Climate Change and Public Health

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American Lung Association of the Mountain Pacific
Protests at Pasadena City Hall on November 9, 1954, followed by a clean sweep of smog in October.
Living with lung disease

- More than 100,000 children have asthma
- More than 500,000 adults have asthma
- 4,300 new cases of lung cancer annually
- More than 300,000 adults have COPD
- Deaths and illnesses from air pollution cost Washington at least $500m/annually
Particulate matter

HUMAN HAIR
50-70 μm (microns) in diameter

PM$_{2.5}$
Combustion particles, organic compounds, metals, etc.
< 2.5 μm (microns) in diameter

PM$_{10}$
Dust, pollen, mold, etc.
< 10 μm (microns) in diameter

Image courtesy of the U.S. EPA

American Lung Association®
Fighting for Air
• Coughing and wheezing
• Asthma attacks
• Lung cancer
• ER visits and hospital admissions
• Heart attacks, strokes
• Worsening of lung & cardiovascular diseases
• Premature death, especially infant and seniors
ASTHMA IN WASHINGTON (2010 data)

- More than 100 people hospitalized weekly
- $73m in asthma-related hospital expenses; about 60% paid by public funds (Medicare/Medicaid)
- 57,000 asthmatic adults visited an ER at least once; 164,000 total visits
- 22 percent of asthmatic adults missed work for $4.3million personal days of lost productivity
Co-benefits

- **Intergovernmental Panel on Climate Change**: emissions controls provide health benefits that offset a substantial fraction of mitigation costs.

- **MIT**: Human health benefits from better air quality offset 26-1050% of costs.

- **EPA’s Clean Power Plan, by 2030**: Avoid up to 6,600 premature deaths, up to 490,000 missed work or school days
  
  (-) $7.3-$8.8 billion in costs
  
  (+) $55-$93 billion in public health and climate benefits