

Health Effects of Ambient Ozone

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Ozone in New Jersey

Results from American Lung Association's *State of the Air: 2014* report

NJ counties / Weighted avg. days / Grade / US rank (worst of 733):

- Atlantic	4.0	F	238	- Hunterdon	7.0	F	130
- Bergen	5.7	F	169	- Mercer	11.7	F	62
- Camden	15.3	F	33	- Middlesex	12.3	F	54
- Cumberland	5.7	F	169	- Monmouth	8.2	F	105
- Essex	8.0	F	108	- Morris	5.0	F	195
- Gloucester	14.0	F	39	- Ocean	11.8	F	59
- Hudson	4.8	F	207	- Passaic	2.7	D	329

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Health Effects of Ozone

Ozone causes:

- Lung inflammation
- Increased airway reactivity
- Shortness of breath
- Wheezing and coughing
- Chest pain when inhaling deeply
- Reduced lung function
- Increased asthma attacks
- Increased susceptibility to infection
- Increased need for medical treatment, hospitalization and emergency department use
- Death



healthy lung airway (left) and an inflamed lung airway (right)
Photos courtesy of PENTAX Medical Company.

From the Science

Features of Key Ozone Studies:

- Long-term exposure risks
- Short-term risks
- Studies in people
 - Controlled exposure studies
 - Longitudinal studies in large cohorts
- Effects repeatedly demonstrated
- Effects shown at levels even below 60 ppb
(most stringent standard ALA advocates for)
- Effects seen in other diseases
- Effects seen in other populations
- Persistence of impacts
- Including early death



From the Science

Conclusions of Some Key Ozone Studies:

- Cardiovascular harm
- Lower birth weight
- Decreased lung function in newborns
- New asthma in children playing sports
- Hospitalization for respiratory disease
- Traffic linked to asthma
- Symptoms in healthy adults
- Synergism with allergens
- CNS harm
- Reproductive harm
- Developmental harm



The National Ambient Air Quality Standard

The Clean Air Act requires updating of air quality standards every 5 years



- EPA proposed on Nov. 25, 2014 to strengthen the health-based standard.
- EPA's Clean Air Scientific Advisory Committee unanimously concluded
 - Current 75 ppb standard inadequate
 - New standard of 60 ppb would give best protection
- The American Lung Association submitted a letter to EPA in support of a 60 ppb standard signed by over 1,000 health professionals.

Costs and Benefits of a Stronger Ozone Standard

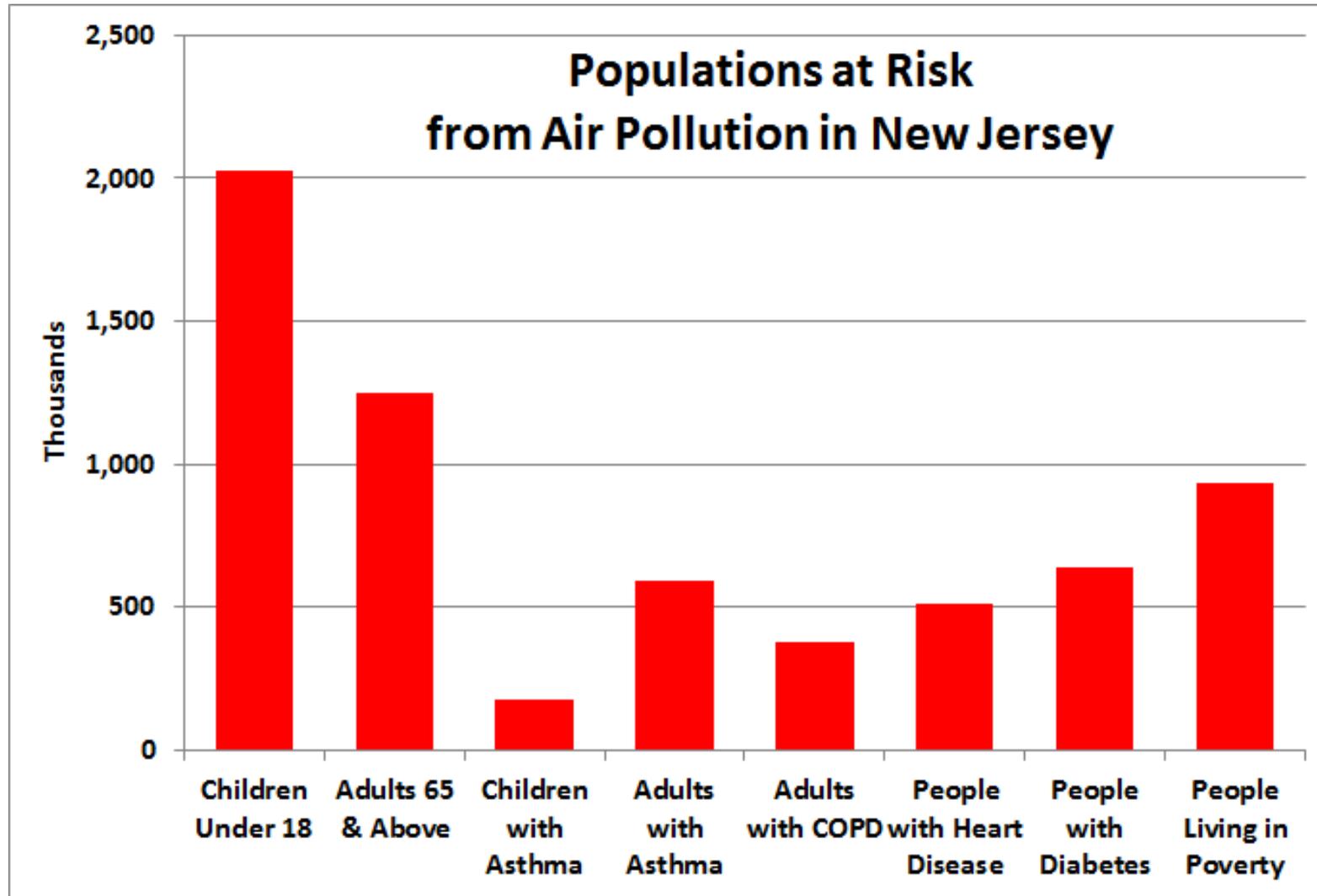
- National benefits of a 65 ppb ozone standard (excluding California):
 - **Up to \$38 billion per year**
- Benefits outweigh the costs, estimated at:
 - **Up to \$15 billion per year**
- Reducing ozone and particle pollution nationwide (excluding California) in 2025 will avoid:
 - **Up to 4,300** premature deaths
 - **Up to 960,000** asthma attacks among children
 - **Up to 1 million** days when kids miss school
 - **Up to 180,000** missed work days
 - **Up to 4,300** asthma-related emergency room visits
 - **Up to 2,300** cases of acute bronchitis among children

Who are at risk from ozone?

- Adults with Asthma
- Children with Asthma
- Children and teens
- Seniors
- People with chronic lung diseases
- People who work or exercise outdoors
- “Responders”



Estimated Populations at Risk from Air Pollution in New Jersey



Our Credo

We will breathe easier when the air in every American community is clean and healthy.

We will breathe easier when people are free from the addictive grip of tobacco and the debilitating effects of lung disease.

We will breathe easier when the air in our public spaces and workplaces is clear of secondhand smoke.

We will breathe easier when children no longer battle airborne poisons or fear an asthma attack.

Until then, we are fighting for air.