

RE: STRONGLY OPPOSE SB0878

2/25/2025

TO: Members of the Maryland Senate's Education, Energy, and Environment Committee

I am writing as a physician, researcher, and author and editor of the *Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking and Associated Gas and Oil Infrastructure* [Compendium] to urge your strong opposition to SB0878, as individual elected officials and as members of the Senate's Committee on Education, Energy and the Environment. Since 2017, I and other members of the Steering Committee of Concerned Health Professionals of New York [CHPNY] have assisted people in Garrett County who reached out to us then and now in order better to understand the environmental and health consequences of living or working near hydraulic fracturing (fracking) sites. I am attaching my resume, along with a copy of the most recent, 9th edition, of the *Compendium* (also available online at <https://concernedhealthny.org/wp-content/uploads/2023/10/CHPNY-Fracking-Science-Compendium-9.pdf>). I am submitting these materials and the following comments on behalf of myself and CHPNY.

SB0878 ("Oil and Natural Gas - Hydraulic Fracturing - Authorization") unwisely seeks to remove Maryland's prohibition on fracking, at a time when scientific and medical evidence, steadily accumulating for over a decade, has been consistently documenting a wide array of largely unavoidable, often irreversible, and frequently devastating health impacts in communities that allow fracking. Beyond the importance of protecting western Maryland's place-based tourism and property values and the general environmental benefit of minimizing regional and global impacts from the release of potent greenhouse warming gases, prohibiting fracking prevents local contamination of air, water, and soil, thus eliminating a major potential source of acute and chronic illness related to chemical exposures of residents and visitors.

Over 2,000 research documents now demonstrate adverse health impacts from fracking. These studies range from toxicologic studies of fracking chemicals to geologic studies (of earthquakes and subsidence) to risk studies and case control studies (of bodily illness but also of accidents and mental health) to "natural "experiments," comparing fracked and unfracked communities. Adverse human health impacts relate to three main pathways of contamination: 1) leaks of toxins into the air from well sites and fracking infrastructure; 2) leaks of toxins into subsurface aquifers through induced fractures, cracked well bores, and fracking waste disposal; and 3) contamination from toxins during onsite "storage" or offsite transport and disposal of drilling and fracking waste. Many of the chemicals used in fracking are known to be carcinogenic (e.g., benzene, lead, cadmium, arsenic) or highly toxic through other mechanisms (e.g., selenium, cyclohexane, naphthalene), and additional toxic substances (including heavy metals such as boron, and radioactive materials, such as radium, uranium, and radon) are brought up to the surface during fracking activities. Over time, virtually every fracking well site leaks, and many leak from the very first day that they are drilled. Fracking can also cause earthquakes, which dramatically increase the chances of leakage. Because toxic materials and leakage are inherent to the nature of fracking activities, regulations may reduce but cannot eliminate health risks from fracking.

Studies link living or working near a fracking well site with early mortality and with diseases in almost every organ system of the human body: respiratory, cardiovascular, reproductive (in the form of birth defects and low birth weight infants), neurological, hematological (in the form of blood cancers, such as leukemia and lymphomas), dermatological, and gastroenterological. Representative studies include the following, taken from and adapted from the *Compendium*:

- A 2022 study using data gathered from more than 15 million Medicare recipients found that older citizens living near fracking sites were at higher risk for dying early than those living in areas without fracking (Longxiang Li et al., “Exposure to Unconventional Oil and Gas Development and All-Cause Mortality in Medicare Beneficiaries,” *Nature Energy*, 2022, <https://doi.org/10.1038/s41560-021-00970-y>).

- A 2022 Canadian study of 35,000 pregnancies in rural Alberta found that babies born to mothers living near fracking wells had increased incidence of low birth weight, premature birth, and major congenital abnormalities (Zoe F. Cairncross et al., “Association Between Residential Proximity to Hydraulic Fracturing Sites and Adverse Birth Outcomes,” *JAMA Pediatrics*, April 4, 2022, <https://doi.org/10.1001/jamapediatrics.2022.0306>).

- A well-designed study conducted in Pennsylvania in 2022 found that children whose birth residence was within 2 kilometers (1.2 miles) of a fracking site were 2-3 times more likely to be diagnosed with acute lymphoblastic leukemia between ages 2-7 years than otherwise similar children who were not living near fracking sites. While those living within two kilometers faced the highest risk, leukemia levels among children were elevated as much as 10 kilometers (6.2 miles) from a well, raising questions about safe setback distances (Cassandra J. Clark et al., “Unconventional Oil and Gas Development Exposure and Risk of Childhood Acute Lymphoblastic Leukemia: A Case–Control Study in Pennsylvania, 2009–2017,” *Environmental Health Perspectives* 130, no. 8 (August 2022): 087001, <https://doi.org/10.1289/EHP11092>).

- Taking advantage of the vast difference in fracking activity between northern Pennsylvania, where the practice became widespread beginning in 2008, and southwestern New York, where the practice was and remains banned, a team of researchers in 2023 found that in New York, trends for heart attack and heart failure continued downward in and following 2009, while in Pennsylvania, where fracking intensity increased, trends for the same conditions increased. For heart attacks, the association between hospitalization rates and fracking in Pennsylvania grew consistently larger between 2012 and 2015. In 2015 alone, three heavily fracked counties in Pennsylvania had an additional 11.8, 21.6, and 20.4 hospitalizations for acute myocardial infarction, heart failure, and ischemic heart disease, respectively, per 1000 Medicare beneficiaries, than would have been expected without fracking (Kevin S Trickey, Zihan Chen, and Prachi Sanghavi, “Hospitalisations for Cardiovascular and Respiratory Disease among Older Adults Living near Unconventional Natural Gas Development: A Difference-in-Differences Analysis,” *The Lancet Planetary Health* 7, no. 3 (March 2023): e187–96, [https://doi.org/10.1016/S2542-5196\(23\)00009-8](https://doi.org/10.1016/S2542-5196(23)00009-8)).

My personal experience confirms these stark findings. I have seen individuals with caustic burn-like skin lesions that only healed when exposure to fracking sites ceased. I have seen children who developed seizures that resolved not with treatment by seizure medication but by filtering indoor air and decreasing outdoor exposures to fracked gases. I visited a rural community in South America that had lived for generations on crystal clear well water that turned black and oily at the pump following the introduction of nearby fracking; in that community, goats and horses then started giving birth to congenitally deformed offspring, birds fell dead from trees, and one previously healthy child suddenly developed an extremely rare, progressive, and deadly form of renal disease.

In communities that allow fracking, environmental health physicians can attempt to detect and treat cancers and other illnesses caused or worsened by invisible contaminants, but this effort is difficult and often unsuccessful. Since communities are generally unprepared to handle the safety and health impacts of fracking, my colleagues and I — and increasingly many states and countries around the world — have concluded that they should completely avoid fracking activities. I strongly urge you to keep Maryland protected from fracking-related illness and death by not allowing fracking activities. The best and in many cases the only treatment for fracking-related exposures is to eliminate such exposures. Please vote no on SB0878.

Kathleen Nolan, MD, MSL
PO Box 16, Mount Tremper NY 12457
kathynolan@earthlink.net; 845-417-6489

On behalf of myself, Concerned Health Professionals of New York, and the people of Garrett County