

Children's Environmental Health Training Programs

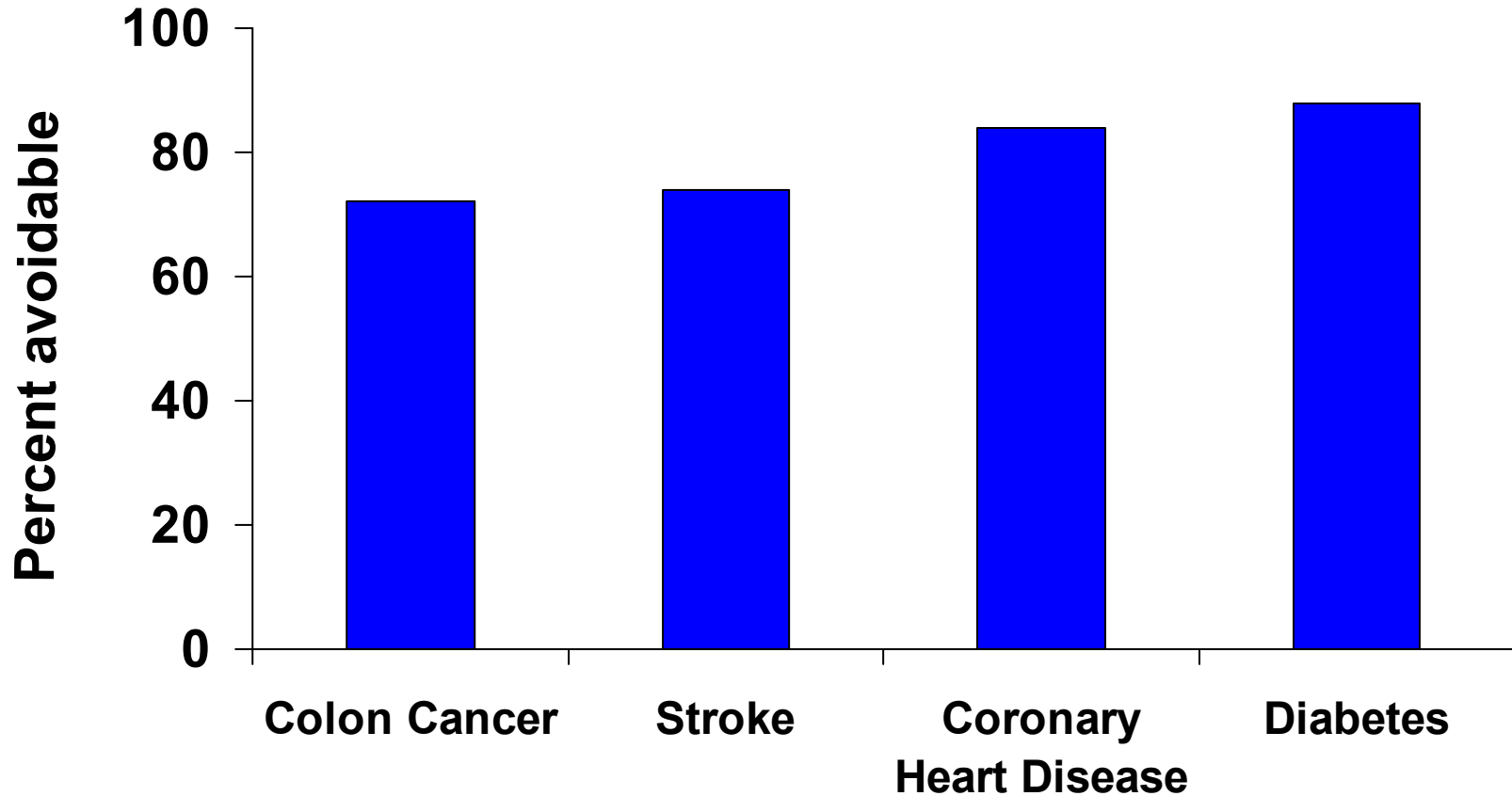
- NRSA-funded Pediatric Environmental Health Training Program
- NIEHS-funded Molecular Epidemiology for Children's Environmental Health Training Program

Heritable and Environmental Factors in Cancer

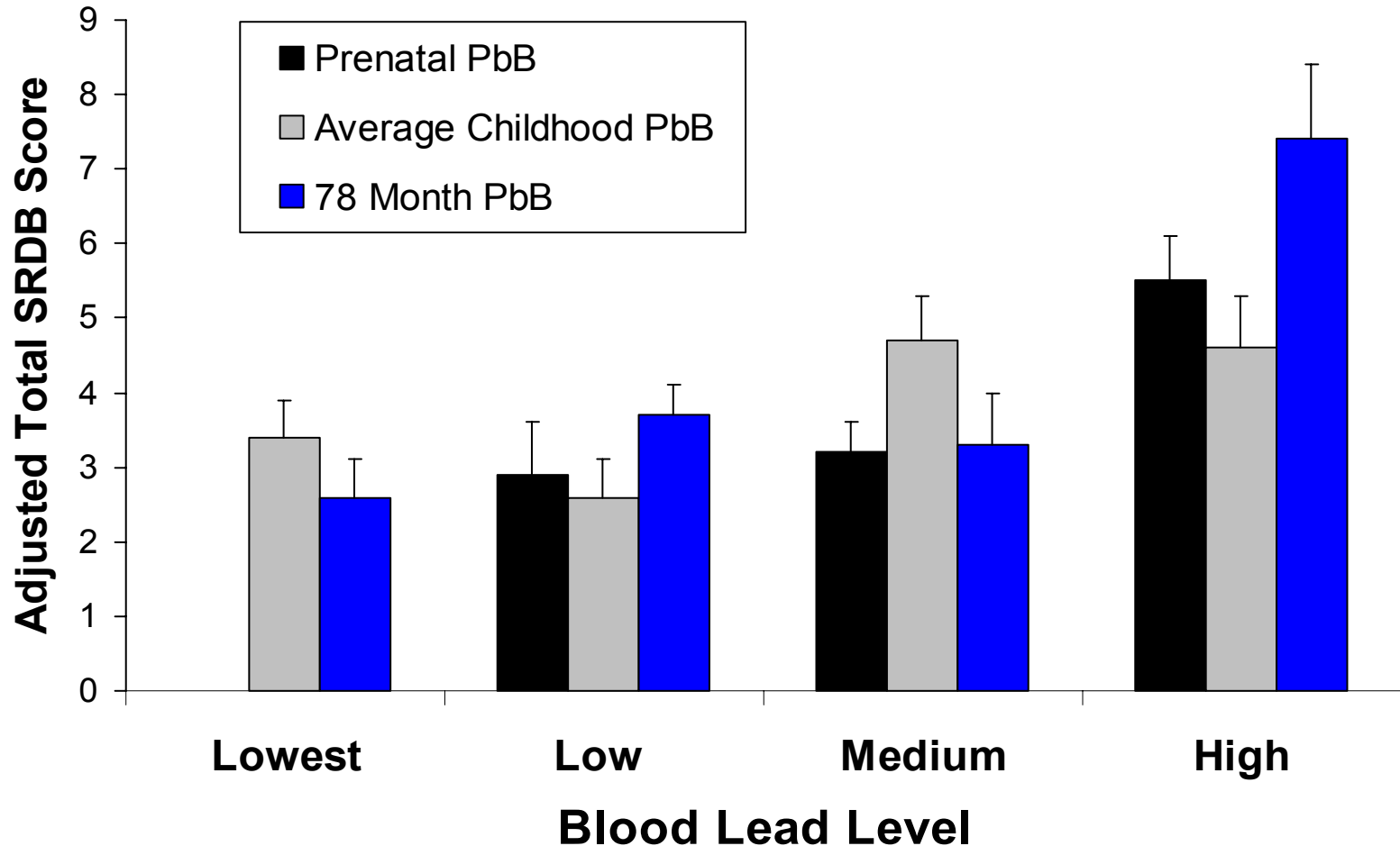
Site or Type	Heritable Factors (%)	Environmental Factors (%)
Stomach	28	72
Colorectum	35	65
Lung	26	84
Cervical Cancer	0	100
Prostate	42	58
Leukemia	21	78

Lichtenstein P, NEJM 2000;343:78-85.

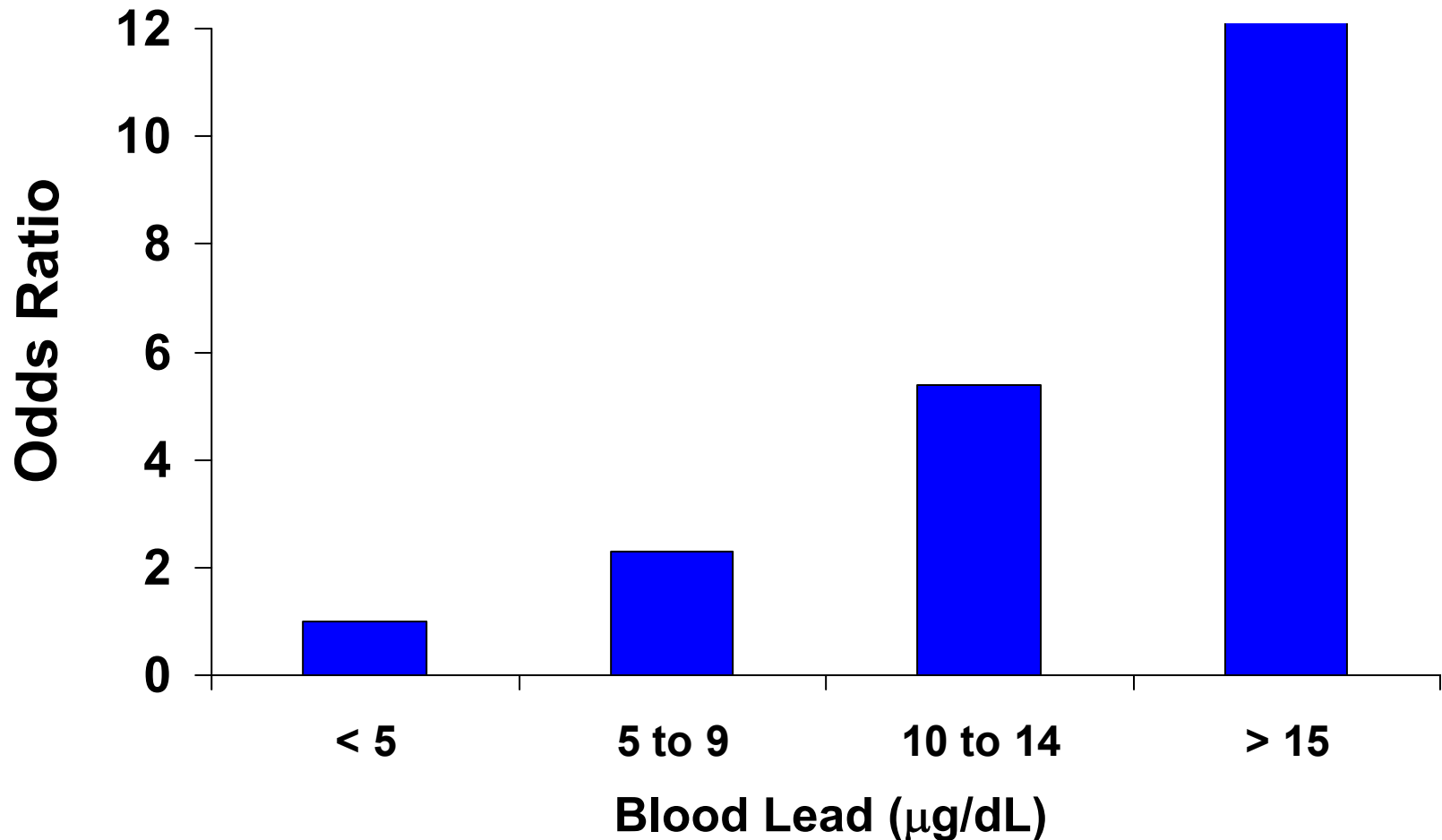
Proportion of Major Diseases due to Environmental Factors



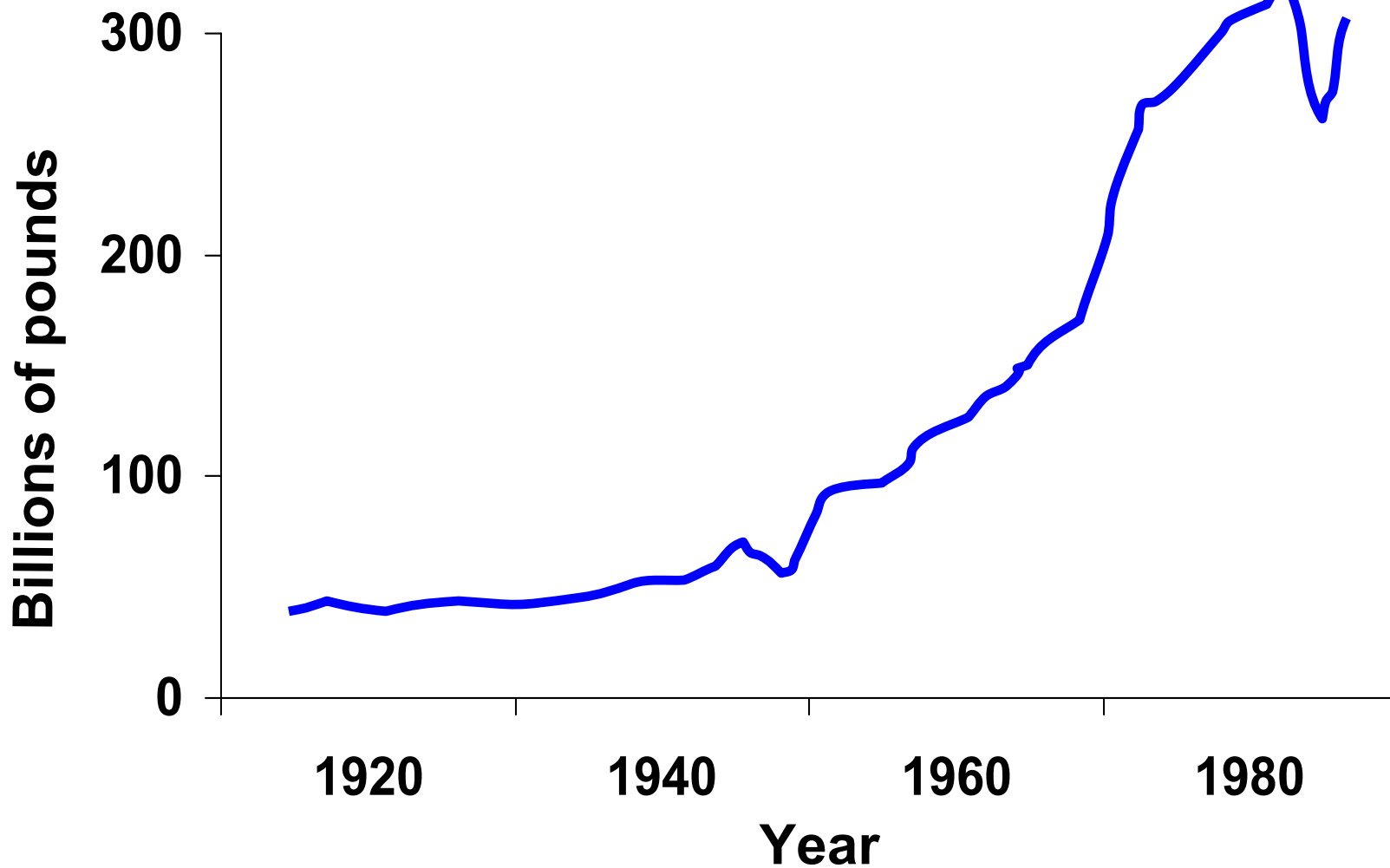
Association of Blood Lead Levels and Delinquency in Adolescents



Risk for Spontaneous Abortion by Maternal Blood Lead Concentration



Annual Production of Total Synthetic Chemicals in the U.S.



Failure of Toxicity Testing

- Of the nearly 3,000 high production volume chemicals, 75% lack even the most basic toxicity tests. ¹
- Of the 140 registered pesticides EPA considers to be neurotoxic, the majority have not been tested for developmental neurotoxicity. ¹
- Animal testing may not be sensitive enough to protect humans. ²
- Lack animal models for important human skills, such as reading.

1. Claudio L. Toxicol Appl Pharm 2000;164:1-14.

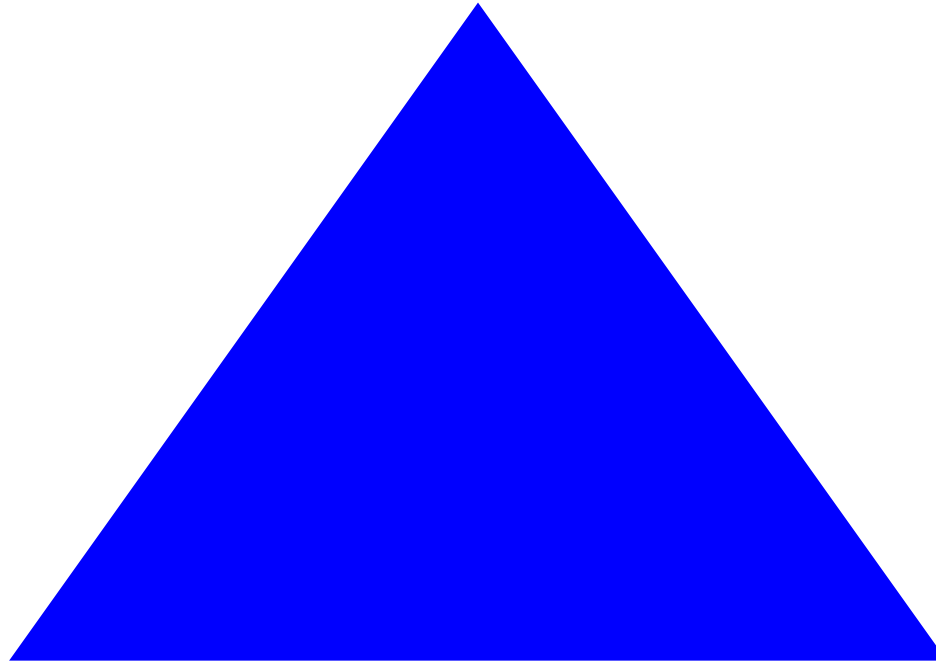
2. Rice D. Env Health Persp 1996;104:205-215.

Environmental Health

- **The study and prevention of disease and illness due to unintentional exposure to physical, biologic and chemical agents.**

Children's Environmental Health

Advocacy

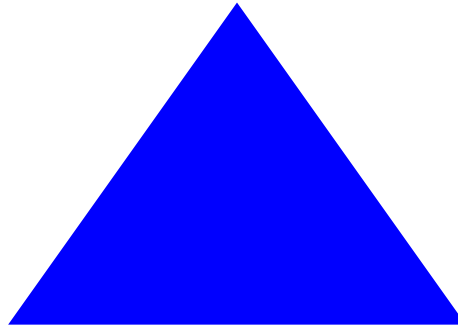


Research

Policy

Research

Advocacy



Types of Prevention

- Education
- Enforcement
- Engineering

**Children's Environmental
Health Fellowship Training
Program**

Goal of Children's Environmental Health Training Program

- To train future leaders in children's environmental health who will conduct rigorous research to understand and control disease or disabilities, such as intellectual impairments, behavioral problems, asthma and injuries, that are linked with the environment.

Objectives of Children's Environmental Health Training Program

- Identify environmental antecedents of diseases in childhood
- Use biomarkers and genetic technology to improve understanding of environmentally-induced disease in children
- Explore gene-environment interactions for diseases of environmental origins
- Prevent and control environmentally-induced disease in children

Fellowship Requirements

- 3-year training program
- Conduct 1 original research project
- Conduct 1 secondary analysis
- Write 1 or more grant proposals
- Present at 1 or more national meetings
- M.S. (Epidemiology) or MPH