Risk Perception about Hydraulic Fracturing in Eastern States

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Mission: Community Outreach and Engagement Core

- Engage community stakeholders in a collaborative process to select and address environmental health problems

- Engage researchers at the Center of Excellence in Environmental Toxicology and the other Environmental Health Core Centers to perform research on environmental health problems important to community stakeholders
Polarization of Communities
Community Engagement Lessons

- Information about process and health impacts lacking
- Physicians unable to answer their questions
- Some residents found the information from government and industry conflicting or unclear
- Substantial changes in communities affected people differently - some viewed positively and some negatively
- Some residents perceived great risk and others did not
Risk Perception

- Risk perception is a subjective evaluation of potential for harm that aids people in negotiating the uncertainties and potential dangers of life
  
  Paul Slovic, 1999, Risk Analysis, 19(4), 689-701

Voluntary vs. Involuntary

- People will accept much greater risks if they are voluntary

- The greater the perceived benefit the greater tolerance for the risk
Why Study Risk Perception?

- Increased risk perception is associated with adverse health outcomes

- Anger, fear and anxiety increase with increasing risk perception

- Negative affective states have been shown to increase pro-inflammatory reactivity which has implications for cardiovascular disease and cancer among others


- Anxiety can reduce productivity and if severe, be disabling
Risk Perception about Hydraulic Fracturing in Eastern States

- Poune Saberi MD, MPH, Jessica Fishman PhD, Kathleen Propert PhD, Trevor Penning PhD
- Kathleen Gray PhD, Janas Sinclair PhD
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- Katrina Korfmacher PhD
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- Erin Haynes PhD
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AIMS

- Design and validate a survey tool to assess risk perception in people living near HF
- Identify factors that affect risk perception among people living near HF as compared to those living elsewhere
- Disseminate findings to health professionals, communities, decision makers, and industry
- Inform the research agenda on the environmental health impacts of HF
- Mitigate risk and engage communities
Factors Associated with Risk Perception

ECONOMICS
- fair financial compensation
- level of financial security
- lawsuits
- experience with land leasing

TRUST and ACCOUNTABILITY
- government
- industry
- health agencies

UNCERTAINTY
- conflicting scientific information
- ambiguity of needed actions
- unclear exposures
- unclear timeframe of exposure

HEALTH
- medical illness
- children present
- pregnant women present

EXPERIENCE
- noise
- traffic
- flare
- fire or explosion
- proximity

Anxiety
Depression
Social Isolation
Sleeping difficulty
Loss of productivity
Methods

- Design survey
- Pilot survey in each state
- Administer survey online to 900 residents of NC, NY, OH & PA using market research group
- Analyze results
Outcomes

- Findings will inform communication for community stakeholders about risk perception regarding HF

- Existing communication and outreach tools will be tailored based on findings

- Outreach to physicians and other medical providers to discuss how factors associated with risk perception can be used in the care of patients

- Findings will inform the research agenda on the environmental health impact of HF

- Findings will inform industry about factors that may help to mitigate risk