# HOW SHALE GAS DEVELOPMENT (FRACKING) AFFECTS PUBLIC HEALTH

## Multiple risks to our health and environment

## ISSUES
- **Process of fracking:**
  - Disrupts natural environment such as land and publicly accessible water
  - Creates extensive infrastructure in multiple stages and sites
  - Produces large amounts of liquid and solid waste

## Health concerns:
- Chemical release associated with resource extraction such as endocrine disrupting chemicals
- Release of technically enhanced naturally occurring radioactive material (TENORMs) and naturally occurring radioactive material (NORMs)

## Inequality:
- Environmental justice
- Eminent domain

## ENVIRONMENTAL PATHWAY(S) OF EXPOSURE
- **Chemical and physical pollutants**
  - Air
  - Water
  - Soil
  - Particulate matter (PM)
  - Volatile organic compounds (VOCs)
  - Heavy metals
  - Liquid/solid waste

## EXPOSURE PATHWAY(S) DISRUPTING HEALTH
- **Inhalation**
- **Ingestion**
- **Skin contact**

## WHO IS IMPACTED
- Individual
- Community
- Population

## Magnitude of exposure such as:
- Duration
- Frequency
- Toxicity
- Distance/proximity to sources
- Source of emission and stage of production
- Aggregate/combination of emissions

## Vulnerability of the individual
- Occupational hazard

## SHORT TERM HEALTH EFFECTS
- Stress
- Eye, nose, throat irritation
- Skin irritation
- Headache
- Dizziness
- Nausea
- Asthma attacks
- Chest pains
- Acute bronchitis
- Short term memory impairment
- Decreased exercise tolerance
- Adverse effects on developing fetus

## LONG TERM HEALTH EFFECTS
- Worsening pulmonary or heart disease
- Asthma
- Chronic bronchitis
- Cancer such as nasal, throat, and lung
- Adverse effects on developing fetus
- Leukemia
- Aplastic anemia

Visit [www.environmentalhealthproject.org](http://www.environmentalhealthproject.org) for more information.