SOUTHWEST PENNSYLVANIA ENVIRONMENTAL HEALTH PROJECT

A Healthcare Provider's Guide to Mental Health Impacts of Unconventional Oil and Gas Development (UOGD)

What the Research Says

There is a growing body of literature that reports on the potential health effects associated with UOGD activity, much of it focused on physical rather than mental health. Due to the lack of literature, this handout summarizes what has been learned from studies of communities impacted by disasters in the fossil fuel industry, such as supertanker or oil platform accidents. Immediate and some long-term mental health effects have been reported.

It also summarizes what has been learned about mental health in relationship to UOGD thus far.

"... residential proximity to industrial activity has a negative impact on mental health. This impact is both direct and mediated by individuals' perceptions of neighborhood disorder and personal powerlessness..."[10]

Introduction and Assessment of the Problem

Clients who live or work in a community with unconventional oil and gas development (UOGD) (often called "fracking") may experience environmental stressors including:

- noise, light, and vibration that accompanies drilling, often lasting days or weeks at a time;
- air or water quality changes;
- uncertainty of toxic exposures;
- increased emissions, noise, dust, and travel delays caused by truck traffic; and
- uncertainty over their health and their families' health.

Living with prolonged stress may lead to feelings of irritability, anxiety, or depression, as well as physical health effects such as high blood pressure and decreased resistance to infections.

Mental Health and the Fossil Fuel Industry

- Three months after the explosion of the Deepwater Horizon oil platform off the coast of Louisiana, residents reported symptoms that included suspiciousness, mistrust, dissention in the communities, uncertainty, anger, anxiety and symptoms consistent with general anxiety disorder and early post-traumatic stress disorder (PTSD), increased substance use, and increased violence.[1]
- One year after the Exxon Valdez tanker accident, residents of exposed communities were more likely to have generalized anxiety disorder, PTSD, and a positive screen for depression compared to residents of similar, non-exposed communities.[2] Six years later, symptoms of anxiety, depression, and PTSD persisted in a subgroup, suggesting that mental health effects may be long term in particularly vulnerable members of a community.[3]
- Immediately following the Braer tanker accident off the coast of Scotland, residents in exposed communities demonstrated changes in mood.[4] One year later residents in exposed communities demonstrated increased anxiety, insomnia, and somatic complaints, compared to non-exposed communities. There was no difference in depression between exposed and non-exposed.[5]
- A higher proportion of residents of exposed communities met criteria for depression and anxiety, when compared to residents of non-exposed communities, following the Sea Empress tanker accident off the coast of Wales.[6]
- More than one year after the Prestige tanker accident off the coast of Spain, residents of exposed communities had worse scores on standard depression and anxiety screening instruments than residents of similar, non-exposed communities. Furthermore, in the exposed communities, worse scores were associated with more intense exposure.[7,8]
- Following the Tasman Spirit accident, an increased proportion of residents of exposed communities in Pakistan reported anxiety specific to concerns about health, compared to those from unexposed communities.[9]

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Mental Health and UOGD Community Studies

- Psychological symptoms were reported by 79% of respondents in a community study conducted in Pennsylvania. Stress was the most frequently reported symptom, with the majority reporting being stressed about health concerns.[11]
- More than 1/3 of residents in a community study of 55 residents from 14 counties in Pennsylvania reported mental health symptoms, including depression and severe anxiety. In general, the percent of participants reporting symptoms increased with closer proximity to industrial facilities.[12,13]
- In a case study of one family in Texas, all family members reported depression, tension, and agitation.[14]
- More than ½ of participants in a community study in California reported mental health symptoms such as depression and anxiety.[15]
- A higher proportion of a convenience sample of adults in one county in Pennsylvania demonstrated a positive screen for depression compared to the expected proportion. In this sample, a low sense of control was associated with diminished mental health.[16]

Qualitative Studies

- Social change and sociocultural impacts related to unconventional natural gas development in one county in Pennsylvania have been linked to impacts similar to those seen in victims of bullying and other abuse and in communities that have experienced natural and human-caused disasters.[17]
- In an exploration of the meaning of health in the context of environment, participants expressed feelings of powerlessness over their own health and the health of their families. The sense of powerlessness was related to proximity to drilling activity; those participants who lived within close proximity, who could hear, see, or smell evidence of the industrial activity, expressed powerlessness over their living situation.[18]

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