

# Preface

This guidance on childhood lead screening was developed by CDC in consultation with the members and consultants of the Advisory Committee on Childhood Lead Poisoning Prevention. The committee comprises non-Federal experts drawn from health departments, pediatric practices, managed-care organizations, academia, and non-governmental agencies working on affordable housing and public lead poisoning prevention education. The guidance was also reviewed by childhood lead poisoning prevention program managers and was available during a 6-week period for public comment. The final document is from CDC and does not necessarily reflect the views of all members of the advisory committee.

In 1991, the U.S. Public Health Service (PHS) called for a society-wide effort to eliminate childhood lead poisoning in 20 years (CDC, 1991), and in 1997, PHS remains committed to this goal. Childhood lead screening should be part of a comprehensive program to reach this goal. Chapter 3 of this document discusses the development of statewide plans for childhood blood lead screening. The purpose of these plans is to increase the screening and follow-up care of children who most need these services and to ensure that screening is appropriate for local conditions.

The main intended audience for this guidance is state and local health officials; however, it may also be used by

child health-care providers, managed-care organizations, and others.

Several topics are not covered or are considered only briefly in this document. Some of these topics have been recently considered by other groups:

- Health effects and sources and pathways of exposure (National Research Council, 1993).
- Chelation therapy (American Academy of Pediatrics, 1995).
- Controlling lead hazards in the home (U.S. Department of Housing and Urban Development, 1995).
- National policy for controlling lead hazards in housing (Lead-Based Paint Hazard Reduction and Financing Task Force, 1995).

The continued expansion of knowledge about childhood lead poisoning prevention will be reflected in future changes in CDC guidance.

## ***References***

American Academy of Pediatrics Committee on Drugs. Treatment guidelines for lead exposure in children. *Pediatrics* 1995;96:155-60.

Centers for Disease Control. Strategic plan for the elimination of childhood lead poisoning. Atlanta: Department of Health and Human Services, 1991.

Lead-Based Paint Hazard Reduction and Financing Task Force. Putting the pieces together: controlling lead hazards in the nation's housing. Washington, D.C.: U.S. Department of Housing and Urban Development, 1995.

National Research Council. Measuring lead exposure in infants, children, and other sensitive populations. Washington, D.C.: National Academy Press, 1993.

U.S. Department of Housing and Urban Development (HUD). Guidelines for the evaluation and control of lead-based paint hazards in housing. Washington, D.C.: HUD, 1995.

# Advisory Committee on Childhood Lead Poisoning Prevention

## Chairperson

J. Routt Reigart, II, MD  
Professor of Pediatrics  
Medical University of South Carolina  
171 Ashley Avenue  
Charleston, SC 29425

## Executive Secretary

Henry Falk, MD  
Director, Division of Environmental Hazards and Health Effects  
National Center for Environmental Health  
Centers for Disease Control and Prevention  
Atlanta, GA 30341–3724

## Members

Isabella J. Clemente, CPNP  
Associate Director, Division of Environmental Sciences  
Pediatric Clinics  
Montefiore Medical Center  
Moses 401  
111 East 210th Street  
Bronx, NY 10467

Cushing N. Dolbeare  
Consultant on Housing and Public Policy  
215 Eighth Street, NE  
Washington, DC 20002–6105

Alvaro Garza, MD, MPH  
Health Officer, Stanislaus County  
820 Scenic Drive  
Modesto, CA 95350

Rita Marie Gergely  
Director, Lead Poisoning Prevention Programs  
Iowa Department of Public Health  
Lucas State Office Building  
Des Moines, IA 50319-0075

Andrew K. Goodman, MD  
Assistant Commissioner, Division of Community and  
Occupational Health  
New York City Department of Health  
125 Worth Street  
New York, NY 10013

Birt Harvey, MD  
Pediatrician  
101 Alma Street, #1201  
Palo Alto, CA 94301-1011

Sanders Francis Hawkins, PhD  
Director, Laboratory Services  
Connecticut Department of Public Health  
10 Clinton Street  
Hartford, CT 06106

Patricia L. McLaine, BSN, MPH  
Assistant Director for Program Management  
National Center for Lead-Safe Housing  
10227 Wincopin Circle  
Columbia, MD 21044

Janet A. Phoenix, MD, MPH  
Manager, Public Health Programs  
National Safety Council  
National Lead Information Center  
1019 19th Street, NW  
Washington, DC 20036-5105

Joel D. Schwartz, PhD  
Associate Professor, Environmental Epidemiology  
Harvard School of Public Health  
665 Huntington Avenue  
Boston, MA 02115

Roger F. Suchyta, MD  
Associate Executive Director  
American Academy of Pediatrics  
141 Northwest Point Boulevard  
Elk Grove Village, IL 60009-0927

### **Consultants**

J. Julian Chisolm, Jr., MD  
Director, Lead Poisoning Prevention Program  
Kennedy Krieger Institute  
707 North Broadway  
Baltimore, MD 21205

Charles G. Copley  
Director, Department of Community Health and the Environment  
St. Charles County Department of Community Health  
305 N. Kings Highway  
St. Charles, MO 63301

Andrew M. Davis, MD, MPH  
Associate Medical Director, Rush Prudential Health Plans  
233 Wacker Drive  
Suite 3900  
Chicago, IL 60606

Dwala S. Griffin  
Administrator, Division of Health Services  
Louisville-Jefferson County Health Department  
400 East Gray Street  
Louisville, KY 40202

Philip J. Landrigan, MD  
Chairman, Department of Community Medicine  
Director, Division of Environment and Occupational Medicine  
Mount Sinai Medical Center  
New York, NY 10029

Herbert L. Needleman, MD  
Professor of Psychiatry and Pediatrics  
Western Psychiatric Institute and Clinic  
University of Pittsburgh School of Medicine  
3600 Forbes Avenue  
Pittsburgh, PA 15213–2593

Patrick Jeremy Parsons, PhD  
Director, Lead Poisoning Laboratory  
Wadsworth Center for Laboratories and Research  
New York State Department of Health  
Albany, NY 12201–0509

Sergio Piomelli, MD  
Director, Division of Pediatric Hematology and Oncology  
Columbia University Babies Hospital  
3959 Broadway  
New York, NY 10032

Stephanie L. Pollack, JD  
Conservation Law Foundation of New England  
62 Summer Street  
Boston, MA 02110–1008

Lewis Bradford Prenney  
Director, Childhood Lead Poisoning Prevention Program  
Massachusetts Department of Public Health  
470 Atlantic Avenue  
Boston, MA 02110

Thomas L. Schlenker, MD  
Executive Director  
Salt Lake City-County Health Department  
2001 South State Street, S-2500  
Salt Lake City, UT 84190-2150

Peter Simon, MD, MPH  
Assistant Medical Director  
Division of Family Health  
Rhode Island Department of Health  
3 Capitol Hill, Room 302  
Providence, RI 02908



# Executive Summary

Childhood lead poisoning is a major, preventable environmental health problem. Blood lead levels (BLLs) as low as 10  $\mu\text{g}/\text{dL}$  are associated with harmful effects on children's learning and behavior. Very high BLLs ( $\geq 70 \mu\text{g}/\text{dL}$ ) cause devastating health consequences, including seizures, coma, and death. It is currently estimated that some 890,000 U.S. children have BLLs  $\geq 10 \mu\text{g}/\text{dL}$  (CDC, 1997). Since the virtual elimination of lead from gasoline, lead-based paint hazards in homes are the most important remaining source of lead exposure in U.S. children.

In 1991, the U.S. Department of Health and Human Services called for elimination of childhood lead poisoning and in 1997 retains its commitment to see this effort through. Blood lead screening is an important element of a comprehensive program to eliminate childhood lead poisoning. The goal of such screening is to identify children who need individual interventions to reduce their BLLs. The 1991 edition of *Preventing Lead Poisoning in Young Children* called for virtually universal screening of children 12–72 months of age. Nonetheless, a 1994 national survey showed that *only about one-fourth of young children had been screened and only about one-third of poor children, who are at higher risk of lead exposure than other children, had been screened.*

Some populations of children are heavily exposed to lead while others are not. A recent national estimate

(CDC, 1997) showed that 21.9% of black children living in housing built before 1946 had elevated BLLs ( $\geq 10$   $\mu\text{g}/\text{dL}$ ). Studies of other groups of children have shown quite low prevalence of elevated BLLs. For example, a 1994 survey of 967 poor children in Alaska found that none had a BLL above 11  $\mu\text{g}/\text{dL}$  (Robin et al., 1997).

Many children, especially those living in older housing or who are poor, need screening and, if necessary, appropriate interventions to lower their BLLs. At the same time, children living where risk for lead exposure has been demonstrated to be extremely low do not all need to be screened. The task for public health agencies, parents, and health-care providers is to identify those children who will benefit from screening and to ensure that they receive the services they need.

## **CDC Recommendations - Statewide Plan**

State health officials should develop a statewide plan for childhood lead screening and convene an inclusive planning committee composed of child health-care providers as well as representatives from local health departments, managed-care organizations, Medicaid, private insurance organizations, and the community.

**The plan should address:**

- **Division of the state, if necessary, into areas with different recommendations for screening.**
- **Screening recommendations for each area. (A basic targeted-screening recommendation is provided below as an example.)**
- **Dissemination of screening recommendations for each area.**
- **Evaluation.**

## A Basic Targeted-Screening Recommendation

**State health officials should use this basic recommendation only as an interim measure. A recommendation that is based on assessment of local data and an inclusive planning process is preferred.**

Within the state or locale for which this recommendation is made, child health-care providers should use a blood lead test to screen children at ages 1 and 2, and children 36-72 months of age who have not previously been screened, if they meet one of the following criteria:

- Child resides in one of these zip codes: *[place here a list of all zip codes in the state or jurisdiction that have ≥27% of housing built before 1950. This information is available from the U.S. Census Bureau.]*
- Child receives services from public assistance programs for the poor, such as Medicaid or the Supplemental Food Program for Women, Infants, and Children (WIC).
- Child's parent or guardian answers "yes" or "don't know" to any question in a basic personal-risk questionnaire consisting of these three questions:

*-Does your child live in or regularly visit a house that was built before 1950? This question could apply to a facility such as a home day-care center or the home of a babysitter or relative.*

*-Does your child live in or regularly visit a house built before 1978 with recent or ongoing renovations or remodeling (within the last 6 months)?*

*-Does your child have a sibling or playmate who has or did have lead poisoning?*

In the absence of a statewide plan or other formal guidance from health officials, universal screening for virtually all young children, as called for in the 1991 edition of *Preventing Lead Poisoning in Young Children* (CDC, 1991), should be carried out.

CDC provides funding and technical advice to assist states and locales in all activities that are called for in this guidance document.

In this document, CDC also provides general guidelines about the roles and responsibilities of child health-care providers in preventing childhood lead poisoning, including anticipatory guidance, screening and follow-up testing, clinical management, chelation therapy, family education about elevated BLLs, and participation in a follow-up team.

### ***References***

Centers for Disease Control and Prevention. Update: blood lead levels—United States, 1991-1994. *MMWR* 1997;46:141-6.

Centers for Disease Control and Prevention. Erratum: vol. 46, no.7. *MMWR* 1997;46:607

Robin LF, Beller M, Middaugh JP. Statewide assessment of lead poisoning and exposure risk among children receiving Medicaid services in Alaska. *Pediatrics* 1997;99:E91-E96.