Community Health & Public Health Preparedness in the Marcellus Shale Era

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Outline

• Community Health
  o Perception of Risk
  o Boomtown Model
  o Community Impacts

• Emergency Response
  o Documented Incidents
  o Progress
  o Safety Data

• Future Needs
Community Health

Frac Fluid Containers, Washington, PA
Photo Credit: Donnan (2009)
Perception of Risk

Commonly Perceived:
Well Fires & Blowouts
Ground & Drinking Water Contamination

More Commonly Occurring:
Worker Accidents
Environmental Spills

Social stressors can affect well being (Carr et. al, 2011)
"Boom Towns"

- Boom Towns: Small towns overwhelmed by boom of energy extraction. Bust may follow
- Economic benefits mixed
- Disproportionate increases: mental health case loads, crime, divorce, suicide, and alcoholism (Jacquet, 2009; Kohrs, 1974)
- PA county governments & services experiencing similar social effects (CCAP, 2010)
Additional Community Impacts & Concerns

- Proximity to vulnerable populations (Madsen, Schneider, Staaf, 2011)
- Home insurance increase
- Home value decrease
- Agricultural impacts
- Road repair & maintenance

Road degradation from truck traffic

Photo Credit: Pittsburgh City Paper, Heather Mull
Natural Gas Drilling
Emergency Preparedness

Accidents will happen. Will we be ready?
Emergency Response

- Incidents highlight need for greater & improved training for industry & local first responders
- Also response plans necessary
- Some progress made
- Training programs available
- PA DEP conditionally hired team of responders dedicated to this issue (PA DEP, 2010)
- However, April 2011 incident raised questions

June 2010 gas well explosion at Chief Oil & Gas LLC site Marshall County, WV

Photo credit: Pittsburgh Tribune-Review, Keith Hodan
Safety by the Numbers

PA Marcellus Citations

• Total Violations Issued (PA DEP, 2011)
  o 638 (2009)
  o 1,218 (2010)
  o 906 (2011 as of Aug. 31)

• 2011 Administrative vs. Environmental
  o Admin: 48%
  o EHS: 52%
  o Categories as determined by PA DEP – Questionable classifications

Occupational Safety

• 49 OSHA inspections in PA - 21 of those were related to complaints about a specific company (OSHA, 2011)

• Some major drilling companies operating in PA have not been inspected by OSHA
  o E.g. CONSOL & Talisman’s drilling operations haven’t been inspected > 10 years
Future Needs

• ATSDR + EPA is supporting 5 health consultations for communities
• State-wide health impact assessment is expensive, but necessary
• Funding for more community-level research
• Some counties would like more response training (CCAP, 2010)
• Increased and improved data transparency (from government & industry)
• Require industry to fund independent research directly or indirectly
References & Resources

References & Resources

• PA DEP. (2011). Marcellus Shale data. Found online: http://www.dep.state.pa.us/dep/deputate/minres/oilgas/new_forms/marcellus/marcellus.htm
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