

“Translating Basic Research to Protect People and their Communities

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And
Agency for Toxic Substances and Disease Registry

Conclusions

- 1) Basic Research is good but has little value until it can be applied.
- 2) Applied services are fine but have little value unless effective.
- 3) Both applied and basic science programs benefit from collaboration.
- 4) Increased effort from both SBRP and ATSDR to collaborate is justified.

Environmental Public Health at CDC

1946 - today

- 20th Century Public Health Accomplishments
- CDC timeline: 1946 - today
- Creation of EPA: 1971
- Creation of CERCLA and ATSDR: 1981
- Bioterrorism and public health: 1999 - today

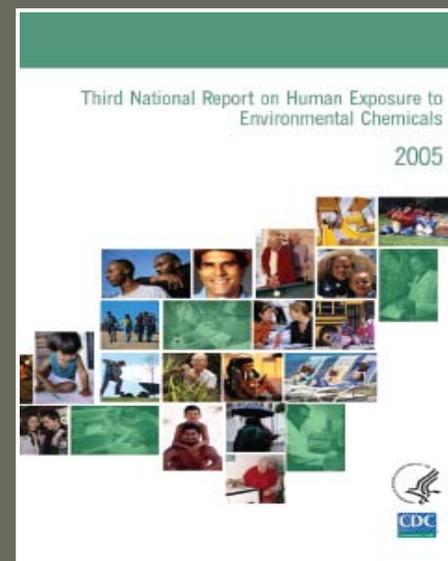


The National Center for Environmental Health

- Preventing asthma
- Preventing childhood Pb poisoning
- Measuring people's exposures to chemicals
- Investigating disease outbreaks and exposures
- Improving local/state environmental services
- Newborn bloodspot screening - other QA programs
- Linking environmental data and health data
- Protecting refugees and displaced populations
- Protecting passengers on cruise ships.

CDC's Biomonitoring Program

1. Assessment of the chemical exposures of the U.S. population
2. Human exposure and health effects studies
3. Laboratory response to chemical and radiologic emergencies



Agency for Toxic Substances and Disease Registry

- Evaluate human health risks from toxic sites and releases and conduct timely, responsive public health actions.
- Determine the relationship between exposure to toxic substances and disease.
- Develop and provide reliable, understandable information for affected communities and stakeholders.

The ATSDR toolbox

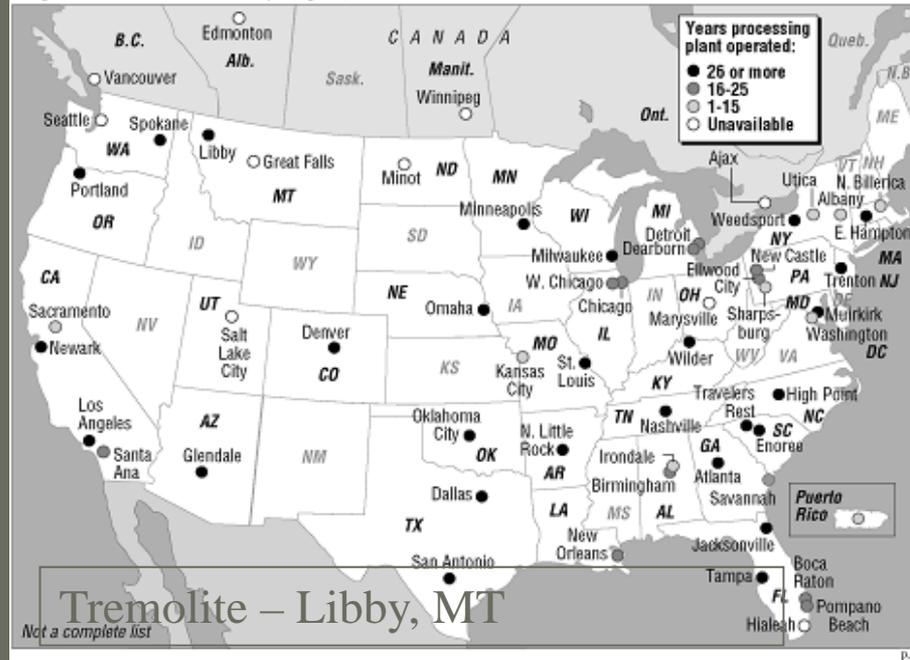
- Health Assessments and Consultations
 - State Cooperative agreements
 - Exposure Investigations
 - Community education
- Toxicologic Profiles and related documents
 - Minimal risk levels (MRLs = RfDs)
 - Research Gaps
 - Clinician education
- Health Studies
 - Exposure Registries
 - Hazardous event surveillance
 - Great Lakes Research Program
- Emergency Response
- Regional Offices



Jerry Ensminger holds a portrait of his daughter Janey in White Lake, N.C., Wednesday, May 9, 2007. Ensminger's wife was pregnant at Camp Lejeune in the 1970s. Their daughter, Janey, died in 1985 of leukemia at age 9. He described taking dark-haired Janey to the hospital instead of her third-grade classroom, weeping as he watched her slip away. "My question is how many more of these scenarios played out in private hospital rooms or in private rooms of people's homes?" Ensminger asked, who believes Janey died from contamination of drinking wells years ago at North Carolina's Marine Base Camp Lejeune. (Gerry Broome/ AP Photo)

Plants that processed asbestos-tainted ore

Millions of tons of the same asbestos-tainted vermiculite ore that sickened and killed hundreds in Libby, Mont., was shipped to plants in cities across the United States and Canada. The mine operated from 1924 to 1990. Some of the plants were owned or licensed by the mine's owners, the Zonolite Co., and after 1963, the W.R. Grace Co. Other plants were operated by firms that bought the ore. The ore was used in potting soil, insulation and other construction materials.



Health Assessments And Consultations



Preparedness and Response



Hurricane Katrina



Kingston, Tennessee

Mold
Prevention Strategies and
Possible Health Effects
in the Aftermath of
Hurricanes Katrina and Rita
The CDC Mold Work Group
National Center for Environmental Health
National Center for Infectious Diseases
National Institute for Occupational Safety
and Health
Centers for Disease Control and
Prevention
October 2005



Indoor Air Issues ... formaldehyde and travel trailers (CDC 02/08 findings)

- Formaldehyde levels in occupied trailers were elevated.
- On average levels were 77 ppb.
- Under-represent long-term exposures.
- Formaldehyde levels varied by model (mobile homes, park homes, and travel trailers), but all types of trailers tested had some high levels.
- At the levels seen in many trailers, health could be affected.



Indoor Air Issues ...

- Vapor intrusion
 - Prevention
 - Remediation
 - Risk Assessment
 - Health Effects
- Hg in synthetic flooring
- Best Practices
- Mold

Basic Research Needs for Emerging Hazardous Substances ... perflourinated compounds.

- Mechanistic and body burden differences across species.
- Establishment of critical health endpoint.
- Determination of LOAEL
- Derivation of RfD (MRL)

Basic Research Needs for Emerging Hazardous Substances ... perchlorate

- Establishing vulnerable populations.
- Evaluating exposure pathways and exposure prevention.
- Cumulative effect via common mechanistic pathway.
- Adequacy of the LOAEL.



U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF INSPECTOR GENERAL

Catalyst for Improving the Environment

Science Review

Office of Inspector General Scientific Analysis of Perchlorate

Assignment No. 2008-0010

December 30, 2008

EXTERNAL REVIEW DRAFT
FOR SCIENTIFIC REVIEW AND SCIENTIFIC COMMENT ONLY

Additional Site Priorities

- Construction Landfills
- CAFOs
- Waste Debris Ponds
- Naturally Occurring Asbestos

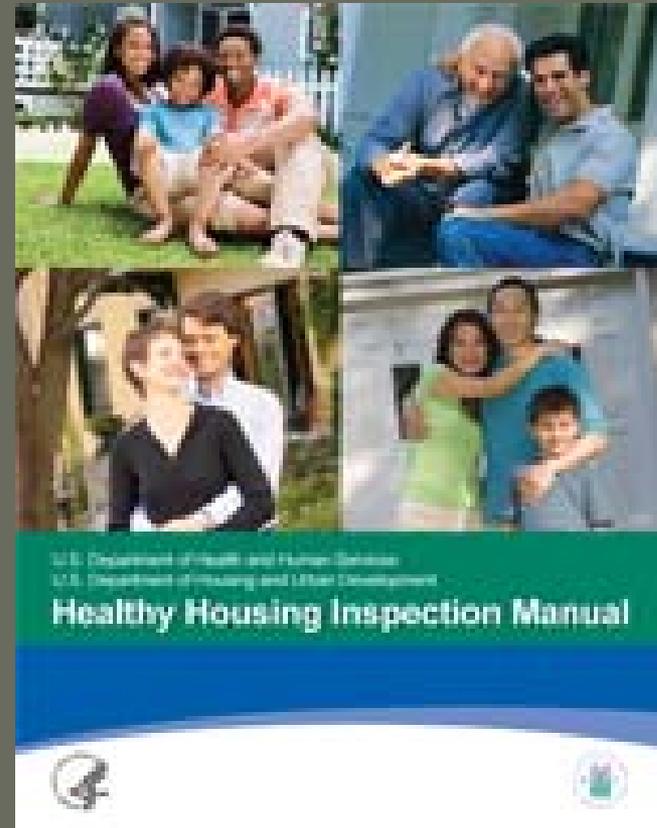
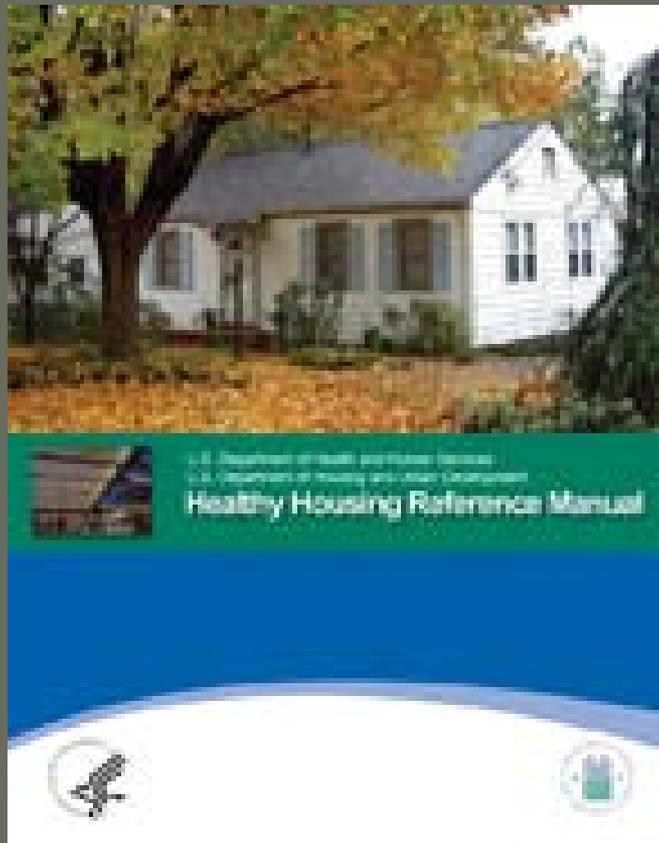


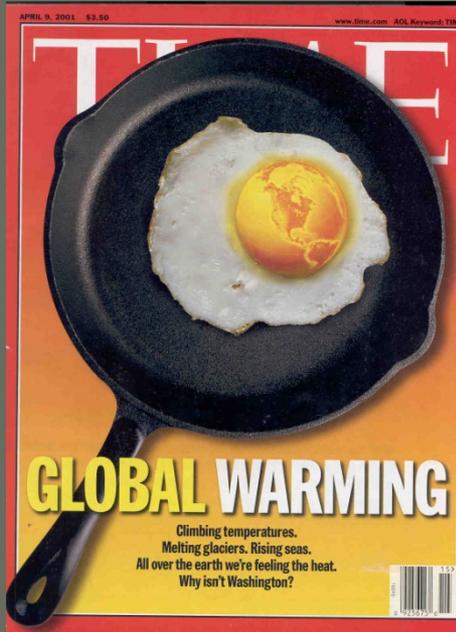
City view Mall, Garfield Heights, OH



Coal Sludge, Kingston, TN

Focusing on a single environment to prevent a multitude of illnesses





- Defining our role.
- Mitigation vs Adaptation
- Direct and Indirect Effects

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American College of Preventive Medicine, Association for Prevention Teaching and Research

CDC's Healthy Communities portfolio: Research

| PUBLIC HEALTH MATTERS |

The Impact of Community Design and Land-Use Choices on Public Health: A Scientific Research Agenda

Andrew L. Dannenberg, MD, MPH, Richard J. Jackson, MD, MPH, Howard Frumkin, MD, DrPH, Richard A. Schieber, MD, MPH, Michael Pratt, MD, MS, MPH, Chris Kochtitzky, MSP, and Hugh H. Tilson, MD, DrPH

The design of a community's built environment influences the physical and mental health of its residents. Because few studies have investigated this relationship, the Centers for Disease Control and Prevention hosted a workshop in May 2002 to help develop a scientific research agenda on these issues.

Workshop participants' areas of expertise included physical activity, injury prevention, air pollution, water quality, urban planning, transportation, architecture, epidemiology, land use, mental health, social capital, housing, and social marketing. This report describes the 37 questions in the resulting research agenda.

The next steps are to define priorities and obtain resources. The proposed research will help identify the best practices for designing new communities and revitalizing old ones in ways that promote physical and mental health. (*Am J Public Health*. 2003;93:1500-1508)

architecture, epidemiology, land use, mental health, social capital, health policy, housing, and social marketing.

Before the workshop, participants were asked to provide, from their areas of expertise, 2 scientific research questions "that if answered would further our knowledge of the relation of public health to community design and land-use choices." During the workshop, these draft research questions were refined and edited by small groups, and the full workshop panel then discussed them further and made additions. After the workshop, a summary of these discussions was circulated for

The design choices we make in our homes, schools, workplaces, communities, and trans-

with low socioeconomic status may suffer disproportionately from the adverse conse-

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