Creating Healthier Homes for Healthier Children: An EPA Perspective

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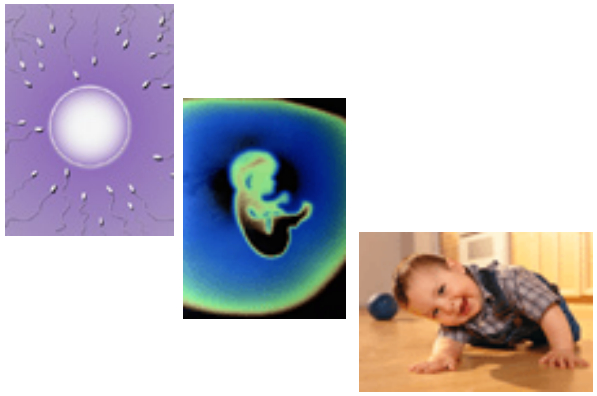
Goals

- **Identify unique environmental exposures to children**
- **Discuss how EPA addresses children's health in the home through outreach and education, science and research, and regulatory action**
- **Provide real-life examples of how EPA works with national, regional, state and local organizations to reduce environmental exposures in homes and improve children's health**

Children Are Not Little Adults



Windows of Vulnerability in Development

Differences in Physiology

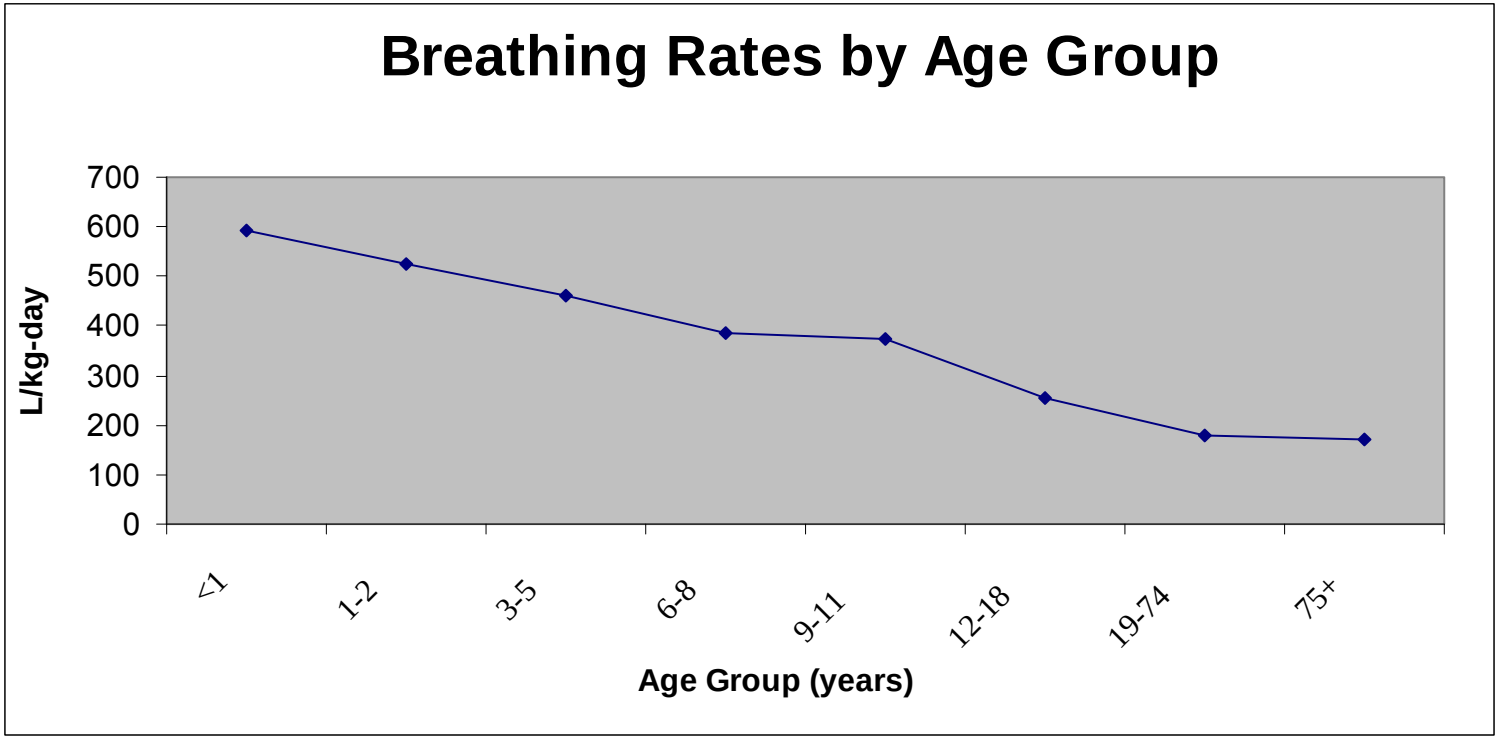
Differences in Behaviors

Children's Increased Vulnerability

Inhalation Rates Highest in Infants measured as L/kg-d and ml/kg/lung SA

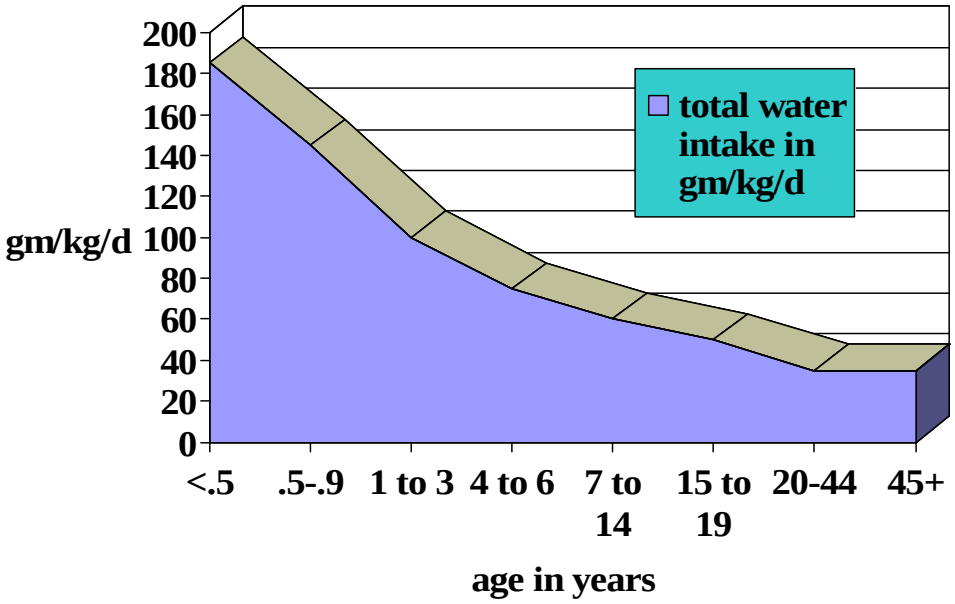
Infant – 133 ml/kg/m2 lung SA
Adult – 2 ml/kg/m2 lung SA

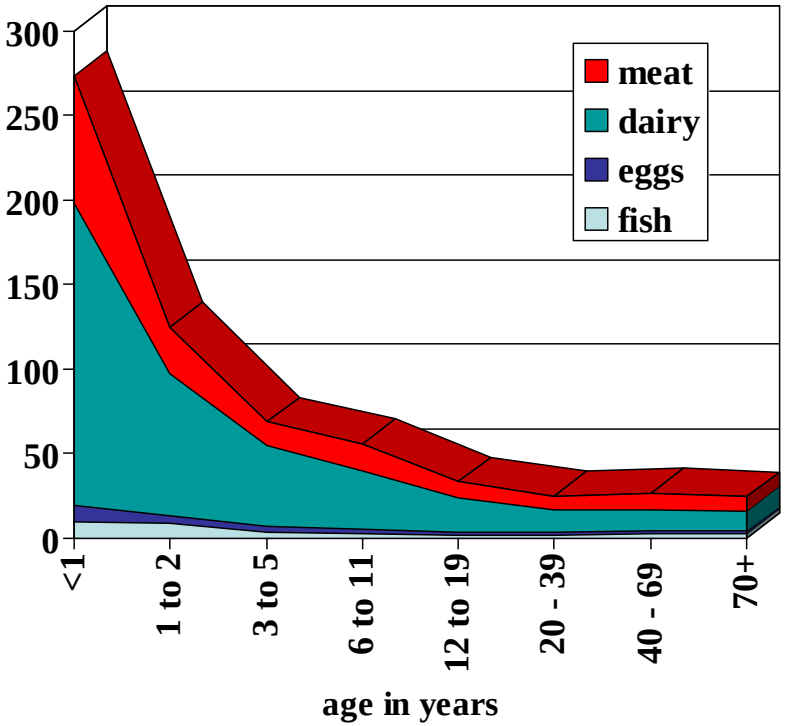
Snodgrass, 1992



Children eat & drink more

(per kg body weight)





Data from Ershow and Cantor, NCI 1989

“The connection between health and the dwelling of the population is one of the most important that exists.”

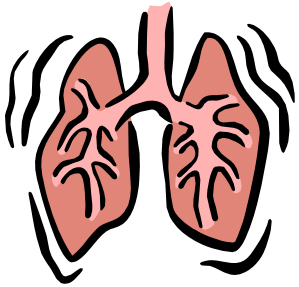
Florence Nightingale

Housing and Health – The Connection

- **Most spend ~90% time inside**
  - **Homes**
  - **Workplaces / schools / childcare facilities**
- **Homes typically account for a major share of exposures to**
  - **Toxics**
  - **Irritants**
  - **Allergens**
  - **Particles**
  - **Volatile Organic Compounds (VOCs)**
- **All can potentially lead to health effects**
  - **Acute**
  - **Chronic**

Major Indoor Home Pollutants

- Lead



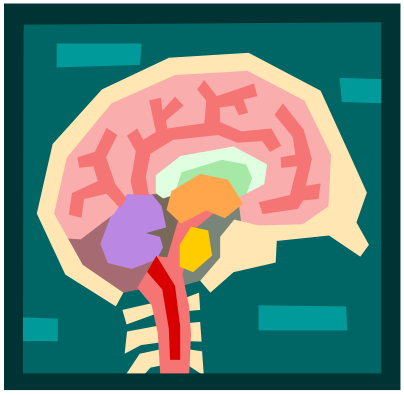
- Poor IAQ
  - Asthma triggers
  - Second-hand smoke
  - VOC's
    - Cleaners
    - Fragrances
    - Off-gassing
  - Products of incomplete combustion
  - Mold

- Pests and pesticides

- Radon

- Mercury

Health Effects of Lead



- Damage to the brain and nervous system
- Behavior and learning problems (such as)
  - Hyperactivity
  - Poor impulse control
  - Violence
  - Lower IQ
- Delayed growth
- Hearing problems
- Headaches

Consequences of Lead Exposure are Life-long

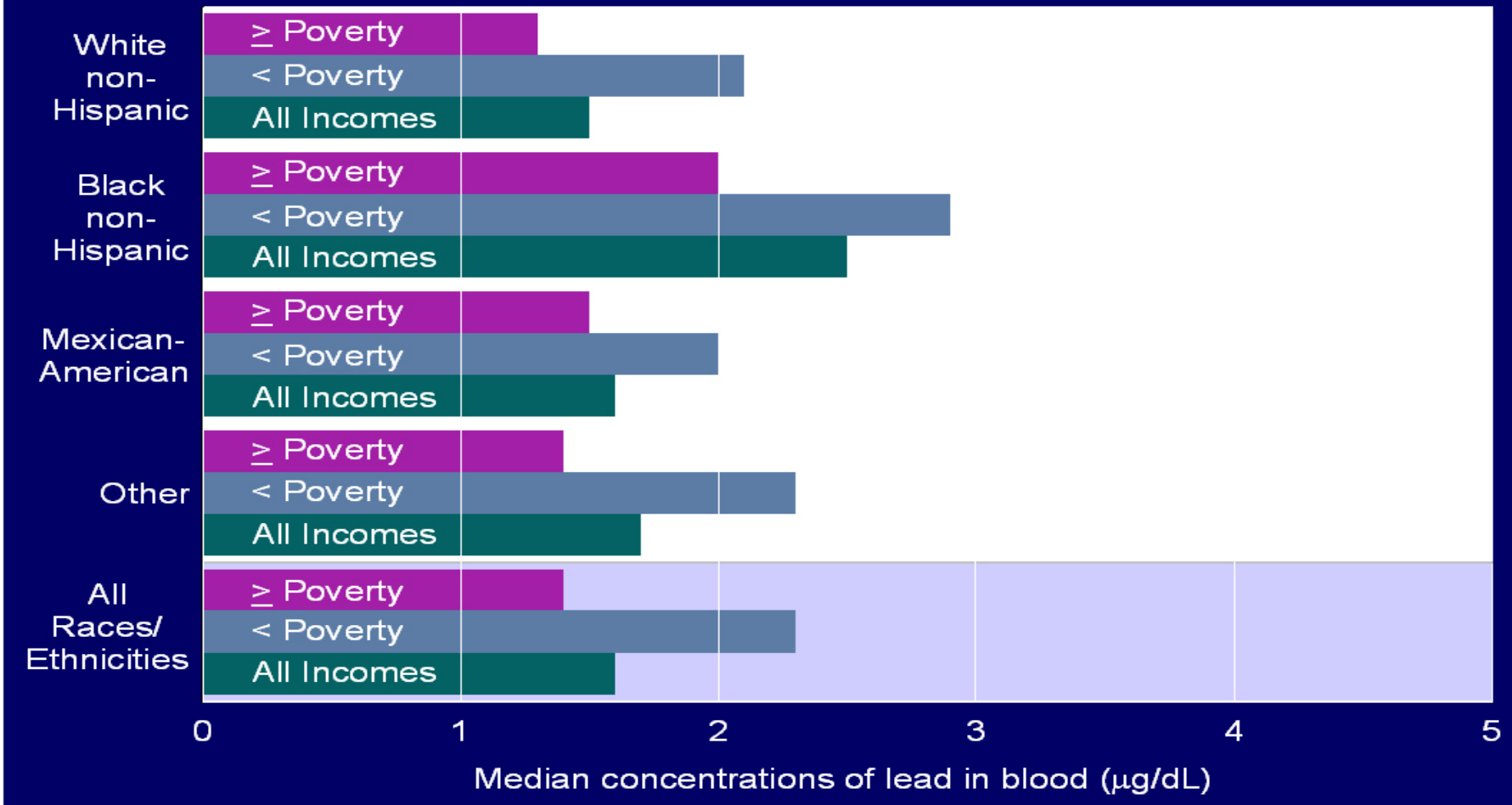
Sources of Lead Exposure

- Primary sources of lead exposure for most children in the US are:
  - deteriorating lead-based paint,
  - lead contaminated dust, and
  - lead contaminated residential soil

- Water, air, and soil, may provide low-level, “background” exposure, but rarely may cause childhood lead poisoning.

- Imported products, parental occupations, hobbies, and imported traditional medicines occasionally may cause lead exposure among children.

Median concentrations of lead in blood of children ages 1-5, by race/ethnicity and family income, 2001-2004



SOURCE: U.S. EPA. America's Children and the Environment. www.epa.gov/envirohealth/children

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey

Avoiding Lead Poisoning

- Get kids tested for lead by a health care provider
- Run cold water until it becomes as cold as it can get. Use only cold water for drinking, cooking and making baby formula.
- Lead paint
  - **Test your home for lead paint hazards if it was built before 1978**
  - **Wash children's hands before they eat; wash bottles, pacifiers, and toys often**
  - **Wash floors and window sills – especially in older homes**
- Use personal protective equipment when casting lead as a hobby and ventilate space.

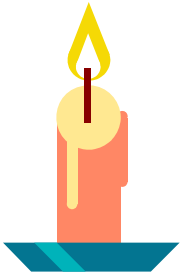
Renovate Right!

- WHEN: Phased in requirements, starting June 2008
- WHO: contractors performing activities that disturb lead-based paint
- WHAT: Renovation, Repair, Painting projects
- WHERE: Child-occupied facilities (e.g. homes, child care facilities, and schools) built before 1978
- HOW: Must be certified and must Notify and Follow Specific Work Practices to prevent lead contamination including
  - Contain the work area
  - Minimize dust
  - Clean up thoroughly

http://www.epa.gov/oppt/lead/pubs/renovaterightbrochure.pdf

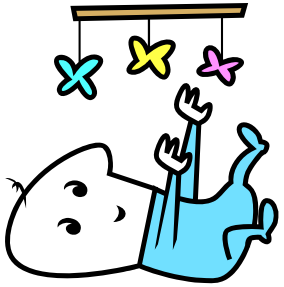
What Affects our IAQ?

- Type of Pollutant

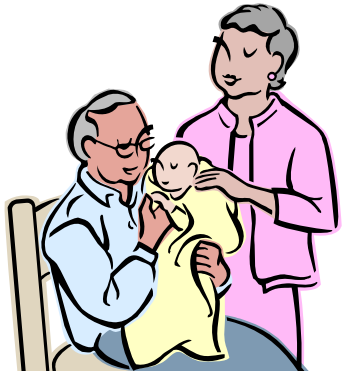


- Pollutant Sources

- Amount of Ventilation



- Receptor susceptibility



Common Indoor Air Pollutants

- Second-hand Smoke
- Asthma triggers
  - Chemical
  - Biological
- Cleaners, fragrances, gels, sprays
- Products of Incomplete combustion
  - Carbon Monoxide
- Molds
- Outdoor air pollutants entering home

Second-Hand Smoke

- **Health Effects in Children**
  - ❖ **Asthma**
    - ➢ **Cause**
    - ➢ **Worsen / Exacerbate**

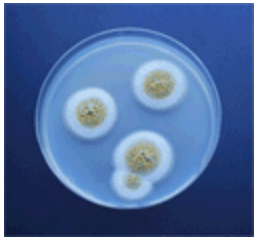
  - ❖ **Sudden Infant Death Syndrome (SIDS)**
  - ❖ **Bronchitis and Pneumonia**
  - ❖ **Ear Infections**

Common Asthma Triggers

- Allergic
  - Dust mites
  - Molds
  - Pollen
  - Animal dander
  - Pests
- Non-Allergic
  - Tobacco smoke
  - Pesticides
  - Wood or coal smoke
  - Ozone
  - Particulate matter

Important to Control Asthma Triggers

- Room by Room
- Individual by individual



Not everyone has the same environmental asthma triggers

It's important to work with healthcare provider to determine which ones are most important to control

Reduce Asthma Triggers

- Vent sources of particles and humidity (kept ideally between 30-50%)
- Use finishes / furnishings
  - Easy to clean
  - Don’t harbor pests
- Cover mattresses and pillows with dust proof ("allergen-impermeable") zippered covers
- Wash bed linens, “stufties” weekly in hot water
- Use IPM (more to come!)

Key to Mold Control is Moisture Control

- Mold can't be eliminated from indoors…will always be spores
- Don't need to test for mold
  - If you see it
  - If you smell it
  - You've got it
  - You need to get rid of it
- Not just a nuisance
  - Health effects
  - Structural damage
  - $$$$$$$$
- Dry up moisture within 48 hours

Pests / Pesticides Can Trigger Asthma Attacks and Cause Other Health Effects

- Pests
  - Dust mites
  - Cockroach allergen
  - Rodent urine
- Pesticides
  - Carriers
  - Fragrances
  - Active ingredients

To Reduce Pests and Pesticide Use Integrated Pest Management

- **Dry them out**
  (reduce sources of water)
- **Starve them out**
  (reduce sources of food)
- **Keep them out**

  (reduce shelter)
- **Least amount of least toxic pesticides, when needed**

  (judicious, careful use of pesticides when needed and always Read the LABEL and use accordingly)

Carbon Monoxide (CO) – A Silent Killer
Product of Incomplete Combustion

- **From appliances that use fuels e.g.**
  - **Stoves**
  - **Furnaces**
  - **Gas heaters**
  - **Cars**

- **Health Effects**
  - **Flu-like symptoms, headaches, nausea…**
  - **Claims several hundred lives each year in the US**

- **Good ventilation and appliance condition key to preventing hazardous levels of carbon monoxide**

- **Impossible to see or smell, CO detector or alarm is the only way to determine exposure**

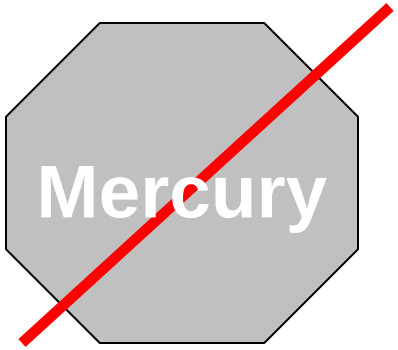
Overview of Radon

- **Ubiquitous, naturally occurring radioactive gas**
- **Undetectable with 5 senses**
- **Greatest exposure indoors, particularly rooms below grade**
- **#1 cause of lung cancer for non-smokers**
- **#2 cause of lung cancer in the US**
- **Radon risk ~8X greater smokers**

Test Your Home and Take Action

- **Test your home**
  - **Usually short term test (~$10/kit)**
- **Take action if level 4 pCi/L**
- **Consider taking action 2-4 pCi/L**
- **New homes – use radon resistant construction techniques**

Mercury



- Household products contain mercury
- Replace with non-mercury alternatives when feasible, especially THERMOMETERS
- Know how to clean up spill properly
  - No vacuum
  - No broom
  - No drains
  - Get help if larger amount than what's in 1 fever thermometer

Case in Point: Asthma

- **Burden – more than 22M people with asthma, including 6.8M kids:**
  - **2M ER visits and 13M missed school days annually**
  - **Significant disparities/underserved populations**
- **Environmental triggers – major risk factors:**
  - **ETS, mold, dust mites, pets, and pests**
  - **outdoor ozone and PM**

Communities in Action for Asthma-Friendly Environments

Why: Communities know the issues and can mobilize local resources and expertise.

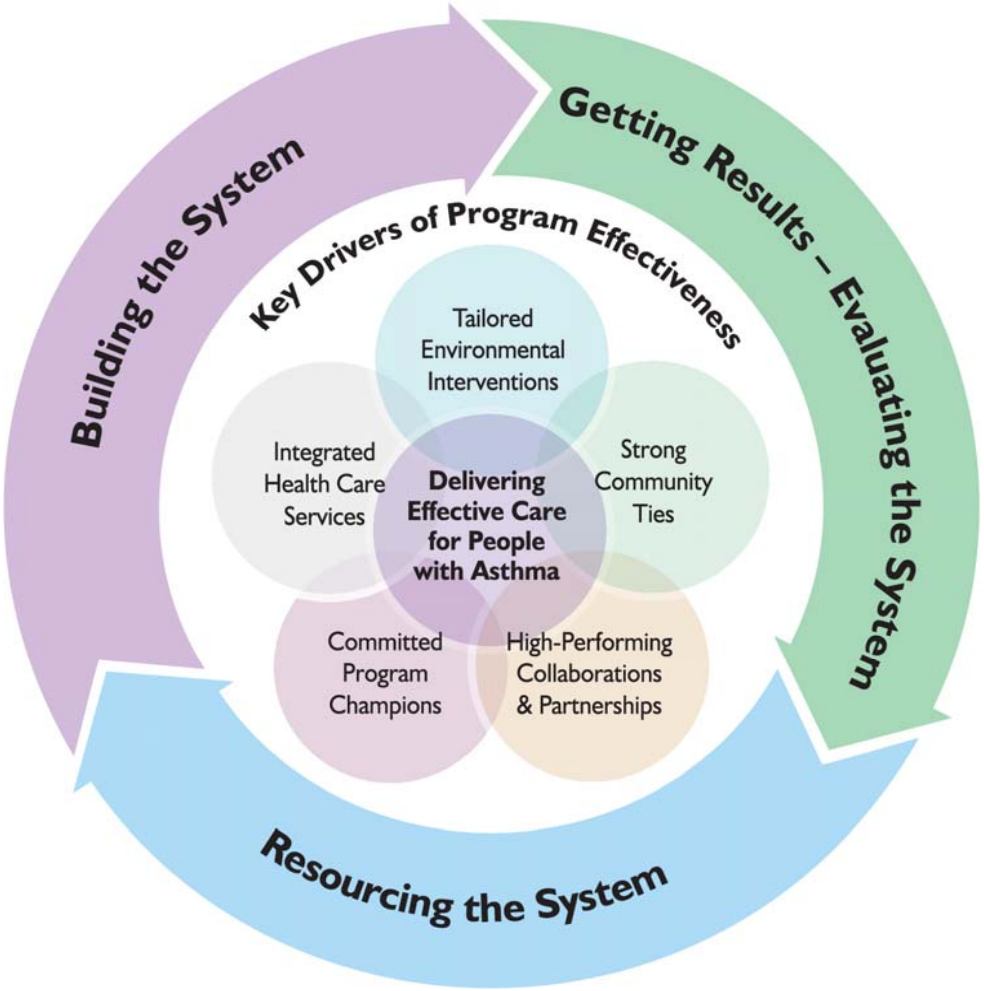
What: A national action-learning Network to foster adoption of best practices and field-tested strategies.

What do successful programs look like?

Key Drivers for Program Effectiveness

- **Committed Leaders and Champions**
- **Strong Community Ties**
- **High Performing Collaborations**
- **Integrated Health Care Services**
- **Tailored Environmental Interventions**

Successful Programs use a Systems-based Approach for Creating & Sustaining Effective Asthma Care



Communities in Action: Boston

Massachusetts - one of the highest asthma rates in the U.S.

- **Persistent racial and ethnic disparities in hospitalization and ED visit rates, particularly for children under 5 and older adults**
- **In a survey of MA schools, 5 Boston schools had 35% of students diagnosed with asthma**
- **Some Boston neighborhoods have 5 times the national average hospitalization rates for asthma**
- **Asthma diagnosis among Boston public housing residents is 21.9% compared to 10% of residents in affordable or market rate housing**
- **Boston Public Housing Commission (BPHC) program directly serves about 150 Boston residents with asthma/year**

BPHC: System for Asthma Control

Building the System

- Seek Input from Your Community: Advocacy organizations urged the city to address asthma
- Be Data-Driven: Data confirmed citizen concerns
- Environmental Health Office received requests for asthma-related home inspections
- Hired program manager with a clinical and a community background
- Devoted inspectors time and equipment for home visits

Key Drivers of Program Effectiveness

- ✓ Effective Leaders & Champions
- ✓ Strong Community Ties
- ✓ High-Performing Collaborations
- ✓ Integrated Health Care Services
- ✓ Tailored Environmental Interventions

Resourcing the System

- External funds through CDC, HUD
- Inspector, inspection equipment and system built on Environmental Health Office functions
- Housing offices in Boston including Boston Housing Authority, Dept. of Neighborhood Development, Inspectional Services Dept.
- Sustainable funding through BPHC, 3 year grants for special activities from EPA and Kellogg Foundation.
- Maintain close collaboration with clinical and advocacy communities

Getting Results – Evaluating the System

Process Outcomes Goals/Measures:

Program Retention; Participant Satisfaction, Quality of Life; Number and location of referrals

Health Outcomes Goals/Measures:

Hospitalizations; Self-reported asthma severity; Symptom-free days

Environmental Outcome Goals/Measures

Reduction of in-home environmental asthma triggers

BPHC: Key Drivers of Program Effectiveness

✓ Effective Leaders & Champions

- Supported by a diverse group of high-level champions and supporters, including Pediatrician from the Boston Medical Center, the Boston Urban Asthma Coalition, the Committee for Boston Public Housing, Boston Public Health Commission and the Mayor

✓ Strong Community Ties

- Work closely with community partners on program design and address THEIR priorities
- Provide financial support to community partners!

✓ High-Performing Collaborations

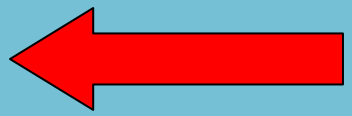
- Partner with health care institutions, housing, advocacy and other city departments
- Address what is important to each partner
- Build on core functions of each partner

✓ Integrated Health Care Services

- Referrals from health center and hospital nurses and doctors and school nurses, conduct in-home education and inspection, provide low-cost supplies, provide reports back to clinicians
- Reflect Care Model and Socio-Ecological Model

✓ Tailored Environmental Interventions

- Clinicians report, client report, inspection and interview
- Some air quality monitoring, environmental sampling is too expensive



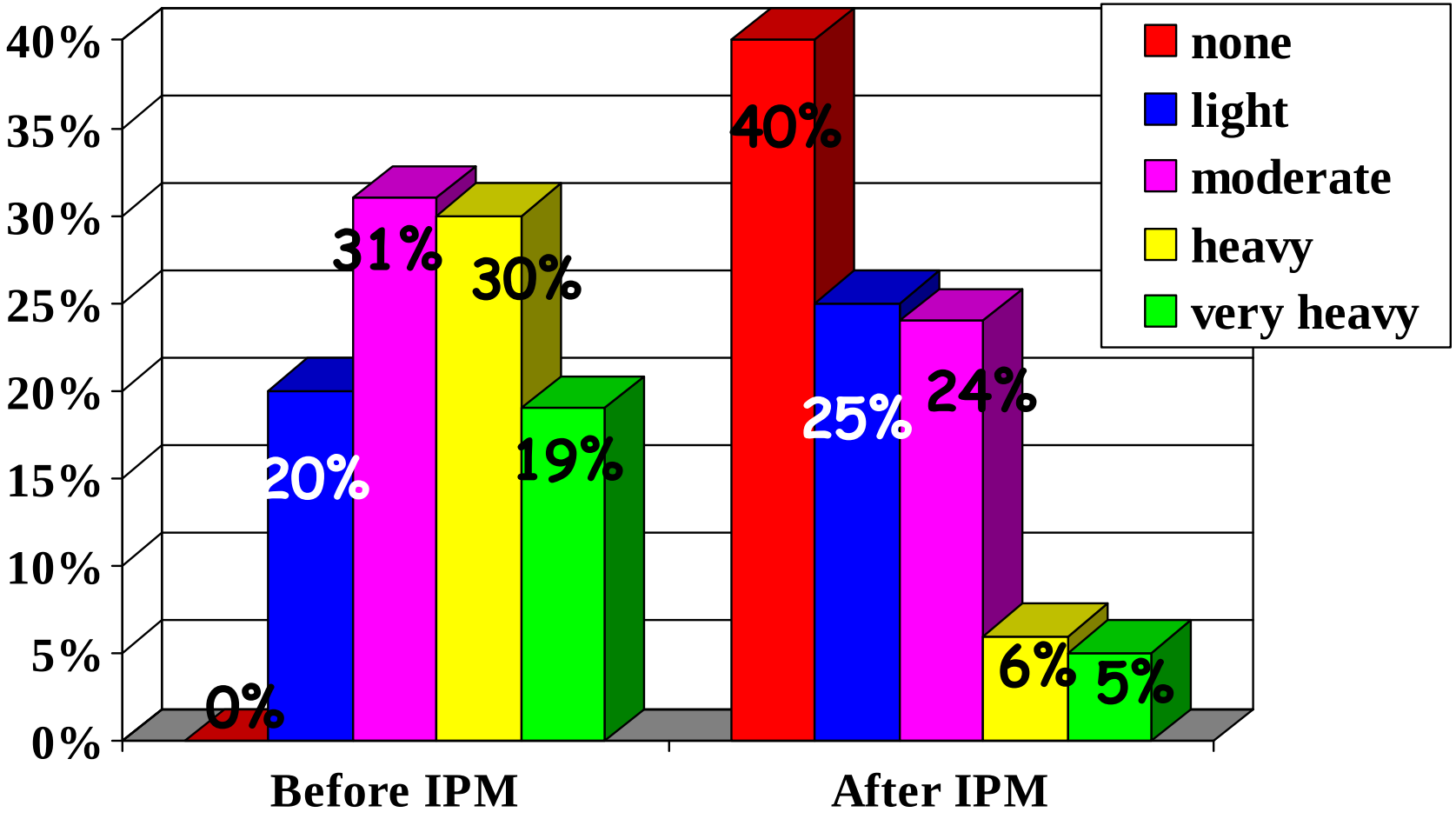
Tailored Environmental Interventions: IPM

- **Integrated pest management reduces pest infestation by eliminating sources of food, water, shelter and entry, thus decreasing the need for chemicals**
- **Requires involvement of pest control professionals, residents and housing management**
- **Professional Services consist of monitoring, trapping, blocking access, reducing harborage, multiple visits**

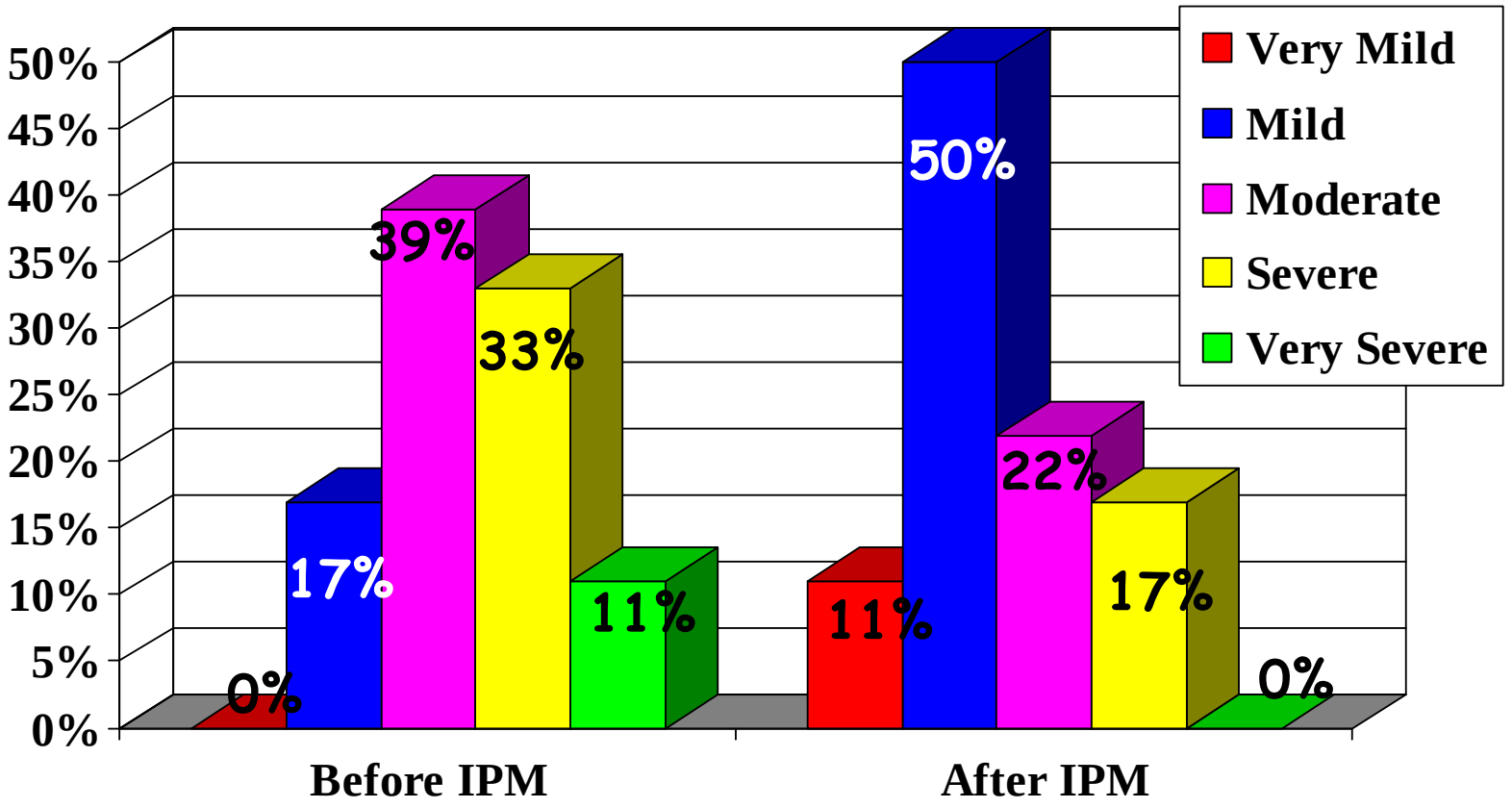
Outcomes

- **Statistically significant improvement in symptom days, medication use, lost sleep from asthma**
- **No significant difference in outcomes between low/moderate intensity interventions**
- **Participant report of asthma severity was consistent with severity indicators**
- **Participant report of pest infestations was consistent with dust analysis**

BPHC IPM Intervention Outcomes
Mouse Infestation Levels



Asthma self rating 7-13 months after IPM intervention



Communities in Action

HP 2010 Objective	HP 2010 Target	Communities *Best in Class*
↓ ED visits	30%-50%	50%-75%
↓ Hospitalizations	38%-45%	50%-80%
↑ Symptom-free Days	>10 per 14 days	10.4 days in a row
↑ Education	30%	100%
↑ Assess/Reduce Triggers	50%	100%

Join *Communities in Action for Asthma-Friendly Environments!*

www.asthmacommunitynetwork.org

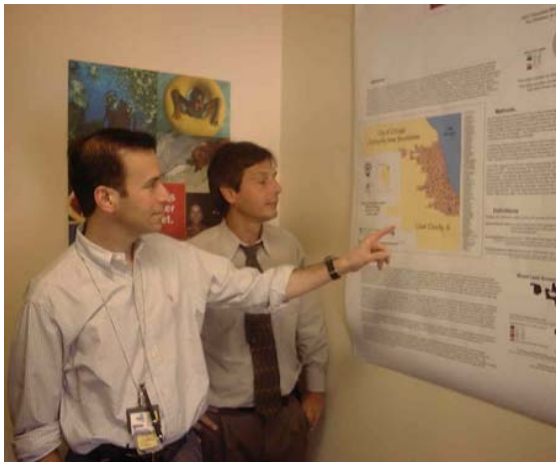
- **Committed Asthma Champions**
  - Lead with passion and perseverance
  - Train the next generation of environmental and health care professionals
- **Strong Community Ties**
  - Be a resource for your community; listen and respond to their needs
- **High Performing Collaborations**
  - Partner with everyone, share and borrow liberally
- **Integrated Health Care Services**
  - Facilitate communication across the health care team
- **Tailored Environmental Interventions**
  - Make environmental management a reality at home, school, work

Toxicity and Exposure Assessment for Children's Health (TEACH)

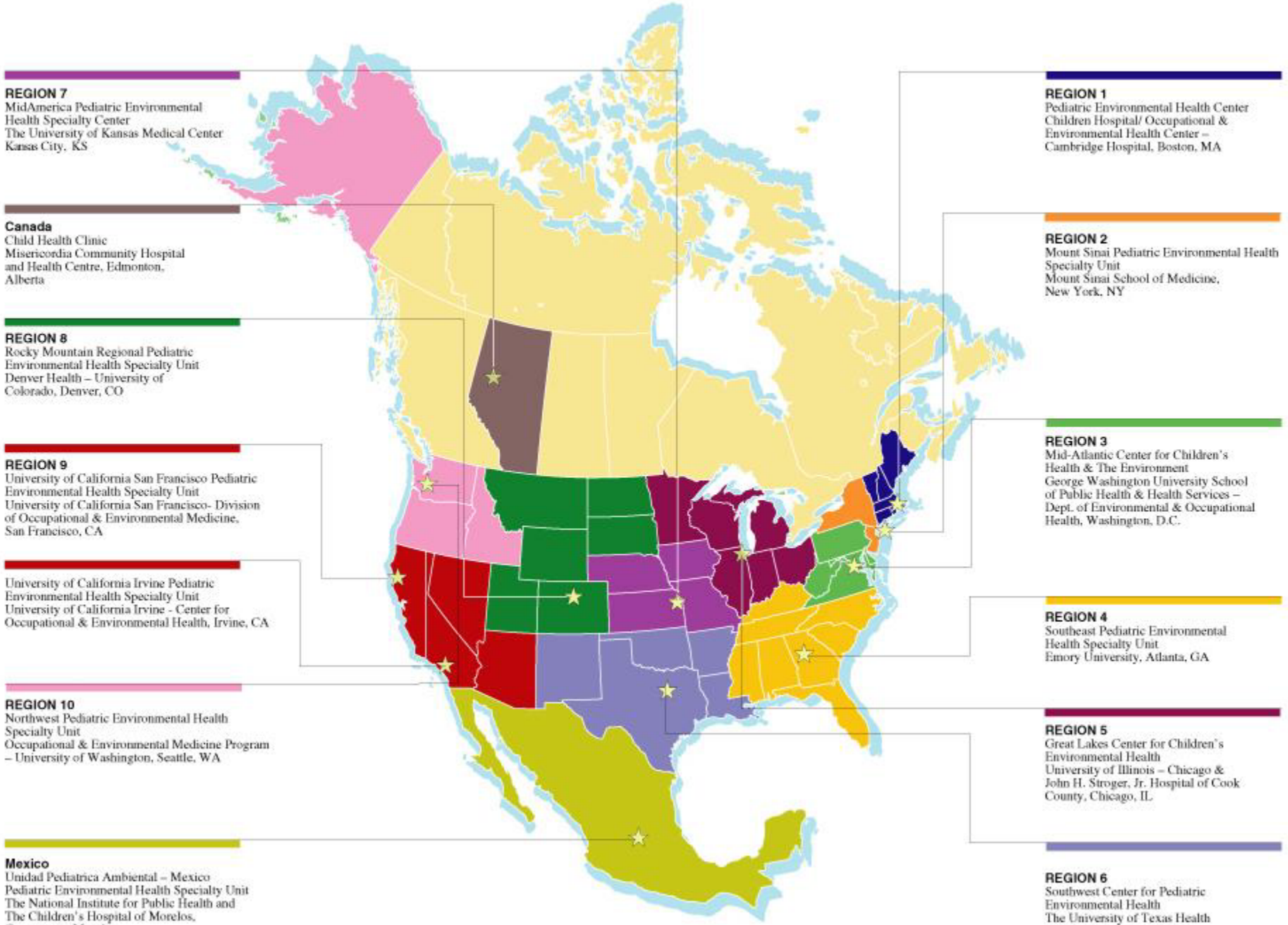
- **What is the TEACH Tool?**
  - **Searchable database**
  - **Chemical Summaries**
    - **Including information and assistance for decision makers**
- **http://www.epa.gov/teach**

Pediatric Environmental Health Specialty Units (PEHSUs)

- **Consultation**
  - **To health professionals and public**
- **Education/Outreach**
  - **Pediatric environmental health education**
- **Referral/Liaison**
  - **Public health**
  - **Environmental agencies**
- **www.pehsu.net**



PEHSU SITES



REGION 7
MidAmerica Pediatric Environmental Health Specialty Center
The University of Kansas Medical Center
Kansas City, KS

Canada
Child Health Clinic
Misericordia Community Hospital and Health Centre, Edmonton, Alberta

REGION 8
Rocky Mountain Regional Pediatric Environmental Health Specialty Unit
Denver Health – University of Colorado, Denver, CO

REGION 9
University of California San Francisco Pediatric Environmental Health Specialty Unit
University of California San Francisco- Division of Occupational & Environmental Medicine, San Francisco, CA

University of California Irvine Pediatric Environmental Health Specialty Unit
University of California Irvine - Center for Occupational & Environmental Health, Irvine, CA

REGION 10
Northwest Pediatric Environmental Health Specialty Unit
Occupational & Environmental Medicine Program – University of Washington, Seattle, WA

Mexico
Unidad Pediatrica Ambiental – Mexico
Pediatric Environmental Health Specialty Unit
The National Institute for Public Health and The Children's Hospital of Morelos, Cuernavaca, Morelos

REGION 1
Pediatric Environmental Health Center
Children Hospital/ Occupational & Environmental Health Center – Cambridge Hospital, Boston, MA

REGION 2
Mount Sinai Pediatric Environmental Health Specialty Unit
Mount Sinai School of Medicine, New York, NY

REGION 3
Mid-Atlantic Center for Children's Health & The Environment
George Washington University School of Public Health & Health Services – Dept. of Environmental & Occupational Health, Washington, D.C.

REGION 4
Southeast Pediatric Environmental Health Specialty Unit
Emory University, Atlanta, GA

REGION 5
Great Lakes Center for Children's Environmental Health
University of Illinois – Chicago & John H. Stroger, Jr. Hospital of Cook County, Chicago, IL

REGION 6
Southwest Center for Pediatric Environmental Health
The University of Texas Health Center at Tyler, Tyler, TX

Secondhand Smoke/Smoke-free Homes - Take the Smoke-free Home Pledge - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites Media

Address http://www.epa.gov/smokefree/pledge/index.html Go Links

WEBSHOTS Search My Homepage Upload

U.S. Environmental Protection Agency

Take the Smoke-free Home Pledge/Prometa no fumar en su hogar

Contact Us | Print Version Search (Búsqueda): GO "IR"
Contactos | Versión impresa

EPA Home > Air > Indoor Air > Smoke-Free Homes Program > Take the Smoke-free Home Pledge
Bienvenida EPA > Aire > Aire dentro de la casa > Hogares sin humo de tabaco > Prometa no fumar en su hogar

Smoke-free Homes Program

- Health Effects
- The Smoke-free Homes Pledge
- Prometa no fumar en su hogar
- Developing Smoke-free Homes Programs
- Frequent Questions
- Publications and Materials
- Links
- Contact Us

Take the Smoke-Free Home Pledge

Congratulations on wanting to provide a smoke-free home and smoke-free transportation for your children. By taking the pledge, you:

- Choose not to smoke in your home and do not permit others to do so. Small children are especially vulnerable to the health effects of secondhand smoke.
- Choose to smoke outside, if you must smoke. Moving to another room or opening a window is not enough to protect your children.

To take the Pledge enter your **ZIP Code** below and click on the

Prometa no fumar en su hogar

¡Felicitaciones en querer mantener un hogar sin humo de tabaco y llevar a sus hijos en un vehículo donde no se fuma! Mediante esta promesa, usted:

- Opta por no fumar en su casa y no dejar que fumen los demás. Los niños pequeños son especialmente vulnerables a los efectos en la salud del humo de tabaco en el medio ambiente.
- Prefiere fumar afuera si tiene que fumar. Ir a otra sala o abrir una ventana no es suficiente para proteger a sus hijos.

Para hacer la promesa indique su **Código postal** a continuación y pulse sobre el botón "Submit your pledge" ("Presentar su

Done Internet

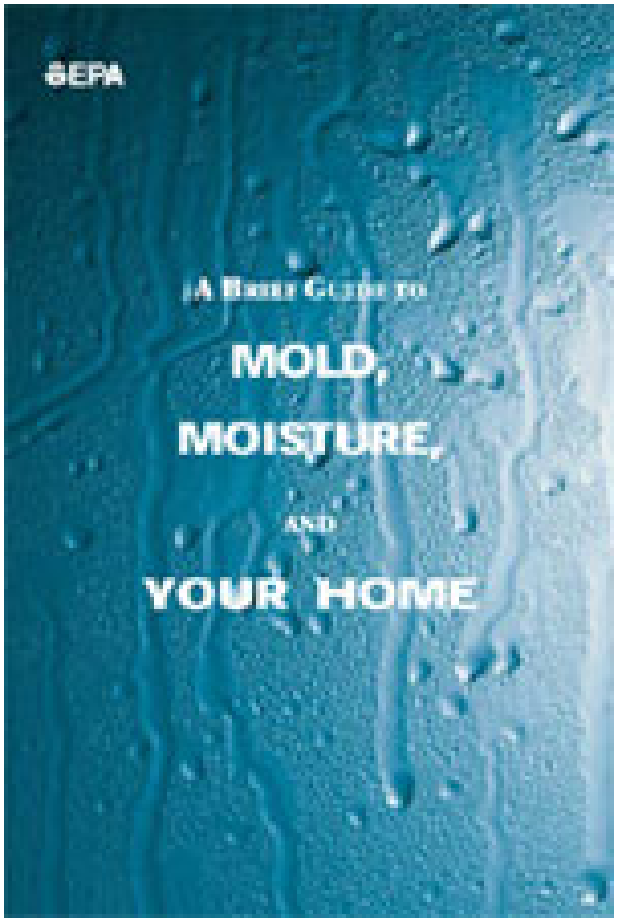
Start > EPA Science F... Microsoft PowerP... Secondhand S... 96% 3:41 PM

http://www.epa.gov/smokefree/pledge/index.html

Mold Resources

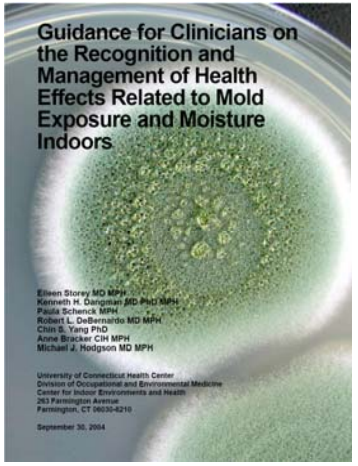
- **"A Brief Guide to Mold, Moisture, and Your Home"**

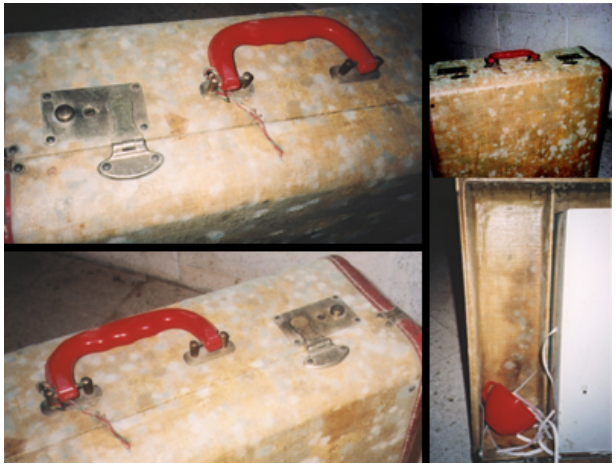
- **http://www.epa.gov/mold/moldguide.html**



Mold Resources

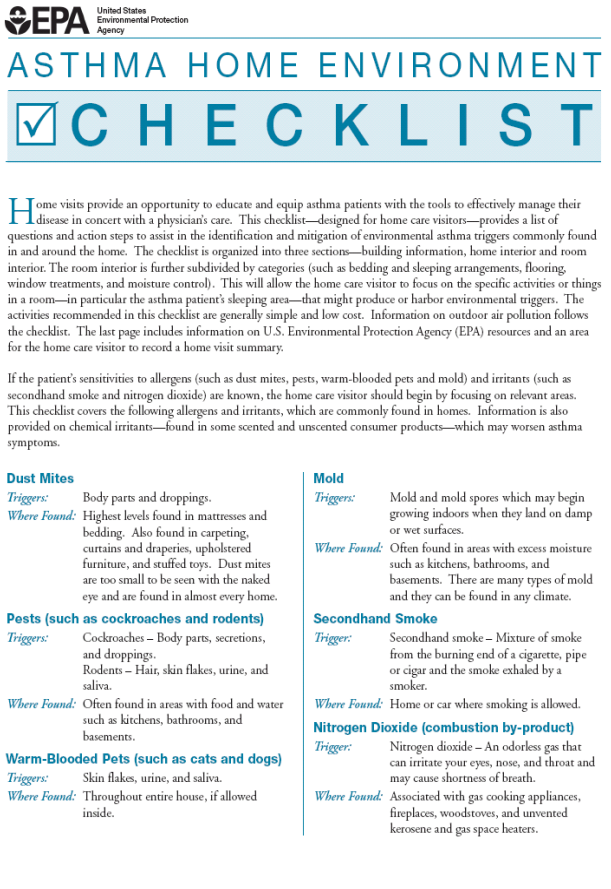
- Guidance for Health Professionals
  - **Center for Indoor Environments and Health at University of Connecticut Health Center (EPA grant)**
  - **http://oehc.uchc.edu/clinser/MOLD%20GUIDE.pdf**
- EPA web course for public health professionals
  - **mold prevention and remediation**
  - **http://www.epa.gov/mold/moldcourse/index.html**





Asthma Home Checklist

- **Designed for home care visitors**
- **Provides list of questions & action steps to assist in the identification and mitigation of environmental asthma triggers found in and around homes**



EPA United States Environmental Protection Agency

ASTHMA HOME ENVIRONMENT

☑CHECKLIST

Home visits provide an opportunity to educate and equip asthma patients with the tools to effectively manage their disease in concert with a physician's care. This checklist—designed for home care visitors—provides a list of questions and action steps to assist in the identification and mitigation of environmental asthma triggers commonly found in and around the home. The checklist is organized into three sections—building information, home interior and room interior. The room interior is further subdivided by categories (such as bedding and sleeping arrangements, flooring, window treatments, and moisture control). This will allow the home care visitor to focus on the specific activities or things in a room—in particular the asthma patient's sleeping area—that might produce or harbor environmental triggers. The activities recommended in this checklist are generally simple and low cost. Information on outdoor air pollution follows the checklist. The last page includes information on U.S. Environmental Protection Agency (EPA) resources and an area for the home care visitor to record a home visit summary.

If the patient's sensitivities to allergens (such as dust mites, pests, warm-blooded pets and mold) and irritants (such as secondhand smoke and nitrogen dioxide) are known, the home care visitor should begin by focusing on relevant areas. This checklist covers the following allergens and irritants, which are commonly found in homes. Information is also provided on chemical irritants—found in some scented and unscented consumer products—which may worsen asthma symptoms.

Dust Mites

Triggers: Body parts and droppings.

Where Found: Highest levels found in mattresses and bedding. Also found in carpeting, curtains and draperies, upholstered furniture, and stuffed toys. Dust mites are too small to be seen with the naked eye and are found in almost every home.

Pests (such as cockroaches and rodents)

Triggers: Cockroaches – Body parts, secretions, and droppings.
Rodents – Hair, skin flakes, urine, and saliva.

Where Found: Often found in areas with food and water such as kitchens, bathrooms, and basements.

Warm-Blooded Pets (such as cats and dogs)

Triggers: Skin flakes, urine, and saliva.

Where Found: Throughout entire house, if allowed inside.

Mold

Triggers: Mold and mold spores which may begin growing indoors when they land on damp or wet surfaces.

Where Found: Often found in areas with excess moisture such as kitchens, bathrooms, and basements. There are many types of mold and they can be found in any climate.

Secondhand Smoke

Trigger: Secondhand smoke – Mixture of smoke from the burning end of a cigarette, pipe or cigar and the smoke exhaled by a smoker.

Where Found: Home or car where smoking is allowed.

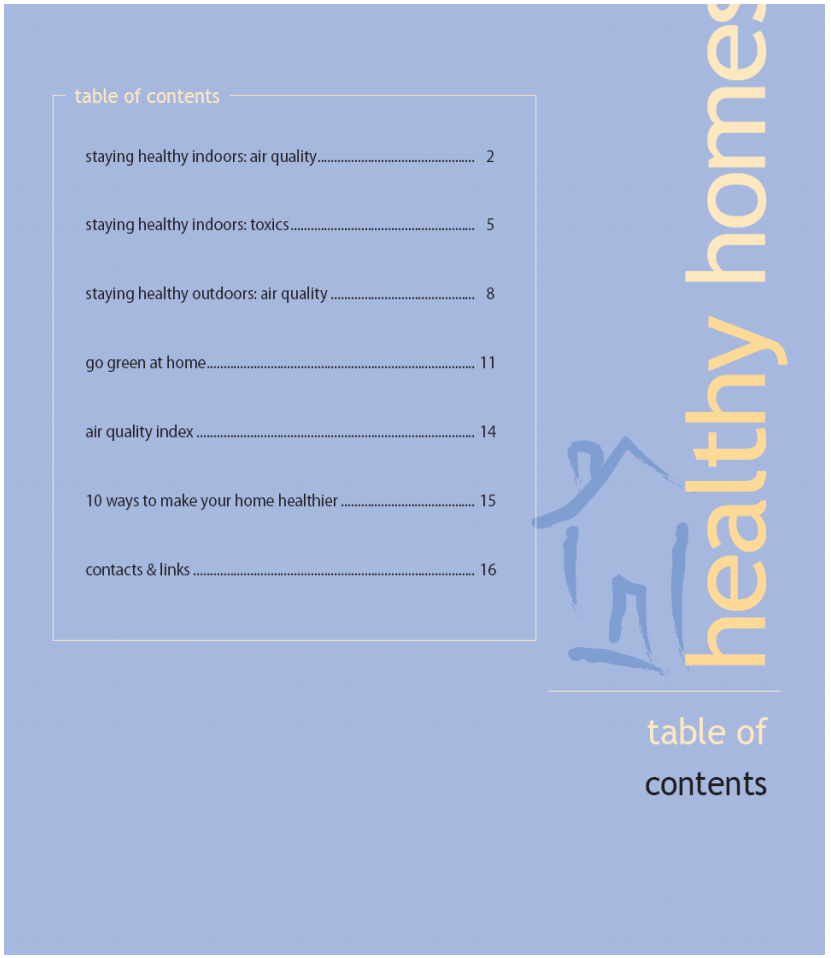
Nitrogen Dioxide (combustion by-product)

Trigger: Nitrogen dioxide – An odorless gas that can irritate your eyes, nose, and throat and may cause shortness of breath.

Where Found: Associated with gas cooking appliances, fireplaces, woodstoves, and unvented kerosene and gas space heaters.

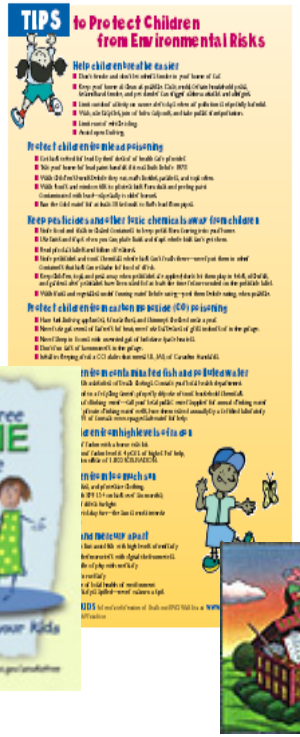
1

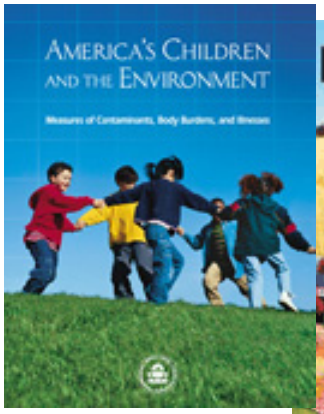
EPA New England Healthy Home website and brochure

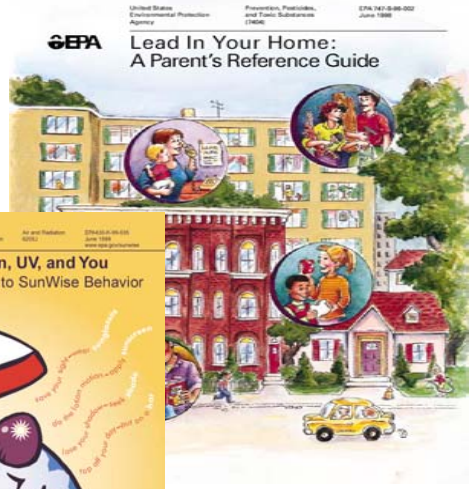


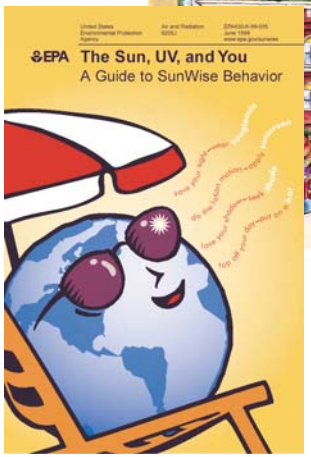
http://www.epa.gov/NE/healthyhomes/index.html

Publications









- **Call 1-800-490-9198**
- **To order children's environmental health Publications**
- **http://yosemite.epa.gov/ochp/ochpweb.nsf/content/publications2.htm**
- **Many publications available in other languages**

West Michigan Children's Environmental Health Initiative

Healthier Homes

Healthier Schools

Healthier Communities

Healthier Kids

Background

- **Many R5 program resources going to support efforts to improve children's health, esp. home and school environments**
- **Efforts include leveraging resources of outside partnerships, with some of the same partners**
- **Request from R5 Senior Manager for geographically focused Children's Health Initiative**
  - **Pooling EPA resources in one place**
  - **Work on leveraging private resources**

Vision

- **Create a pilot regional geographic-focused coordinated children's health and school environment initiative**

- **Time Frame: January 2006 to December 2007**
  - ***Later requested by community to reflect actual start date June 2006 to June 2008***

- **Focusing existing CEH resources in Western Michigan**
  - **environmental health capacity-building**
  - **working collaboratively with local champions**
  - **building public-private partnerships**

- **Serve as a model to be carried out in other locations**

Main Healthy Homes / CEH Issues EPA R5 Works On

- **Lead poisoning prevention**
- **Improving indoor air quality**
- **Improved management of chemicals**
- **Environmental management of asthma triggers**
- **Integrated pest management**
- **Pollution prevention**

West Michigan CEH Pilot Project

- **Goal - to achieve a more holistic approach to children's environmental health through promotion and realization of healthier homes, childcare facilities, school environments and communities**
  - **achieving early risk reductions**
  - **sustainability**
  - **replicability**


Canada
Sault Ste. Marie
Escanaba
Lake Michigan
Wisconsin
Alpena
Traverse City
Lake Huron
Michigan
Midland
Bay City
Mt. Pleasant
Saginaw
Muskegon
Grand Rapids
Owosso
Flint
Port Huron
Holland
Battle Creek
Lansing
Kalamazoo
Ann Arbor
Detroit
Illinois
Benton Harbor
Jackson
Dearborn
Adrian
Monroe
Indiana
Michigan Map - ©2006 Destination360

"Yours, Mine, Ours" Approach in Support of CEH

- "***Yours***" **- Partners agreed to continue individual activities**

- "***Mine***" **– Partners agreed to help EPA reach target audiences for various opportunities**

- "***Ours***" **- Partners agreed to act together, as appropriate**

Healthier Homes *(EPA led)*

- **Training**
  - **55 public health professionals (with NCHH)**
  - **20 HUD field office staff**
  - **50 property owners, managers (with HUD and MAHMA)**
  - **Lead education sessions *(followed press coverage of enforcement actions)***
- **Hazard reductions - - commitments for**
  - **Self-assessments**
  - **On-going improvements**

Section 1018, Lead Enforcement

- **Inspections, 19 on-site, with 11 actions**
  - **1 to DOJ**
  - **10 administratively, w/ 3 Civil Administrative Actions filed**
    - **1 negotiated settlement with, Civil Penalty and SEP / Window replacement project**
    - **Two matters are currently undergoing settlement negotiations; anticipate filings to occur in the near future.**

Asthma *(EPA led)*

- **Training**
  - **~450 Respiratory Therapists, asthma trigger training**
  - **50 Public Health professionals, asthma training (with MDCH)**

Asthma *(EPA led)*

- **3 Grants Awarded**
  (WM limited geo competition)

  - **Radon and ETS Assessment Project, to increase radon testing and ETS control in targeted households**
  - **Accessing Systems to Help Manage Asthma (ASTHMA), to demonstrate difference in asthma morbidity in patients receiving in-home environmental education and interventions for their asthma**
  - **Tribal Asthma / ETS grant, to assess for and reduce ETS and other asthma triggers in 15% of tribal homes**

Partner-Led Activities

- **Kent County Health Dept, CEH training for 8500 families, WIC recertification *(CEH module will be taught every 5th quarter)***

- **WM Asthma Network, CEH training @ Spectrum Health**
  - **Pediatric Residents**
  - **Emergency and Urgent Care employees**

- **Kent County Health Department**
  - **Successful competition for CDC Env Health Capacity-Building grant, CEH Healthy Homes project**
  - **FEMA grant for CO and smoke detectors**

Coalition-Led Activities

- **Radon awareness week, January 2007**
  - **TV news spots on 3 channels**
  - **Requests for more than 300 radon testing kits**
- **Successful submission CARE Level II grant, healthy homes CEH project**

WM CEHI

- **EPA People & Other Resources**
  - **Training**
  - **Meeting support**
- **Champion's Networks**
- **Growing Collaboration with more people and other resources**

***MORAL Of the Story*: By working together, with everyone contributing what they can, a greater good is achieved.**

Internet Resources

- **Find more on-line resources on Healthy Homes Conference CD**
  - **Government and non-government**
- **Coming soon – Healthy Homes Web Portal at EPA**
  - **http://epa.gov/healthyhomes**

EPA HH Topic Websites

www.epa.gov Plus Topic “Formula"

- **Radon - www.epa.gov/radon/**
- **Mercury - www.epa.gov/mercury**
- **Indoor Air Quality - www.epa.gov/iaq/**
- **Asthma - www.epa.gov/asthma**
- **Lead - www.epa.gov/lead/**
- **Pesticides - www.epa.gov/pesticides**
- **Mold - www.epa.gov/mold**
- **Smokefree Homes - www.epa.gov/smokefree**
- **Pollution Prevention - www.epa.gov/p2**

EPA Children's Health Program

- **1-877-590-KIDS**
- **www.epa.gov/children**
- **Join monthly listserve – coopwood.theodore@epa.gov**

We want to hear from you!

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- **Maryann Suero**
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- **Liz Blackburn**
  - **Blackburn.elizabeth@epa.gov**

We MUST Make This Work !