



Why do our policies need to specifically consider children?

CHILDREN'S ENVIRONMENTAL HEALTH NETWORK

- Children's bodies and behaviors differ from adults. In general, they are more vulnerable than adults to toxic chemicals.
- Children are growing. Pound for pound, children eat more food, drink more water and breathe more air than adults. Thus, they are likely to be more exposed to substances in their environment than are adults. Children have higher metabolic rates than adults and are different from adults in how their bodies absorb, detoxify and excrete toxicants.
- Children's systems, including their nervous, reproductive, digestive, respiratory and immune systems, are developing. Studies make clear that not just the degree and route of exposure but also the timing of the exposure affects the response. This process of development creates periods of vulnerability when toxic exposures may result in irreversible damage when the same exposure to a mature system may result in little or no damage.
- Children behave differently than adults, leading to a different pattern of exposures to the world around them. For example, they exhibit hand-to-mouth behavior, ingesting whatever substances may be on their hands, toys, household items, and floors. Children play and live in a different space than do adults. For example, very young children spend hours close to the ground where there may be more exposure to toxicants in dust, soil, and carpets as well as low-lying vapors such as radon, mercury vapor or pesticides.
- Children have a longer life expectancy than adults; thus they have more time to develop diseases with long latency periods that may be triggered by early environmental exposures, such as cancer or Parkinson's disease.
- The world in which today's children live has changed tremendously from that of previous generations. There has been a phenomenal increase in the substances to which children are exposed. According to the EPA, more than 83,000 industrial chemicals are currently produced or imported into the United States. Thousands of chemicals are ubiquitous in our environment worldwide. Traces of hundreds of chemicals are found in all humans and animals. Every day, children are exposed to a mix of chemicals, most of them untested for their effects on developing systems. Many of these chemicals are readily passed across the placenta to the fetus, to the infant via breast milk, or via toys and other children's products. Many of these chemicals are also ingested in food and water and through the lungs by respiration of contaminated air.

Given these differences between children and adults, how have we regulated? Traditionally,

- standards are usually based on healthy adult males;
- regulations don't consider children's differing behavior or exposures;
- testing requirements don't consider the full range of vulnerabilities of developing systems;

- standards assume exposure to one chemical at a time;
- standards do not adequately consider the length of children's lives or the potential for a toxicant to affect subsequent generations; and
- standards balance health with other considerations, such as cost.

Does this approach adequately take children into account? The National Academy of Sciences (NAS) investigated this question as it relates to the regulation of pesticides, and determined that the answer was no.

Policy-making should be based on sound science:

- Every child experiences particular windows of vulnerability from conception through adolescence. Exposure at those moments of vulnerability to environmental hazards can lead to permanent and irreversible damage.
- These windows of vulnerability do not exist for adults, so standards based on effects on mature systems will not take into account children's vulnerabilities.
- Children's exposures to environmental toxicants are not the same as adult exposures; exposure estimates based on adult exposures are likely to understate children's exposures.
- Past practices which do not take children's vulnerabilities and exposures into account cannot be assumed to be protective of children's health.