

13-03

STATEMENT OF POLICY

Environmental and Health Impacts of Hydraulic Fracturing of Unconventional Gas Reserves

Policy

The National Association of County and City Health Officials (NACCHO) recommends action to address the environmental and health impacts of hydraulic fracturing, often referred to as “fracking,” “a well stimulation process used to maximize the extraction of underground resources; including oil, natural gas, geothermal energy, and even water.”¹

To that end, NACCHO supports the following:

- Federal, state, local, and tribal governments conducting Health Impact Assessments (HIAs) and health equity assessments prior to new hydraulic fracturing development projects and in regards to potential long-term environmental health impacts of hydraulic fracturing to the population as a whole and vulnerable populations;²
- The Environmental Protection Agency regulating companies involved in hydraulic fracturing in order to hold the industry accountable for monitoring, mitigating, and following up at hydraulic fracturing sites for a period of time for environmental contamination.
- Industry funding training and education to local health departments in areas of active natural gas development;
- Federal, state, local, and tribal governments sharing data and analyses of experiences from hydraulic fracturing, while accounting for known local differences and uncertainties resulting from variations in geography, etc;
- Public health professionals from federal, state, and local governments being increasingly involved in policymaking, managing, and monitoring the natural gas industry.
- The Department of Energy modeling and including long-term greenhouse gas emissions from hydraulic fracturing in national energy policies;
- The natural gas development industry funding federally coordinated research on the environmental and social impacts of hydraulic fracturing that will lead to potential strategies to mitigate these impacts, particularly on vulnerable populations; and
- Federal and state governments closing “loopholes” that exempt natural gas activities in environmental regulations, mandating that drilling operations located within a set distance of each other be regulated as a single source under clean air act regulations, and basing emissions regulations on models of cumulative impacts on expected hydraulic fracturing development scenarios.



Justification

Hydraulic fracturing poses many potential risks to public health and the environment, including ground and surface water contamination, climate change, air and noise pollution, seismic activity, and worker exposures to toxins, which all have significant public health implications.^{3, 4} These risks around siting drilling operations are more likely to impact vulnerable populations (e.g., children and low-income rural populations), but also impact large numbers of people when hydraulic fracturing is practiced near densely populated urban areas.³

Natural gas development impacts public health and local health departments. Funding is needed to educate public health professionals and the local communities involved in natural gas development projects and to address potential environmental risks. Technical assistance and education should be provided to local communities about the four phases of natural gas development: pre-development, development, fracturing, and reclamation. Local health departments should be involved in and educated on current natural gas development issues to assist with policy planning to address the potential impacts on their communities' drinking water supply, noise pollution, air pollution, light usage, social economics, mental health, and land usage.^{5,7}

Hydraulic fracturing is well established in many areas of the United States. As natural gas exploration expands to various parts of the country, state and local elected and appointed officials may face new technical, scientific, and social issues. Having the ability to access a regional or national database of information and conversation specific to hydraulic fracturing may be of significant benefit. Gleaning knowledge from areas that have established protocols and relationships with the natural gas industry will aid in accelerated understanding of successes and failures faced in the past.

Natural gas exploration, development, and delivery impact many professions including political, legal, and technical fields. Separating these disciplines is impossible when discussing policymaking, managing, and monitoring the natural gas industry. Environmental public health professionals from federal, state, local, and tribal governments possess skills, knowledge, and abilities to advise the decision-making process. Including people with a strong background in science, such as environmental public health practitioners, is a necessary piece of the decision-making model.

Precisely predicting exposure patterns of hydraulic fracturing emissions is difficult because of its rapid growth and high variability due to differing geography, drilling practices, and timing of cumulative impacts. Nonetheless, a precautionary approach to the potential public health impacts of hydraulic fracturing should be taken because of mounting evidence gathered from hydraulic fracturing sites, projections based on environmental models, and comparison of emissions from similar activities.³

Hydraulic fracturing directly and indirectly impacts public health by creating rapid socioeconomic changes in communities, particularly rural communities.⁵ There have been reports and studies that describe the negative socioeconomic impacts of hydraulic fracturing. One report described increased crime in areas with an influx of natural gas workers.⁶ Another study found that Pennsylvania, a state currently facing the rapid entry of the natural gas industry,

experienced increased human services burdens for drugs and alcohol, domestic relations, and children and youth; effects on affordable housing; and deficits in emergency management and hazardous materials response planning in drilling areas.⁷

Incoming industries, such as natural gas, can cause stress in communities from social changes, including uncertainty, isolation, inadequate housing and infrastructure, and substandard services.⁷ Poor respiratory health, both independently and in combination with exposure to air pollution, have been linked to chronic psychological stress.⁸ Therefore, the accumulation of social stressors, as caused by natural gas drilling, may have a significant negative impact on an individual's emotional and psychological well-being that may be difficult to quantify.^{9, 10}

Current federal and state regulations regulate underground injections to protect drinking water; however, many regulations contain "loopholes" that exempt natural gas activities. Key environmental regulations with these "loopholes" include the Safe Drinking Water Act; the Clean Water Act; the Comprehensive Environmental Response, Compensation, and Liability Act; the Resource Conservation and Recovery Act; the Toxic Release Inventory; and the National Environmental Policy Act. Additionally, regulators need to consider the cumulative impacts of emissions from multiple drilling operations rather than individual sources because of the large cumulative impacts that the emissions may have on the public health of local communities and regions.¹⁰

References

1. Environmental Protection Agency. *Hydraulic Fracturing Background Information*. Retrieved July 17, 2012, from http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/wells_hydrowhat.cfm.
2. National Association of County and City Health Officials. (2006). *Creating Healthier Communities Through Health Impact Assessment*. Adopted by the NACCHO Board of Directors, January 2006.
3. Finkel, M.L. and Law, A. (2011). The rush to drill for natural gas: A public health cautionary tale. *American Journal of Public Health, 101*(5), 784-785.
4. The Network for Public Health Law. (2011). *The Impact of Hydraulic Fracturing on Communities*. [Fact sheet]. Retrieved February 4, 2013 from http://www.networkforphl.org/_asset/v0y6o4/Fracking_Local_Issues.pdf.
5. Brasier, K.J., Filteau, M.R., Jacquet, J., Stedman, R.C., Kelsey, T.W. & Goetz, S.J. (2011). Residents' perceptions of community and environmental impacts from development of natural gas in the Marcellus Shale: A comparison of Pennsylvania and New York cases. *Journal of Rural Social Sciences, 26*(1), 32-61.
6. Associated Press. (2011). *Gas-drilling boom brings more crime, carousing to some towns*. Retrieved February 4, 2013 from http://www.pennlive.com/midstate/index.ssf/2011/10/gas-drilling_boom_brings_more.html
7. County Commissioners Association of Pennsylvania. (2010). *Marcellus Shale Emergency Preparedness*. Testimony presented to the Senate Veterans Affairs and Emergency Preparedness Committee by Douglas E. Hill. Retrieved June 1, 2012, from http://www.pacounties.org/Lists/Whats%20New/Attachments/77/Marcellus_Emergency_Mgmt_Testimony_06-10%5B1%5D.pdf.
8. Perry, S. (2011). *Playing for Keeps along the Susquehanna - A Community-Integrated GIS of Land and Water Uses and Rights in Rural Pennsylvania's Marcellus Shale Natural Gas Play*. Post-doc report.
9. Carr, J.L., Matte, T., Fromewick, J., Abbatangelo-Gray, J., Ito, K., Kubzansky, L., Spengler, J., Shepard, P. J., Clougherty, J.E. (2011). *Outdoor air pollution and social stressors across NYC communities: a GIS-based spatial correlation study of multiple exposures in the urban environment*. Conference presentation, Spain.
10. American Public Health Association. (2012). *The environmental and occupational health impacts of high volume hydraulic fracturing of unconventional gas reserves*. Retrieved Jan. 18, 2013, from <http://www.apha.org/advocacy/policy/policysearch/default.htm?id=1439>.

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Record of Action

Proposed by Environmental Health Committee

Approved by NACCHO Board of Directors

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