A Generation in Jeopardy

How pesticides are undermining our children’s health & intelligence
Kids face health challenges

This generation is experiencing diseases & disorders their parents or grandparents were unlikely to face.
Children’s Health Harms on the Rise, 1975 - 2011

- **Developmental Disabilities**: 17% increase overall, ages 3-17 (1997-2008)
- **ADHD**: 3% increase every year, ages 6-17 (1997-2006)
- **Autism**: 78% increase, age 8 (2002-2008)
- **Childhood Cancers**: 25% increased incidence, ages 0-19 (1975-2004)
- **Diabetes**: 53% increase, ages 0-19 (1990-2011)
- **Obesity**: 171% increase, ages 6-11 (1980-2004)
Kids face health challenges

- **Developmental disabilities.** 400,000 to 600,000 of the 4 million children born each year are affected.

- **Childhood cancer:** Overall incidence up 25% since 1975; leukemia & childhood brain tumors up 40% and 50%, respectively.

- **Asthma:** More than 7 million now affected, up from 2 million in 1980.
ADHD increased average of 3% per year, 1997-2008

Autism prevalence has jumped in past decade

Rates of autism have risen dramatically in the past decade. While overall prevalence is higher among boys, the rate of increase is higher among girls. Source: C. Boyle et al, “Trends in the Prevalence of Developmental Disabilities in U.S. Children, 1997–2008.”
Increased incidence of cancer

Over the past 30 years, the number of children diagnosed with all forms of cancer has increased from 11.5 to 14.8 cases per 100,000 children per year.

Source: SEER, 2004
Pesticides contribute to childhood health harms

Particularly compelling data:

- Brain & nervous system.
- Certain childhood cancers.
Prenatal exposure to OP pesticides:

- Children more likely to have developmental disorders -- including autism -- by age 3.
- Children more likely to have increased attention problems & ADHD by age 5.
Pesticides linked to changes in brain structure

- Children exposed to **chlorpyrifos** in the womb showed differences in MRI images of the brain.
- Areas related to attention, language, emotions and control were all affected.
Kids are exposed to pesticides where they live, learn & play

Environments we’d like to consider “safe” — from womb to classroom to kitchen table — often bring children into contact with harmful pesticides.
Kids are exposed to pesticides where they live, learn & play

Relative to their size, children eat, breathe and drink much more than adults.
Kids are exposed to pesticides where they live, learn & play

- Even at very low levels, interference from pesticides at critical moments can derail development.
- Some effects can last a lifetime.
Pesticides and Parkinson’s

- Maneb
- Paraquat
- Ziram
- Rotenone
- Synergistic effects
Guarantee a solid start for kids

How?

- Individual choices help.
- We need local & national policy change.
What health professionals can do

✓ Personal choices:
  Organic food, when possible.
  Integrated Pest Management practice

✓ Community decisions:
  Pesticides in public places
  Farmers markets
  Retailers
What health professionals can do

– Research and publications - carrying out research on relevant topics

– Communication and information
Online Resources

- Healthy Kids Campaign :: www.panna.org/current-campaigns/kids-health
- What’s On My Food? www.whatsonmyfood.org
- Analysis :: GroundTruth Blog, www.panna.org/blog
- Pesticide information :: detailed toxicity & regulatory info, www.pesticideinfo.org