

Air Pollution and Children's Health

The New England Journal of Medicine has begun a new series exploring the public health impacts of climate change. On Thursday, the first in a series of articles explored a "growing concern" that pollution and climate change are adversely affecting children's health.

EXPOSURE PATHWAYS

- **Extreme weather events**
- **Heat stress**
- **Air quality**
- **Water quality and quantity**
- **Food supply and safety**
- **Vector distribution and ecology**
- **Social factors**

SUSCEPTIBILITY FACTORS

Factors that increase exposure

- ▼ Longer exposures over lifetime
- ▼ More time spent outdoors
- ▼ Increased air and water intake
- ▼ Increased metabolism



Conditions that impair ability to adapt

- ▼ Worsening nutrition and food scarcity
- ▼ Displacement in extreme weather conditions
- ▼ Inadequate access to healthcare during development



Biological factors

- ▼ Developing organs
- ▼ Greater fluid and nutritional requirements
- ▼ Poor thermoregulation under extreme heat conditions
- ▼ More permeable skin and blood-brain barrier
- ▼ Less effective nasal filtration

FETUS, INFANT AND CHILD HEALTH EFFECTS

- Adverse pregnancy outcomes
- Allergic disease
- Cardiovascular disease
- Dermatologic disease
- Heat-related illness
- Immune disorders
- Infections
- Malnutrition and stunting
- Mental health conditions
- Metabolic and renal disease
- Neurodevelopmental impairments
- Respiratory disease
- Trauma

