environmental Justice communities before development of new facilities. Agencies further need to develop and distribute comprehensive resources, actionable guidance, and adequate response/investigations near existing facilities.
 - The DEP must hold industry accountable for leaking toxic pollution that harms residents and hastens climate change, including requiring accurate and timely monitoring and reporting of regular emissions and emissions events, providing public access to collected data, and strictly enforcing rules and regulations with fines and other meaningful punitive consequences.
 - Governor Shapiro must call on the DOH and the DEP to work more closely and transparently with communities to provide potentially impacted residents with health-protective strategies to combat pollution and to ensure that the voices of residents, especially those experiencing environmental and health harms, are heard.
 - These agencies must work together and with federal agencies to conduct comprehensive health impact assessments on shale gas development in affected areas—particularly those with a high concentration of low-income, minority, and other vulnerable populations—and make recommendations for more health-protective practices.

These actions must begin today.

Alison L. Steele, Executive Director
Environmental Health Project

Background

- The Pennsylvania Health and Environment Studies, conducted by the University of Pittsburgh's School of Public Health, looked at the prevalence of rare childhood cancers, asthma, and low birth weights in proximity to shale gas development (fracking) in Southwestern Pennsylvania.
- The study results include:
 - There was a strong link between the production phase of unconventional shale gas development and severe exacerbations, emergency department visits, and hospitalizations for asthma in people living within 10 miles of one or more gas-producing wells. Specifically, people with asthma had a 4 to 5 times greater chance of having an asthma attack if they lived near shale gas development wells during the production phase.
 - Children who lived within 1 mile of one or more wells had a 5 to 7 times higher chance of developing lymphoma, a relatively rare type of cancer, compared to children who lived in an area without wells within 5 miles. There were no associations found between shale gas development activities and childhood leukemia, brain and bone cancers, including Ewing's family of tumors.
 - Infants born to pregnant individuals who lived near shale gas wells during the production phase were 20-40 grams (about 1 ounce) smaller at birth. The study found interference of fetal growth associated with the lengthy production phase of shale gas development.
- The Pennsylvania Health and Environment Studies are epidemiological studies. Epidemiologic studies form the foundation in helping us understand the distribution and progression of diseases in a population by identifying factors underlying their source and methods for their control and prevention. This involves tracking new and ongoing cases over various periods of time to reveal patterns, trends, and outcomes, including how the condition affects our society and economy. Epidemiological studies are highly relied upon for understanding environmental health risks, especially given the difficulty of doing experimental studies that might subject the tested population to harms they wouldn't otherwise experience.
- In 2019, Pennsylvania Governor Tom Wolf's administration [allocated \\$3 million to study the health impacts of shale gas development](#), taking action after months of impassioned pleas by the [families of childhood cancer patients](#) who live in the most heavily drilled region of the state.

- The Pennsylvania Department of Health (DOH) contracted with the University of Pittsburgh’s School of Public Health to conduct three observational epidemiological studies focusing on asthma, birth outcomes, and childhood cancers with respect to exposures to environmental risk factors, such as shale gas development activities, among others. The studies were collectively titled the “[PA Health and Environment Study](#)” (Pitt Study).
- The studies cover the entirety of the Southwestern Pennsylvania Region, specifically Allegheny County, Armstrong County, Beaver County, Butler County, Fayette County, Greene County, Washington County, and Westmoreland County.
- Study question: Does living near unconventional gas development activities or other environmental hazards in Southwestern Pennsylvania increase the risk for specific health issues?
- The studies were scheduled to wrap up and full reports written by the end of Governor Wolf’s term (January 2023). The reports were provided to the public on August 15, 2023.
- The university assembled an External Advisory Board of community members and stakeholders, which met beginning in August 2021. Meetings began being held quarterly and bi-monthly but were eventually curtailed altogether. When the DOH and the university pulled out of a planned September 2022 public meeting to update residents on the progress of the studies, four members of the External Advisory Board, representing public/environmental health organizations, resigned their positions, citing resistance to accountability and transparency to community members.
- From December 2020 until September 2022, the university and the DOH provided quarterly updates on the progress of the studies through very abbreviated reports posted to a webpage. These quarterly updates are no longer available.
- The university is expected to submit the full studies to a peer-reviewed journal at a later time.