



# School Pesticide Monitor

A Bi-Monthly Bulletin on Pesticides and Alternatives  
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## Studies Showcase the High Cost of Environmental Illness in Children

Three new studies reveal the staggering economic impact of toxic chemicals and air pollutants in the environment on children, and propose new legislation to mandate testing of new chemicals and also those already on the market. The studies, "Environmental Disease in Kids Cost \$76.6 Billion in 2008," "Children's Vulnerability to Toxic Chemicals," and "Pollutants and Respiratory Illness in Infants," were published in the May issue of the journal *Health Affairs* (Vol. 30, No. 5), by Mount Sinai School of Medicine. These studies are available here: <http://bit.ly/HealthAffairsPub>

Researchers analyzed the costs of

conditions – including lead poisoning, childhood cancer, asthma, autism, and attention deficit hyperactivity disorder (ADHD) – associated with exposure to toxic chemicals. The team calculated both the annual cost for direct medical care as well as the indirect costs, which include parents' lost work days and lost economic productivity for time spent caring for their children. From here, researchers found the annual cost in the United States to be a whopping \$76.6 billion, which is approximately 3.5 percent of the total U.S. health care costs in 2008.

"Our findings show that, despite previous efforts to curb their use, toxic

chemicals have a major impact on health care costs and childhood morbidity," said lead author of the first study, Leonardo Trasande, MD. "New policy mandates are necessary to reduce the burden of disease associated with environmental toxins. The prevalence of chronic childhood conditions and costs associated with them may continue to rise if this issue is not addressed."

Dr. Trasande also reviewed an earlier study of 1997 data, which was conducted by Philip J. Landrigan, MD, and documented \$54.9 billion in annual costs for childhood diseases associ-

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## Denver Mom Petitions to Get Pesticides Off of School Grounds

The Edison Elementary Green Team, a group of concerned parents in Denver, Colorado asked the Denver Public School Board to stop the use of harmful chemicals. The group has been petitioning since mid-May, collecting over 1,000 signatures of concerned parents and community members urging the school board to reconsider its contract with TruGreen ChemLawn which ends on July 1. Sign the petition here: <http://bit.ly/Denver-Petition>

The issue began for Nicole Baumann, one of the concerned parents who started the petition, when she heard other parents describe an incident when TruGreen sprayed the herbicide

2,4-D on school grounds while kids were playing soccer and parents were standing outside waiting to pick up their children. School officials say they do not know what happened that day; however Trena Deane, executive director of facilities management for Denver Public Schools (DPS) told *Education News Colorado* that they have no reason to believe TruGreen was misapplying them, and that the chemicals are typically not toxic unless they are used inappropriately.

However, 2,4-D has been linked to numerous health effects, including cancer, reproductive effects, endocrine disruption, and kidney and liver damage. Scientific studies have con-

firmed significantly higher rates of non-Hodgkin's lymphoma for farmers who use 2,4-D than those who don't; dogs whose owners use 2,4-D on their lawns are more likely to develop canine malignant lymphoma than those whose owners do not. It is the top selling herbicide for non-agricultural use, such as lawns, in the United States.

Children are especially sensitive and vulnerable to pesticides because of their rapid development and behavior patterns. Adverse health effects, such as nausea, dizziness, respiratory problems, headaches, rashes, and mental disorientation, may appear even when a pesticide is applied according to label

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## **Denver Petition**

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directions. Pesticide exposure can adversely affect a child's neurological, respiratory, immune, and endocrine system and have been shown to cause or exacerbate asthma symptoms. Studies show that children living in households where pesticides are used suffer elevated rates of leukemia, brain cancer, and soft tissue sarcoma. Because most of the symptoms of pesticide exposure, from respiratory distress to difficulty in concentration, are common in school children and may also have other causes, pesticide-related illnesses often go unrecognized and unreported.

"These kids are rolling around in the grass," Ms. Baumann told *Change.org*. "Our kids' immune systems are not

really developed yet. They're susceptible. Why would we knowingly apply this where our kids are playing in the grass when we know there are other options out there that are safe?"

School is a place where children need a healthy body and a clear head in order to learn. Numerous scientific studies find that pesticides typically used in schools are linked to chronic health effects such as cancer, asthma, neurological and immune system diseases, reproductive problems, and developmental and learning disabilities. Well defined integrated pest management in schools has proven to be an effective and economical method of pest management that can prevent pest problems and eliminate the use of hazardous pesticides in school buildings and on school grounds.

Many communities across the country have taken a stand against the use of toxic pesticides on their lawns and landscapes, and you can too! For assistance organizing a campaign to stop pesticides in your school, proposing a policy to your city council, or simply talking to others about pesticide reform, contact Beyond Pesticides at [info@beyondpesticides.org](mailto:info@beyondpesticides.org) or 202-543-5450. For more information on being a part of the growing child-safe lawn care movement, see [www.beyondpesticides.org/schools](http://www.beyondpesticides.org/schools) and [www.beyondpesticides.org/lawn](http://www.beyondpesticides.org/lawn).

Live in the Denver area? Read and Sign the Petition by the Edison Elementary Green Team to stop the use of pesticides with harmful chemicals at Denver Public Schools: <http://bit.ly/DenverPetition>.

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## **Environmental Health Cost**

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ated with environmental toxicants in the United States. Reviewing this prior analysis, Dr. Trasande found that while exposure to lead and costs associated with asthma had diminished, new chemicals and new environmentally-induced diseases, like ADHD, have increased the overall burden of disease.

In the second study mentioned, Dr. Landrigan and Lynn R. Goldman, MD, propose a three-pronged approach to reduce the burden of disease and rein in the effects of toxic chemicals in the environment:

1. Conduct mandatory examinations of chemicals already on the market for potential toxicity, starting with the chemicals in widest use, using new, more efficient toxicity testing technologies.
2. Assess all new chemicals for toxicity before they are allowed to enter the

marketplace, and maintain strictly-enforced regulation on these chemicals.

3. Strengthen ongoing research and epidemiologic monitoring to better understand, and subsequently prevent, the health impact of chemicals on children.

"Implementing these proposals would have a significant impact in preventing childhood disease and reducing health costs," said Dr. Landrigan. "Scant legislation has been passed to reduce the risks associated with childhood exposure to toxic chemicals in the environment. Even though only six chemicals have been banned, we have seen dramatic benefits from that action alone. The removal of lead from gasoline and paint is an example of the importance of this type of regulation."

In the last study mentioned, Perry Sheffield, MD, evaluated the little-studied correlation between air pollution and infectious respiratory illness in children, and the subsequent costs

to health care. Dr. Sheffield and her team analyzed hospitalization data between 1999 and 2007 for children aged one month to one year who had bronchiolitis – a type of viral lung infection with symptoms similar to asthma – and monitored the air quality surrounding in the hospitals where the patients were treated. Her team revealed that as the amount of air pollutants increased, infant bronchiolitis hospitalization costs increased by an average of \$127 per patient.

The common diseases affecting the public's health are all too well-known in the 21st century. Their connection to environmental contaminants, especially pesticides, continues to strengthen despite efforts to mitigate chemical risk under the current risk assessment-based policy. Beyond Pesticides believes there is an urgent need for public policy at all levels –local, state, and national—to end dependency on toxic pesticides, replacing them with carefully defined integrated pest management strategies.