

Health Professional Letter in Support of a Fracking Ban in Maryland

February 22, 2017

Dear Governor Hogan, Senate President Miller, and House Speaker Busch,

We, the undersigned public health professionals, health care providers, and researchers, ask for your support for legislation that would prevent unconventional natural gas development enabled by hydraulic fracturing, commonly referred to as “fracking,” from beginning in Maryland.

The growing body of scientific research on unconventional gas development demonstrates significant risks and harms to human and animal health and to the environment, while providing no evidence that any regulatory framework can adequately protect Maryland residents. The scientific literature now includes nearly 700 peer-reviewed research papers [1], the majority of which were published in the last three years. Many of these studies appeared *after* completion of Maryland’s Marcellus Shale Advisory Commission review process in December of 2014 [2].

Below we highlight key findings from these studies that pertain to health and the environment. The risks and inevitable harms identified outweigh any potential benefits to our state, and support our efforts to stop unconventional natural gas development (UNGD) from occurring in Maryland.

Unconventional Gas Development Causes Serious Health Impacts. Individuals living near these industrial operations report a constellation of symptoms and illnesses that too often have been dismissed by policymakers as anecdotal. However, the peer-reviewed literature is now documenting serious health impacts. More than 80 percent of studies looking specifically at health effects demonstrate risks or adverse outcomes. Among the most significant recent findings to emerge:

- In July 2016, researchers at the Johns Hopkins Bloomberg School of Public Health and collaborating institutions analyzed medical records of over 35,000 asthma patients, ages five to ninety years old, and found a statistically significant association between proximity to active UNGD operations and **mild, moderate, and severe asthma exacerbations** [3].
- In October 2015, researchers at the Johns Hopkins Bloomberg School of Public Health and collaborating institutions analyzed data from roughly 10,000 birth records in 40 counties in Pennsylvania and found a statistically significant association between maternal proximity to active UNGD operations and **premature births** [4].
- In July 2015, researchers at the University of Pennsylvania and Columbia University found an increase in **cardiac and neurologic hospitalizations** in two counties with active UNGD operations, compared to a neighboring county where these operations had been banned [5].

These studies are likely to be an underrepresentation of harms that are occurring. They address only shorter-latency disease processes. Given that UNGD operations have been active at scale for less than a decade, and that industry has erected numerous barriers to the collection of health data,

we can expect increases in many additional illnesses – such as cancers and developmental disorders – that may take years to develop or may not become evident until years after exposure to toxicants.

It should be no surprise that these studies are demonstrating negative health outcomes. The lifecycle processes involved in gas development and production, from drilling and fracking to processing, storage, transportation, and end-use, all result in toxic releases to air, water, and soil that can then enter the body through direct skin contact, breathing, or consumption of water or food. There is now documentation of endocrine-disrupting chemicals in surface waters near fracking wastewater disposal sites in West Virginia [6]. In addition, toxicants from oil and gas operations have been detected both in air samples and in the urine of residents living near those operations in Wyoming [7].

Unconventional Gas Development Causes Environmental Impacts That May Be Irreversible.

Despite years of industry distortion and denial, we now have documentation of widespread contamination of air, water, and soil. Well casings and cement fail over time, regardless of whether an extra layer of these materials is mandated. Spills and intentional releases are frequent, diesel truck traffic is unavoidable, and economic incentives to cut corners are rife. Earthquakes from wastewater storage and from hydraulic fracturing itself present risks that were not fully appreciated just two years ago.

- In April 2016, researchers at Duke University reported evidence of **widespread and persistent contamination of water and soils** with salts, heavy metals, radioactive elements, and other toxic materials associated with unconventional oil drilling in North Dakota. More than 3,900 spills of fracking wastewater were documented, more than one for every three wells drilled [8].
- In May 2016, the federal Agency for Toxic Substances and Disease Registry (ATSDR), tasked with investigating citizens' public health complaints in Dimock, Pennsylvania, found **chemicals in private water wells** *"at levels high enough to affect health (27 private water wells), pose a physical hazard (17 private water wells), or make the water unsuitable for drinking"*[9].
- Nearly 700 earthquakes of magnitude 3.0 or greater have been documented in Oklahoma, "a more than 300-fold leap from the start of the drilling boom in 2008." **State officials have confirmed these earthquakes are linked to oil and gas operations.** Similar changes in seismicity are occurring in multiple states where UNGD-related activities are growing [10, 11].

Unconventional Gas Development Accelerates Climate Change. It is now clear that the methane leakage from the lifecycle of gas production likely makes gas as bad or worse for climate than coal or oil [12]. Earlier this year, Maryland committed to reducing its greenhouse gas emissions by 40 percent by 2030. It is unlikely that Maryland can meet this goal if unconventional gas development is allowed.

Climate disruption is already a public health emergency. It affects the nature, distribution, and intensity of diseases. It threatens food and water supplies, creates new challenges for managing existing fossil fuel and other infrastructures, and promises migration of populations, within our state and globally, due to sea level rise, droughts, and other extreme weather changes. This is no

longer a problem to be addressed later in the century; *it is a catastrophic problem that must be addressed immediately by all sectors of society and all levels of government.*

Unconventional Gas Development Is Wrong For Maryland. The health and environmental harms of unconventional gas development and its impacts on climate are rapidly becoming more visible to the public. *We in the health community reject the industry's push for short-term profits at the expense of long-term damage to public health and the environment.* For years, this industry has weakened and evaded regulations, obstructed or distorted research, and externalized its true costs of doing business by shifting those costs onto other sectors, including the health care sector.

Maryland has a deep history of environmental and public health policy rooted in science. The current proposals to move forward with unconventional gas development in Maryland ignore both this history and the growing body of evidence of harms to public health and the environment. These proposals are based on theoretical expectations that technological improvements might mitigate impacts, rather than on actual experience with this technology in real-world applications.

We urge you to pull Maryland off its current dangerous path toward unconventional gas development in our state, as no regulatory framework can adequately protect either the environment or the health and safety of Maryland residents. As health professionals committed to preventing illness and promoting healthy communities, we call for a ban on unconventional gas development in Maryland.

Respectfully,

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