DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION

National Center for Environmental Health/
Agency for Toxic Substances and Disease Registry
Lead Poisoning Prevention Branch

CENTERS FOR DISEASE
CONTROL AND PREVENTION

Advisory Committee on Childhood Lead Poisoning Prevention

October 25-26, 2005
Washington, DC

Record of the Proceedings

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ATTACHMENT 1

List of Participants

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Dr. Mary Jean Brown,
Executive Secretary

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Mr. Steve Hays (AIHA)
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Mr. Robert Roscoe (NIOSH)
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Dr. Phyllis Stubbs-Wynn (HRSA)
Dr. Jan Towers (AANP)
Mr. Jonathan Wilson (NCHH)

CDC Representatives
Mr. Barry Brooks
Ms. Bonnie Dyck
Dr. Howard Frumkin
Ms. Rose Glass-Pue
Mr. Penn Jacobs
Mr. David Mullen
Dr. Marilyn Radke
Ms. Evelyn Shepard

Presenters and Members of the Public
Ms. Elaine Baker
Mr. Matthew Carroll (Cleveland Department of Public Health)
Dr. Andrew Doniger (Monroe County Department of Public Health)
Mr. Wayne Durand (Los Angeles Housing Department)
Dr. Adrienne Ettinger (Harvard School of Public Health)
Dr. Kristina Hatlelid (Consumer Products Safety Commission)
Mr. Michael Kashtock (Food and Drug Administration)
Ms. Linda Lewis (DC Lead Screening Advisory Committee)
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Ms. Jane Malone
Ms. Patricia McLaine (National Center for Healthy Housing)
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DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION

ADVISORY COMMITTEE ON
CHILDHOOD LEAD POISONING PREVENTION
October 25-26, 2005
Washington, DC

Minutes of the Meeting

The Department of Health and Human Services (HHS) and the Centers for Disease Control and Prevention (CDC) convened a meeting of the Advisory Committee on Childhood Lead Poisoning Prevention (ACCLPP). The proceedings were held on October 25-26, 2005 at the Cohen Building in Washington, DC.

Opening Session

Dr. Carla Campbell, the ACCLPP Chair, called the meeting to order at 8:46 a.m. on October 25, 2005. She welcomed the attendees to the proceedings and opened the floor for introductions. The list of participants is appended to the minutes as Attachment 1.

Dr. Mary Jean Brown, the Lead Poisoning Prevention Branch (LPPB) Chief and ACCLPP Executive Secretary, announced that voting members with a real or perceived conflict of interest on any agenda item are responsible for identifying these issues and recusing themselves from voting or participating in the deliberations.

Dr. Howard Frumkin, the new Director of the National Center for Environmental Health/ Agency for Toxic Substances and Disease Registry (NCEH/ATSDR), formally introduced himself to ACCLPP and provided a brief overview of his background. He emphasized that CDC will continue to address the important issue of lead toxicity in both adults and children. In particular, CDC's new goals management process includes a "Healthy Homes" goal within the "Healthy Places" initiative. This effort will allow ACCLPP to assist CDC in more broadly considering healthier environments for children in homes, schools and other settings. Dr. Frumkin thanked the ACCLPP members for

their valuable time, dedication and service to the childhood lead poisoning prevention effort.

Update on LPPB Activities

Dr. Brown's status report covered the following areas. One, blood lead levels (BLLs) from 1999-2002 were published in the May 27, 2005 edition of the *Morbidity and Mortality Weekly Report* (*MMWR*). The data showed that although an estimated 310,000 American children are still at risk for exposure to harmful lead levels, the prevalence of elevated BLLs (EBLLs) is continuing to decline. Disparities in the prevalence of EBLLs have been reduced, but differences by race, socioeconomic status and geographical region remain. Findings from the National Health And Nutrition Examination Surveys (NHANES) demonstrate progress toward achieving the *Healthy People 2010* objective to eliminate EBLLs. However, continued efforts are necessary to address remaining lead hazards and identify children at risk for lead exposure.

NHANES data from 1991-2002 showed statistically significant differences in the geometric mean of BLLs among children by gender, age and racial/ethnic group. From 1991-1994, the geometric mean of BLLs was 2.3 µg/dL in children 1 year of age, 2.7 µg/dL in children 1-5 years of age, and 3.4 µg/dL in adults ≥60 years of age. The distribution of BLLs among children 1-5 years for 1999-2002 is as follows: 13.4% with BLLs <1µg/dL; 52.7% with BLLs 1-2.4 µg/dL; 25.3% with BLLs 2.5-4.9 µg/dL; 5.4% with BLLs 5-7.4 µg/dL; 1.7% with BLLs 7.5-9.9 µg/dL, and 1.6% with BLLs ≥10 µg/dL.

Risk can also be assessed by examining the characteristics of children in the lowest BLL group of <1 µg/dL. The distribution of children with the highest prevalence of low BLLs is as follows: 16.8% for non-Hispanic whites, 4.0% for non-Hispanic blacks, 10.9% for Mexican Americans, 16.7% for Medicaid recipients and 4.4% for non-Medicaid recipients. The full *MMWR* article can be viewed on the LPPB web site.

Two, LPPB will publish its FY'06 program announcement on www.grants.gov on or about December 1, 2005. Applications will be due to CDC in February 2006. The five-year cooperative agreement will require grantees to focus on the following areas. Elimination plans will be developed or continue to be implemented. Partnerships will be fostered and lead primary prevention strategies will be integrated into existing housing and maternal child health programs. Surveillance systems will be improved with an emphasis on data quality and the integration of blood lead and housing data. Data will be used to drive the development and evaluation of program goals and objectives.

Three, LPPB is continuing its focus on international lead activities. CDC has gained invaluable experience in developing state and local childhood lead poisoning prevention programs (CLPPPs) and is transferring this knowledge to UNICEF and World Health Organization (WHO) staff in the field in Kosovo. One child in a refugee camp died from lead poisoning, at least 88% of children tested in the camp have BLLs >40 µg/dL, and ~25% of children in the general population have BLLs >20 µg/dL. Exposure routes of lead to children include inhalation, dust, lead smelting from automobile batteries and traditional medicine. EBLLs were also found in women who were tested.

LPPB is attempting to leverage funds to establish a heavy metal toxicology clinic in Kosovo, hire a physician to manage a heavy metal unit, develop laboratory capacity at the local level, and implement public health education and outreach activities. The clinic will initially focus on lead poisoning prevention in children and pregnant women. LPPB submitted a $70,000 proposal to the CDC Foundation to fund the toxicology clinic, but will continue efforts to identify additional donors. Although LPPB has no specific mandate or funding to conduct international lead activities, current efforts in Kosovo are consistent with CDC's overall mission to promote health and quality of life by preventing and controlling disease, injury and disability. LPPB deployed two staff members to Kosovo and will continue to communicate with UNICFF and WHO staff through monthly conference calls.

Four, LPPB continues activities to control and eliminate non-lead paint sources of lead and is continuing to represent CDC on the interagency task force that was established to address non-essential uses of lead. The U.S. Consumer Product Safety Commission (CPSC) also serves on the interagency task force and recently investigated claims about the presence of lead in lunch boxes. CPSC determined that extremely low lead levels of <1 millionth of a gram in the lunch boxes did not present a health hazard to children. Further information about these findings is available on the CPSC web site.

LPPB also submitted an article to a professional association of Indian physicians to alert this group about ayurvedic medicines that are contaminated with lead, arsenic and mercury.

Five, LPPB and the NCEH laboratory are currently investigating the accuracy of the LeadCare handheld instrument. Several lots of sensors in LeadCare used to test BLLs were discovered to have a significant bias of 25% with a confidence interval of 15%-35%. The purpose of the investigation is to respond to public health concerns that the bias resulted in the misclassification of 500,000 children and adults tested during the 18-month period LeadCare was on the market. LPPB and the Food and Drug

Administration (FDA) jointly issued guidance to emphasize the need for persons to be retested with another method if LeadCare results showed a BLL $\geq$5 µg/dL.

CDC will conduct the investigation by reviewing existing data collected by the nine largest customers of LeadCare and asking three key questions. First, did the average BLL for individuals tested at these laboratories decrease when compared to the average BLL for individuals tested before the defective sensors were on the market? Second, does the average BLL vary by the time at which the laboratory ordered the new sensors? Third, has the bias adversely affected any of the individuals in that medical, environmental or worker protection did not occur in a timely manner?

No handheld instrument with a Clinical Laboratory Improvement Amendments waiver is on the market at this time. Results of CDC's investigation are expected to inform medical decision-making regarding the use of LeadCare instruments, particularly to confirm an elevated blood lead test. The findings may also inform future proficiency testing and quality assurance/quality control procedures. CDC is currently collaborating with the LeadCare manufacturer to develop a fairly transparent process to report test results to state and local health departments.

Six, LPPB will conduct several activities in the future. An investigation of the deaths of two children in Texas and Pennsylvania during chelation therapy will be completed over the next month. The findings will be published in the *MMWR* and may also be reprinted in *Pediatrics*. The *Benchbook/Primary Prevention Reference Guide on Childhood Lead Poisoning in Indiana and Marion County* will be developed for judges. The pilot document will serve as a model for other state or local programs.

A contract will be awarded within the next four months to provide intensive assistance to struggling programs. Persons with expertise in community-based organizations (CBOs), case management and other issues will be deployed to assist states in building capacity in these areas. New ACCLPP members will be recruited to fill three positions that will be vacant in May 2006. The current members, liaisons and the public are being asked to provide Dr. Brown with names of potential candidates at this time due to the lengthy nomination process.

Seven, LPPB is calling ACCLPP's attention to two documents. The Institute of Medicine (IOM) recently published its report on "Ethical Considerations for Research on Housing-Related Health Hazards Involving Children." The document emphasizes the critical need for research conducted in the homes of low-income populations to be extremely sensitive to human subject and ethical concerns. Both CDC and the U.S. Department of Housing and Urban Development (HUD) supported this effort. The

report is available for purchase from the IOM web site. CDC's new 2005 lead wheels were distributed to ACCLPP during the meeting and can also be downloaded from the LPPB web site. This tool can be used to compare several issues among states, such as the number of children who were tested for lead and laws requiring lead paint abatement or lead-safe work practices (LSWP).

Ms. Rose Glass-Pue, the LPPB Inter-Faith Officer, described LPPB's new initiative with faith-based organizations (FBOs). The national faith-based and community initiative was created in 2001 to provide FBOs and grassroots CBOs equal access to federal grants. Congress is now monitoring the level of interaction between federal agencies and FBOs. As a result, CDC established the Inter-Faith Council to formally engage FBOs in its activities. FBOs have an active and effective history in public health related to relief efforts, emergency response, support and other community services. Federal agencies should continue to engage, partner with and outreach to FBOs to broaden capacity in serving public health needs, reaching other special populations and achieving *Healthy People 2010* goals.

FBOs are a valuable resource because ~87% of Americans claim some type of religious affiliation. In some communities, trust is gained through the local ministry. FBOs also have an understanding of the needs of the respective constituency, an ability to reach isolated communities and capacity to communicate culturally-appropriate messages. LPPB is now developing practical information for its diverse populations to promote primary prevention. In this effort, LPPB convened a summit in August 2005 with FBOs and other groups to institutionalize a primary prevention program that will aid in the prevention of lead exposure.

LPPB and FBOs will jointly develop and evaluate a faith-based community toolkit under the "CLPPP Community Awareness Pilot" (CAP) as a cultural approach to LPPB's target audience. LPPB will then partner with state lead programs that express an interest in implementing the toolkit. The new initiative will serve as a source for community change, improvement and transformation of conditions and outcomes. Community health and development will be promoted. Persons, cultural ideas and resources will be connected. Healthier cities and communities will be built through a joint effort at the local level.

CLPPP CAP will require an array of core competencies, such as community assessment, planning, mobilization, intervention, advocacy, evaluation and marketing of successful efforts. FBOs will assist LPPB in developing effective approaches to empower congregations and organizations, link FBOs with community resources, build relationships among at-risk community groups, and achieve social justice in health,

dignity and self-worth. LPPB plans to use education, training and action to teach primary prevention to FBOs. LPPB is now focusing on African American FBOs, but will expand the CLPPP CAP initiative to other cultural groups in the future. The summit participants will be reconvened in the future to review, assess and revise the faith-based community toolkit.

Several ACCLPP members made suggestions for LPPB to consider in strengthening its current activities.

- Notify FDA about the use of sodium EDTA in one of the two chelation therapy deaths.
- Determine whether lessons learned by a facility in Mexico can be applied to current lead activities in Kosovo. For example, the company's large investment in decontaminating its lead smelting operation resulted in decreased BLLs among children in the community.
- Explore the possibility of using NHANES to fill an existing data gap. For example, a lead binding protein study showed that participants with low BLLs responded to chelation therapy. This research was unable to answer the question of whether genetic differences influence the ability to bind lead.
- Design the CLPPP CAP initiative as a lateral rather than horizontal activity. For example, grassroots organizations at the local level with existing expertise or resources in community health should be engaged to assist FBOs with limited or no capacity in this area. The exclusion of these groups in the CLPPP CAP initiative may result in dividing communities.

Implementation Strategies for Housing-Based Primary Prevention of Lead Poisoning

Federal Perspective. Dr. Brown described opportunities within CDC to implement primary prevention strategies. CDC, HUD and the U.S. Environmental Protection Agency (EPA) are the three principal agencies involved in primary prevention of lead poisoning through housing-based initiatives. HUD evaluates housing interventions; trains the workforce; reduces lead paint in federally-assisted housing; initiates model housing codes and industry standards; and provides grants to state and local housing programs for lead hazard control.

CDC performs the following activities. Surveillance is conducted on BLLs to identify populations and areas at high risk for exposure. Professionals and the general public are educated on lead hazards and methods to reduce exposure. Cooperative agreements are provided to state and local health departments to identify and provide services to affected children. EPA conducts the following activities. Authority is given to states to license lead paint professionals. The "lead hotline" is maintained with HUD and CDC. The disclosure rule is enforced with HUD and the Department of Justice. Lead is addressed at Superfund sites with CDC. Standards are established for lead in environmental media.

CDC surveillance data have been invaluable in identifying houses that repeatedly poison children. Controlling or eliminating lead hazards in properties that repeatedly poison children could save $45,000 in lifetime earnings for children who move into these addresses over the next ten years. CDC, EPA and HUD piloted studies in Cleveland, Ohio; Jacksonville, Florida; and New Orleans, Louisiana to focus on this issue. The cities made tremendous efforts to address the problem of childhood lead poisoning after the three federal partners presented data for the respective areas.

Dr. Warren Friedman is ACCLPP's *ex officio* member for HUD. He described opportunities within HUD to implement primary prevention strategies. HUD established its Office of Healthy Homes and Lead Hazard Control (OHHLHC) in 1991 and added the "Healthy Homes" concept in 1999 to include lead and other housing-related safety and health hazards. One of HUD's *Healthy People 2010* goals is to eliminate childhood lead poisoning and lead paint hazards in housing where children <6 years of age live. HUD's 2000-2001 National Survey of Lead and Allergens in Housing showed that ~38 million homes contain lead-based paint (LBP) and 24 million homes have significant LBP hazards above HUD's *de minimis* amounts. Housing characteristics that are more prone to LBP hazards include pre-1960, poor condition, unsafe renovation or maintenance and exterior contaminated soil.

HUD conducts most of its lead activities under Title X. The law was established in 1992 with the following purposes. The threat of childhood lead poisoning will be reduced in housing that is owned, assisted or transferred by the federal government. An infrastructure will be developed to eliminate LBP hazards in all housing. The most promising and cost-effective methods will be developed to evaluate and reduce LBP hazards. Title X contains several sections that specifically relate to housing-based strategies for lead, including grants for LBP hazard reduction; evaluation and reduction of LBP hazards; disposition of federally owned housing; national consultations with other federal agencies on LBP hazard reduction; guidelines for LBP hazard evaluation

and reduction activities; and lead disclosure information upon the transfer of residential property.

More details on Title X sections are described as follows. The HUD-EPA disclosure rule provides information on housing to potential buyers. HUD's "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing" is an accepted best practice for lead hazard evaluation and control and is also cited as one of EPA's documented methodologies. HUD plans to complete its revision of the document by the end of 2005. HUD's Lead Safe Housing Rule (LSHR) covers pre-1978 federally assisted housing and federally owned housing being sold. LSHR was established with two overarching goals to protect children and ensure the viability of low-income housing. LSHR also includes seven hazard control strategies, exemptions, prohibited methods, interim controls, clearance and subparts.

HUD's environmental interventions for BLLs are based on CDC guidance. The interventions include verification of a BLL if not reported by a medical healthcare provider, risk assessments, and local reporting or exchange of information with the health department. HUD's other requirements cover public housing programs, tenant-based rental assistance and OHHLHC grant programs. HUD grantees are now required to incorporate CDC's strategic plan as an activity in lead hazard control grants. HUD has collaborated with CDC, CPSC, EPA and other federal agencies to enforce LSHR, provide LSWP training, target enforcement actions and conduct other activities. HUD implements various techniques to protect workers, families and small children.

HUD announced its FY'05 lead grants in September 2005. Of $139 million for all seven grant categories, ~$90 million will be targeted to programs to make low-income housing safer and healthier. Additional information about HUD's lead hazard control activities is available at www.hud.gov/news.

Ms. Jacqueline Mosby is ACCLPP's *ex officio* member for EPA. She described opportunities within EPA to implement primary prevention strategies. EPA remains committed to protecting children from the effects of lead poisoning and eliminating lead poisoning by 2010. EPA's efforts to address LBP concerns include hazard standards, the Real Estate Disclosure Rule, development of a trained and certified workforce to safely perform LBP activities and extensive public outreach. The reduction of the number of children with EBLLs from 1.4 million in 1980 to 310,000 in 2002 demonstrates the success of EPA and its partners.

Title X authorizes EPA to conduct primary prevention of lead poisoning of children in eight key areas. For "outreach and education," EPA launched the "Chance of a

Lifetime" campaign in April 2004 in partnership with the National Head Start Association. The campaign included the development and national dissemination of a variety of lead poisoning materials for Head Start staff and parents. EPA created and conducted an initiative to outreach to and address the needs of non-English speaking communities. EPA's lead awareness web site was redesigned in 2001 to be more user-friendly. Basic information is now available and efforts to develop a Spanish web page are underway. By the end of 2005, EPA will publish articles in *Environmental Times* for home inspectors and will also provide guidance on lead in soil for owners, renters, buyers, sellers and real estate agents.

For "abatement training and certification of workers," EPA is required by law to establish training and certification standards for contractors performing lead hazard evaluations or abatement. The law allows states, tribes and territories to seek authorization to administer the program. For "new vulnerable population grants," EPA allocates $25,000-$100,000 to areas with high incidences of EBLLs each year. The purposes of the grant program are to identify and address areas with a high potential for undocumented EBLLs and develop tools to address unique and challenging issues in lead poisoning prevention. Eligibility criteria for the grant program include outreach and education; data gathering and monitoring; training, inspections, assessments and demonstrations; new innovative approaches; and ability of the activity to be replicated in other areas. Applications are due to EPA in January of each year.

For "tribal lead grants," EPA allocates $1.2 million each year specifically for tribes to conduct lead education and outreach, blood lead screening, inspections and risk assessments. For the "lead sources strategic plan," EPA is addressing other sources of lead exposure to children, such as window blinds, lunch boxes, foods and holistic medicines. EPA will coordinate with CDC and other federal partners to prioritize products with lead and outline a plan to apply existing regulatory, voluntary and educational tools to reduce lead exposures from these items. Under the Toxic Substances Control Act (TSCA), EPA can address unreasonable risks from lead sources through either a voluntary or regulatory approach. EPA expects to complete the lead sources strategic plan in 2006.

For "renovation and remodeling activities," EPA plans to announce a comprehensive program in the next few months. The initiative may include a proposed rule, LSWP education and outreach, training to reach small businesses and new technologies. For "new lead technologies," EPA is expanding its National Lead Laboratory Accreditation Program to ensure that new portable technologies for clearance of a home are accredited. Disposable cleaning cloths will be introduced as visual verification of lead

clearance for families to safely reoccupy a home. Spot test kits will be refined to allow for rapid and accurate detection of lead in the home.

For "enforcement," EPA obtained 21 supplemental environmental projects (SEPs) in 2005 through administrative enforcement actions. The SEPs total $609,346 and will involve window and door replacement, LBP inspections and risk assessments. EPA will continue to target inspections and enforcement to address human health harm and risks, particularly in properties with multiple or successive EBLL cases. EPA welcomes complaints about "toxic dwellings" from CLPPPs, state and local authorities and the public. Complaints should be directed to the appropriate regional LBP enforcement coordinator or EPA.

Local and Non-Governmental Perspective. Dr. Andrew Doniger is the Director of the Monroe County, New York Department of Public Health (MCDPH). He described lessons learned at the local level in identifying lead hazards in units rented to public assistance clients. The characteristics of efficient lead primary prevention interventions include a housing focus; utilization of an efficient targeting approach and a substantial funding source; integration into local public health, social services and housing programs; and acceptability to property owners. Monroe County is a "rust belt" area in upstate New York with 80,000 residential properties and high rates of deteriorated housing in the crescent-shaped core of city. Of all properties, 80% or 64,000 were built before 1970. In 2004, 900 children in Monroe County had BLLs >10 µg/dL. Of this population, 95% were believed to be public assistance recipients.

In 2005 in Monroe County, 13,510 families received public assistance; 11,953 children <18 years of age were in these families; and 6,000 units housed children on public assistance at any point in time assuming each household had two children. The public assistance program is administered by the Monroe County Department of Human Services (MCDHS), while housing quality or code enforcement is managed by the city of Rochester. MCDPH considered several methods to be efficient in targeting housing for lead hazard assessment, such as all residential housing units, rental units, units with children <6 years of age, housing in the crescent, housing rented to families on public assistance with children <6 years of age, and housing in the crescent rented to families on public assistance with children <6 years of age. However, emphasis on all housing rented to families on public assistance will probably be most feasible for MCDPH.

MCDPH also considered the consequences of both "broad" and "narrow" targeting approaches. Broad targeting may result in false positives, expenses to the municipality or landlord, excessive vacancies due to delays in renting properties, or homelessness due to a reduction in available low-income housing. Narrow targeting may result in false

negatives, excessive hazards to children or an inappropriate sense of security in the community.

MCDPH used existing data to develop an appropriate targeting strategy in Rochester, New York. The data were based on 64,000 pre-1970 units, 25,000 units in the crescent, 6,000 units occupied by families on public assistance and 900 children with BLLs >10 µg/dL. MCDPH piloted a quality housing initiative (QHI) in Monroe County with these data that showed 100% of properties in the study had lead hazards. A review of public assistance housing problems within MCDHS showed a lack of affordable low-income housing, poor quality of housing, lead hazards, property damage and failure to pay rent by public assistance clients, and disagreement about responsibility for property damage.

The Monroe County QHI was initiated in 1995 with "move in/move out" inspections for vacant public assistance rental properties. City of Rochester code enforcement officers perform these inspections based on the housing code. MCDHS contracts with the city to conduct QHI inspections. Although the inspections are voluntary, MCDHS will pay rent directly to landlords if the property passes the QHI inspection. Diverse stakeholders have expressed strong support of QHI. Landlords appreciate the direct rent payment and believe QHI assists in the prevention of property damage. MCDHS obtains more cooperation from landlords and believes QHI protects clients. The city of Rochester receives resources from the county government for the housing program.

Several actions will be taken to address the significant problem of excluding lead hazard assessments from QHI. The city housing code does not define lead hazards at this time, but will be amended in the fall of 2005 to presumptively make peeling paint a health and safety code violation. QHI will become a lead hazard primary prevention intervention in 2006. Lead hazards will be identified in residential units rented by public assistance clients. Inspections will be performed by city code enforcement officers and paid for by MCDHS. Temporary Assistance for Needy Families (TANF) will continue to serve as the source of public assistance funds.

MCDPH demonstrated that QHI can serve as a primary prevention intervention in Monroe County. Public assistance will result in efficient targeting. QHI will be paid for with public assistance funds and will be integrated with both the MCDPH public assistance and city code enforcement programs. Landlords have a positive view of QHI at this time, but additional outreach should be targeted to this group. Landlords should be educated in using interim controls to make properties safe with minimal burden and expense; actively involved in primary prevention; and encouraged to use personal resources to decrease lead hazards in properties.

Mr. Matthew Carroll is the Director of the Cleveland Department of Public Health (CDPH). He described local efforts that have been undertaken to make Greater Cleveland a lead-safe city. Data show that 69%-88% of homes in Cleveland have LBP hazards; 11.2% of children have BLLs >10 µg/dL; the proportion between 55% of owners and 45% of renters is close; and EBLL rates dramatically decreased from 1994 to 2004.

CDPH participates in a number of primary prevention activities. Partnerships were formed with both the county and city to administer HUD grants. The Greater Cleveland Lead Advisory Council (GCLAC) was recently established with three-year funding of ~$1.4 million, diverse representation from several organizations and five subcommittees to implement the lead elimination plan. The subcommittees focus on infrastructure and capacity to sustain activities; medical issues; environment and housing; outreach, advocacy and integration; and workforce development.

GCLAC was formed with three key elements. A separate organization will be created to sustain activities beyond the three-year grant period. Lead poisoning prevention will be integrated and incorporated into housing and community development departments to reach at-risk families. Unambiguous milestones and objectives will be developed. Other initiatives were developed and new resources were identified to strengthen capacity to control lead hazards in Greater Cleveland. CDPH and the county administer a lead demonstration grant and two lead hazard control grants. These funds will be used in an effort to complete and clear 676 units by 2006.

TANF dollars will be used to conduct low-cost interventions in 225 units. Funding from the county and private sources will be used to integrate low-cost lead interventions into a pilot home visiting program for at-risk mothers in 115 units. EPA will provide support to conduct assessments, surveys and educational interventions for up to 1,500 units in high-risk areas. The new sources of lead prevention dollars total $2.5 million. Partnerships with HUD grantees have resulted in successful execution of lead hazard control activities. Broad community support and participation have resulted in an articulation of the lead elimination plan. Outreach is targeted to FBOs, landlords and community development corporations. A stronger focus is now placed on workforce development. However, additional resources are needed for enforcement of the Greater Cleveland lead ordinance.

CDPH has conducted a variety of activities in response to ACCLPP's eight primary prevention recommendations. Data on EBLLs were collected by specific neighborhoods. Partnerships were established with county human service programs

that involve home visits. Formal liaisons were established with the Cleveland Housing Department to integrate enforcement and prosecution activities. Presentations were made to educate the state legislature and other policymakers on primary prevention. A clear strategic plan was identified under the lead elimination plan. Collaborative efforts were undertaken with housing agencies through GCLAC. Effective media coverage of primary prevention strategies was achieved. The federal disclosure law was incorporated into the Greater Cleveland lead ordinance. Community leadership and outreach were mobilized.

Collaborative efforts were undertaken with county human services agencies and other groups to identify and prioritize high-risk families for action. Lead hazard control activities are underway in priority properties. Training in LSWP and dust sampling is being provided with a focus on Section 8 property owners, maintenance workers and retail paint customers. The "Lead Safe Maintenance Certificate" was created to offer services and incentives to property owners. Neighboring tenants of properties that house children with EBLLs are being notified.

The lead poisoning prevention ordinance was improved and passed to increase enforcement authority and specify lead-safe maintenance practices. Lead hazards were classified as a "public health nuisance" to allow for easier enforcement. Leadership is being provided to the county and advocacy organizations to regularly foster substantive communication and collaboration among these groups and implement the lead elimination plan. Information on the location of lead hazards is being provided. Efforts are being made to pursue creative financing.

The lead elimination plan is being evaluated and redesigned to achieve primary prevention while ensuring adequate secondary interventions. The CLPPP is attempting to improve screening rates and perform proper follow-up in accordance with the new Ohio state law. Efforts are being made to conduct effective community outreach and advocacy with involvement of all community members and a focus on primary prevention. The lead elimination plan will be evaluated by a local expert based on concrete objectives. The home visiting pilot study was approved by a local Institutional Review Board and is underway.

CDPH realizes that despite its successes, several challenges remain in Greater Cleveland. Resources should be maintained and expanded to directly impact hazards in housing units, particularly enforcement. Significant reliance will continue to be placed on HUD funding. Strategies should be developed to address competition with other significant social concerns at the local level. Sufficient funding and authority are

necessary to effectively implement enforcement. Progress with the lead elimination plan may result in less urgency toward childhood lead poisoning.

Several key factors played a role in CDPH's progress in primary prevention. All interested parties were convened. Co-leadership was established with city and county public health organizations and elected officials. Lead poisoning elimination was articulated as both a goal and primary public health initiative. Efforts were made to integrate lead poisoning into child health and welfare programs whenever possible. Existing momentum was used to create more advocacy.

Mr. Wayne Durand is a Code Enforcement Officer for the Los Angeles Housing Department (LAHD). He presented LAHD's LSWP collaborative. Buildings constructed before 1978 in the state of California can be presumed to have lead. LAHD is 100% fee supported and only inspects multi-family privately-owned properties. Property owners pay ~$27 per unit each year for LAHD to conduct inspections. The fee-based relationship has resulted in strong collaborations between LAHD and tenant advocacy groups, legal advocates and apartment owner associations. Since 1994, California has required all building inspectors, engineers and architects to complete continuing education, but the law does not apply to contractors.

LAHD's LSWP process is outlined as follows. Property owners are notified 60-90 days prior to an inspection. Addresses to be inspected are identified by census tracts and referred to HUD-funded CBOs. The CBOs assist LAHD in health hazard outreach, ensure repairs are performed in accordance with LSWP and conduct sampling if severe hazards are detected. LAHD issues a stop work order to the property owner if the CBO identifies unsafe work practices. Results of the inspection are posted in both English and Spanish. Units with lead hazards that house children <6 years of age are referred to the local CLPPP. LAHD has authority to declare a building "substandard," but ~95% of landlords comply with the initial order. Partnerships established under the LSWP collaborative are used for blood screening, reinspection and criminal prosecution.

Mr. Jonathan Wilson is ACCLPP's liaison member for the National Center for Healthy Housing (NCHH). NCHH's three primary focus areas are applied research to fill gaps related to healthy homes issues; technical assistance and training to partners at federal, state, city and private levels; and guidance to groups on policy issues. NCHH's most recent collaborative efforts in primary prevention are outlined below.

NCHH's activities with the U.S. Department of Energy include a research project to determine whether workers throughout the country who repair low-income homes under the weatherization program should be regulated based on maintenance of low dust lead

levels (DLLs), implementation of LSWP and proper clean up. Results of the research project showed that weatherization program workers need LSWP training more than clearance regulations.

NCHH's activities with CDC include a study on exterior visual assessments of windows, roofs and siding in at-risk properties. Findings from this activity may lead to the development of a primary prevention protocol that can be used to determine whether a property should be assessed based on a rapid exterior visual inspection. NCHH plans to publish a paper on the study in the near future. NCHH's activities with EPA include a study on electrostatic dust cloths as a potential method for detecting DLLs on floors during renovation and remodeling. NCHH revised and updated EPA's risk assessment training protocols for inspectors.

NCHH's activities with HUD include a project to address common areas in multi-family buildings and identify hazards that may create problems in individual units. The data showed that significant hazards in common areas are not routinely treated. NCHH revised HUD's "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing" and recently completed two papers analyzing HUD's risk assessment protocols. NCHH found that window dust samples are no more informative in identifying risks for EBLLs than floor dust samples and samples from play areas are no more beneficial than those from living rooms.

NCHH is participating in a study in Cincinnati, Ohio with pregnant women focusing on exposures to chemicals and other substances early in life. The randomized control trial component of the study will provide low-level lead hazard control treatment in the homes of selected subjects. The overarching goal of the sub-study is to achieve DLLs on floors and window sills in homes that are below federal standards. The subjects will be followed for a three-year period. NCHH is partnering with two organizations to develop an online guidance course for volunteers who renovate and remodel homes.

NCHH was involved in an initiative to conduct lead remediation in home-based child care centers. The project was found to be a solid mechanism in protecting additional children. Under the study, 26 homes in Rochester and Syracuse, New York were treated to reduce DLLs and paint lead levels. NCHH recently completed two papers based on the Boston Lead-Safe Yard Program. The study focused on the use of XRF in soil lead samples and the efficacy of treatments in maintaining low lead levels in the home and soil. NCHH is collaborating with its Lead Training Center to train CLPPPs across the country.

ACCLPP noted that most of the strategies described by the primary prevention panel are documented in detail in *Building Blocks for Primary Prevention: Protecting Children from Lead Based Paint Hazards*. Several members suggested additional strategies that can be implemented to strengthen housing-based primary prevention of lead poisoning at federal, state, local and private levels.

- Coordinate and compile primary prevention efforts at federal, state, local and private levels to develop and widely disseminate consensus guidelines or a national best practices manual. Use this resource to prevent duplication of existing primary prevention activities; allow more rapid implementation of primary prevention strategies at state, local and community levels; and explicitly outline the role of contractors, homeowners and governmental agencies in primary prevention.
- Attempt to eliminate silos or stovepipe thinking at state and local levels by characterizing "lead hazards" as a housing problem with health consequences. Strengthen relationships among housing inspectors, health departments, governmental officials and CBOs with strong mobilization at state and local levels and joint implementation of primary prevention strategies.
- Encourage federal agencies to require grantees to submit annual reports of primary prevention activities. Ask project officers within each agency to use this information to identify innovative approaches developed by grantees and share these best practices with other communities.
- Urge federal agencies to broadly distribute information to states about the large pool of untapped TANF dollars that can be used for lead-safe housing. However, include a disclaimer that TANF dollars, Medicaid funding and other governmental resources will not be widely accessed in jurisdictions with large populations of undocumented immigrants.
- Encourage grantees to locate "champions" who will provide primary prevention education and implement activities at the local level.
- Urge grantees to replicate NCHH's primary prevention model of targeting children in home-based child care centers. Inform grantees that these facilities care for the youngest children, but are not regulated by most states or required to be registered.

The primary prevention panel provided additional remarks in response to ACCLPP's suggestions. One, EPA recognizes that soil contributes to lead levels in children and recently issued a soil lead standard. Soil lead levels must be disclosed upon the transfer of property. CDC programs across the country significantly differ in prioritizing lead in soil. HUD now places more emphasis on soil lead control as a condition of its

grants and also includes soil in risk assessments of HUD-assisted properties. HUD's proposed code provisions for soil were not accepted by the International Code Council (ICC) in the 1990s, but county and city governmental agencies should now consider revisiting this effort. At the local level, lead in soil is generally not prioritized unless remediation activities are funded by HUD.

Two, ACCLPP should make formal recommendations to CDC to address differences in lead policies and codes among municipalities throughout the country. For example, "CDC grantees must adopt state or local codes on LSWP and other issues related to lead hazards before funding is allocated."

Three, a comprehensive manual on primary prevention best practices would be extremely beneficial, but will be difficult to develop and disseminate from a logistical perspective. However, CDC and EPA will approach HUD about the possibility of sponsoring a primary prevention best practices manual.

Four, CDC requires all grantees to develop and implement lead elimination plans, but several state plans do not focus on primary prevention. The state strategic plans provide CDC with an opportunity to identify current primary prevention activities, codes and practices. Interest in primary prevention is apparent at federal and community levels, but is lacking at the state level.

Five, public assistance funding through the Administration for Children and Families is a better mechanism than Medicaid to target lead hazard prevention in properties that house high-risk children.

Six, the original *Building Blocks* publication was removed from the LPPB web site due to concerns expressed by Dupont attorneys about language that was used to characterize the lead paint industry. The revised document was recently cleared by CDC and will soon be re-posted on the LPPB web site in conjunction with a press release. The National Training Center will distribute 1,000 copies of the document to persons who attend training sessions.

Update by the Lead and Pregnancy Workgroup (LPWG)

Dr. Jessica Leighton, the LPWG Chair, covered the following items in her status report. ACCLPP formally charged LPWG with making recommendations in the following areas: prevention of lead exposure for women of child-bearing age and pregnant and lactating women; risk assessment and screening of pregnant women; medical, public health and

environmental management of pregnant women; breast-feeding of women with EBLLs; follow-up of infants and children of mothers with EBLLs; and further research and health education needs in the field.

LPWG is taking several actions to fulfill its charge. Experts representing a variety of key organizations were recruited to serve on LPWG. Existing evidence is being reviewed, including >750 articles related to lead and pregnancy. The data will be evaluated and gaps will be identified and described. Recommendations will be issued in accordance with ACCLPP's formal charge. Three subgroups were formed with ACCLPP representation on each group to review the literature and develop recommendations for each area in the charge. Draft summary documents were circulated to each subgroup. Activities of the three subgroups are summarized below.

Subgroup 1 is reviewing the literature to make recommendations on prevalence, risk and screening. The subgroup is focusing on whether pregnant women should be screened for lead poisoning; the point in pregnancy at which screening should occur; questions that can predict which women to screen; and culturally-sensitive interventions to reduce exposure to potential sources of lead.

The literature review by Subgroup 1 includes three key areas: (1) the distribution of BLLs and other measures of lead body burden in women of child-bearing age, pregnant women at various gestational ages, lactating women and newborns; (2) risk factors and sources of lead exposure in pregnant and lactating women and the neonate; and (3) relationships between maternal blood and bone lead levels and newborn BLLs as well as pregnancy and postpartum BLLs.

Subgroup 1 is reviewing the literature with several basic assumptions. BLLs have declined in U.S. populations. BLLs of U.S. women of child-bearing age are generally low with a geometric mean of 1.02 µg/dL. However, exposure to lead remains a problem. Additional research has been conducted on adverse impacts of lead at lower levels. Sub-populations continue to be at risk. The emergence of research on blood lead mobilizations during pregnancy and lactation is continuing.

Findings of the Subgroup 1 literature review to date are as follows. A U-shaped curve in BLLs is present. Bone lead contributes to blood lead during pregnancy and lactation. The mobilization of lead from bone to plasma may not be adequately reflected by whole blood levels. Plasma is the main biologically active compartment from which lead crosses cell membranes. Maternal lead is highly correlated with umbilical cord lead. Calcium supplementation may decrease bone resorption during lactation.

Bone lead levels appear to decrease with increasing months of lactation. This finding suggests that lactation stimulates the release of lead from bone. Breast-feeding practices and bone lead levels are important predictors of blood and breast milk lead levels over the course of lactation. Nutritional status may be an important modifier of these effects. Risk factors for EBLLs in pregnant and lactating women include residence near lead mines and smelters; recent immigration from areas with elevated ambient lead contamination; possible lifestyle and health factors; cultural practices; take-home occupational exposures; and previous lead exposure.

Subgroup 2 is reviewing the literature to make recommendations on maternal, pregnancy and child outcomes. The subgroup is focusing on guidance medical providers should give to women with EBLLs who are of child-bearing age or pregnant about delaying pregnancy or potential outcomes. The literature review by Subgroup 2 includes the impact of lead exposure in five key areas: (1) fertility and reproductive system integrity; (2) maternal health or gestational hypertension; (3) pregnancy outcomes; (4) delivery, gestational age, birth weight and length, head circumference and congenital malformations; and (5) infant growth and neurodevelopmental outcomes due to prenatal exposure.

Findings of the Subgroup 2 literature review to date are as follows. Lead is a potent reproductive toxicant. Biological mechanisms are uncertain. Delayed puberty and endocrine disruption are possible effects on the reproductive system. The time to pregnancy may increase for persons with BLLs $\geq$10 µg/dL. Lead has been linked to hypertension in non-pregnant adults. Hypertension is a common complication of pregnancy. Lead may exert damage to kidneys or the vascular system. Gestational hypertension is defined in the literature as $\geq$140mmHg/90mmHg after 20 weeks of gestation in women with previously normal blood pressures. Preeclampsia is defined in the literature as gestational hypertension plus proteinuria $\geq$300 mg in 24 hours.

Lead exposure has been associated with an increased risk of gestational hypertension. The magnitude of effects and BLLs at which the risk increases are uncertain. The association between lead exposure and severe hypertension or preeclampsia is unknown. Data linking occupational lead exposure and early fetal loss date back to 1860. The relationship between lower levels of exposure and fetal loss is less certain. The association between lead exposure and pre-term birth is unclear. Lead exposure appears to increase the risk of reduced birth weight. Evidence on the effect of lead exposure on head circumference, birth length and congenital malformations is limited and inconsistent.

Evidence has been produced demonstrating several impacts of lead exposure on infant growth, including reduced infant growth rate and decreased attained weight. Conflicting evidence may be consistent with an adverse effect of prenatal lead on birth weight if later growth represents "catch-up" growth. Prenatal lead levels have been associated with cognitive developmental delays. Some evidence shows an association between lead levels and behavior of young children. However, more data are needed on the impact of lead on both cognitive development and behavioral outcomes.

Subgroup 3 is reviewing the literature to make recommendations on management, treatment and other interventions. The subgroup is focusing on specific components of an intervention, such as eliminating sources; changing pica and other behaviors; reducing lead absorption following exposure through proper nutrition and calcium supplementation; and decreasing retention and toxicity and increasing excretion through chelation. The subgroup will also provide guidance to clinicians and public health agencies on the follow-up and intervention schedule at various BLLs for pregnant and lactating women and the neonate as well as the BLL at which women should not breast feed.

The literature review by Subgroup 3 includes three key areas: (1) breast milk exposure on the amount transmitted to the baby and the benefits versus hazards of breast-feeding when BLLs are elevated; (2) the effectiveness of nutritional supplementation during pregnancy and lactation; and (3) indications, contraindications and adverse effects of chelation on pregnant women, the fetus and neonate. Subgroup 3 is reviewing the literature with the assumption that breast-feeding is beneficial.

Findings of the Subgroup 3 literature review to date are as follows. Lactation likely increases the mobilization of lead from bone. Lead in breast milk is difficult to measure due to the potential for contamination and inaccurate laboratory methods. Breast milk lead levels are significantly correlated with maternal BLLs. Concentrations of lead in breast milk are low compared to those in maternal blood. Few well-designed studies have been conducted to assess the effect of nutritional status on lead levels in pregnancy and lactation. Limited evidence suggests that calcium supplementation during pregnancy and lactation reduces maternal BLLs.

Information on the effects of chelation in pregnancy and lactation is limited. Based on seven case reports, all subjects appeared to have been treated in the second trimester and most were treated with calcium EDTA. Calcium EDTA resulted in a decline in maternal BLLs. Of the seven case reports, six resulted in births of healthy newborns. Potential toxicity of chelating agents on the fetus must be considered. Pica is commonly practiced in some parts of the world, but may be difficult to identify. Pica

may be caused by or affect micronutrient status. Health problems primarily occur when contaminated substances are consumed.

LPWG is requesting that ACCLPP submit comments on the three draft literature review reports produced by the subgroups no later than November 1, 2005. Comments should be submitted in writing to Dr. Leighton at jleighto@healthy.nyc.gov. LPWG is also asking ACCLPP to submit additional papers, case reports and references that may have been overlooked during the literature review. From November 15-30, 2005, the subgroups will incorporate ACCLPP's comments to develop final drafts of the literature review reports.

LPWG will convene its next meeting on December 14, 2005 in Philadelphia to discuss outstanding issues related to the literature review reports, review comments submitted by ACCLPP and develop recommendations. From December 2005-December 2006, LPWG expects to formulate its recommendations and produce draft and final reports. Dr. Leighton commended the valuable contributions of Dr. Adrienne Ettinger, of the Harvard School of Public Health, who is serving as an expert consultant to LPWG.

ACCLPP applauded LPWG on producing three comprehensive and clear literature review reports. The documents demonstrate LPWG's outstanding efforts in reviewing and compiling a tremendous amount of data. Several members made suggestions for LPWG to consider during its next meeting in December 2005.

- Provide solid documentation to support the lead and pregnancy recommendations. For example, LPWG's statement that "BLLs of U.S. women of child-bearing age are generally low" will not capture the audience of pediatricians and obstetricians/gynecologists. This language will not encourage providers to add lead screening of pregnant women to existing busy practices.
- Strongly emphasize the need for well-controlled studies on lead and pregnancy. Justify the need for a research agenda on this issue. Include a section on research needs and existing data gaps in the literature. Document the significance of the problem and demonstrate the consequences of ignoring or not treating lead in pregnant women.
- Add a new section to the Subgroup 1 report to highlight published papers on screening and risk assessment of pregnant women.
- Cite current data to demonstrate the lead content in breast milk, formula and other food sources for infants.
- Clarify FDA's daily maximum lead intake by children by adding the following language as the second sentence in the first paragraph on page

6 of the Subgroup 3 report: "However, this represents an excessive intake and would not be considered acceptable at this time."

- Distribute the report beyond obstetricians/gynecologists and pediatricians to include a broader range of healthcare providers who are also able to implement lead and pregnancy recommendations.
- Incorporate language to strongly emphasize that neurodevelopmental effects are more susceptible *in utero* compared to postnatal exposures. For example, repeated lead testing and quantitative assessments of urinary excretion during pregnancy should be recommended. Two lead tests during each trimester may serve as stronger predictors of *in utero* exposure than maternal and cord BLLs. The "research needs" section of the report should call for studies to assess neurodevelopmental effects in children up to five or six years of age. Research in this age range will serve as better predictors of outcomes when children become adults. The possibility of creating a registry for each pregnant women identified with an EBLL at the time of delivery and following these children up to six years of age should be explored. Most current studies only recommend neurodevelopmental assessments of children up to two years of age.
- Place case reports in proper perspective to ensure that this information is not viewed as well-conducted studies supported by solid data. For example, case reports can be used to highlight potential outcomes of children who were exposed to lead *in utero*. This approach may justify the need for follow-up and systematic studies of *in utero* effects of lead to children beyond two years of age. Consideration should also be given to including unpublished data of actual cases in the final report.
- Include a section on the costs and cost effectiveness of screening and early identification of lead in pregnant women versus the costs of treating lead poisoned children.
- Use the final report as an opportunity to educate practitioners who treat pregnant women and children. Provide references on articles, pamphlets, CDC guidelines, ongoing studies and other information on lead and pregnancy.
- Refer to ACCLPP's primary prevention recommendations. For example, discuss the potential risks of lead exposure from remodeling and renovating properties during pregnancy. Cite case reports in the literature of outcomes of persons who were exposed to lead during remodeling or renovation, such as miscarriage or significant problems with children.
- Develop the final report with the following format. Make strong statements at the beginning to emphasize that the vast majority of pregnant women have low BLLs, but appropriate actions to take for pregnant women with

EBLLs are uncertain at this point. Structure each section with conclusions to support the major findings. Provide disclaimers about methodological issues of papers cited in the literature review, such as the articles on low birth weight and pre-term birth. Place the literature review at the end. Rate or identify strengths and weaknesses of data cited in the report, such as well-conducted studies, papers that account for confounding factors of lead and pregnancy, anecdotal data, case reports and studies serving as bases for the guidance.

Drs. Brown, Ettinger and Leighton made several follow-up comments in response to ACCLPP's suggestions. The final report will emphasize that physicians and the general public have demanded information about EBLLs in pregnant women. LPWG will discuss whether a statement should be included to note that legislative and policy decisions are continuing to be made in the absence of science. At this time, at least three states have passed laws requiring screening of pregnant women.

LPWG extensively considered the possibility of using the U.S. Preventive Services Task Force (USPSTF) guidelines to rate the lead and pregnancy studies. LPWG ultimately decided against undertaking this effort because the rating system is burdensome and does not apply to most of the lead and pregnancy papers. However, LPWG will include summary recommendations in the final report based on its discussion of this issue. LPWG will also perform a critical review of the strongest studies cited in the final report and will use these data as the bases of the recommendations.

A representative of the Agency for Healthcare Research and Quality will attend LPWG's December 2005 meeting to discuss USPSTF's draft report on screening of children and pregnant women. LPWG will use this opportunity to identify similarities and differences between the two reports. The literature reviews produced by the three subgroups will be revised for the final report. In addition, the document will be modeled after CDC's document on "Managing EBLLs in Children."

American Academy of Pediatrics (AAP) 2005 Lead Poisoning Statement

Dr. Walter Rogan is ACCLPP's *ex officio* member for the National Institute of Environmental Health Sciences. He outlined the major differences between AAP's 1998 and 2005 lead poisoning statements. AAP technical reports and policy statements are written by ~20 technical committees and then approved by AAP leadership. These statements are used as the basis for Congressional or other testimony and any formal AAP position. Statements must be reaffirmed, revised or retired every five years.

Committees are represented by voting AAP members and liaisons from federal agencies and industry. The Committee on Environmental Health develops AAP's lead poisoning prevention statement and is represented by five members who are active in lead poisoning research or care. AAP's lead poisoning statements cover screening, policy, case management, practice and treatment and are generally synchronized with CDC policy changes entitled "Preventing Lead Poisoning in Young Children." The last major revision of the AAP statement was in 1998.

Major differences between AAP's 1998 and 2005 lead poisoning statements are outlined as follows. The 1998 statement did not specifically mention screening of all Medicaid children. Few state or county policies on targeted screening were established in 1998. The 1998 statement did not mention questionnaires for individual determinations. The 2005 statement explicitly recommends screening of all Medicaid children; advises practicing pediatricians to review and adopt targeted screening policies established by 42 states; and encourages screening by blood draw of all children at 1 and 2 years of age in the absence of state policy or guidelines. Pediatricians are urged to treat non-Medicaid children who are eligible for other forms of public assistance the same as Medicaid recipients. The AAP web site provides a link to the LPPB web site that lists the screening policies and practices of all 42 states.

The 2005 lead poisoning statement also covers new issues that were not addressed in the 1998 document. An explicit referral is made to CDC's document on "Managing EBLLs in Children" that was produced by ACCLPP. All management guidelines between the AAP and CDC documents are consistent. Chelation is specifically not recommended for children with BLLs <45 µg/dL based on 2001 findings from the Treatment of Lead-Exposed Children (TLC) trial. Individual pediatricians are directed not to perform targeted screening on their own. No specific recommendations are made on diet or psychological testing. The BLL of 10 µg/dL was not changed, but has become the substitution for the BLL of 15 µg/dL in the 1998 lead poisoning statement. The need for more data on BLLs ≤10 µg/dL is emphasized in the recommendations to federal agencies. AAP has no regulatory authority to enforce policy, but its guidance is published in *Pediatrics* and distributed to all AAP members for implementation.

Dr. Campbell commended AAP for placing lead screening funding recommendations in the statement for both Medicaid and non-Medicaid children. However, she noted that the recommendations section does not contain strong guidance on primary prevention. Dr. Rogan clarified that pediatricians do not have major responsibility for implementation of most primary prevention strategies. AAP statements are targeted to the activities of pediatricians during routine office practice. However, any active member can use the

chapter resolution process to advise AAP in writing to become more involved in primary prevention or another activity.

Dr. Brown recognized a dilemma in AAP's recommendation to screen all children at 1 and 2 years of age in the absence of state policy or guidelines. States without a screening plan do not receive CDC funding to conduct lead poisoning prevention activities. If the AAP guidance is followed, more children in low-risk states theoretically could be screened than those in high-risk states. CDC is continuing to focus on the issue of targeted Medicaid screening because children in states with no screening plan are not routinely tested at 1 and 2 years of age. Dr. Brown hoped that this problem may encourage the Centers for Medicare and Medicaid Services (CMS) to develop a more constructive solution.

Public Comment Period

Ms. Patricia McLaine of NCHH made several comments in response to the primary prevention presentations and discussion. First, LSWP should be promoted in all properties rather than solely focusing on older housing. For example, the two key groups of children at risk for lead poisoning are those who reside in substandard housing and properties undergoing renovation or repair.

Second, the primary prevention focus should be shifted to the actual location of lead cases. For example, Maryland has recently identified more cases of lead poisoned children in owner occupied housing than rental properties. The standard of care should be equally applied to both types of properties. Third, CDC should make stronger efforts to encourage CLPPPs to engage housing code officials. More progress will be made in primary prevention by urging the housing community, rather than health officials, to take action.

Ms. Mosby announced that EPA is considering the possibility of modifying its LSWP regulations related to renovating and remodeling properties. She committed to notifying ACCLPP when the revised regulations are complete. Dr. Campbell added that LPPB should inform ACCLPP when the federal partners release important documents, research findings or significant developments related to childhood lead poisoning.

With no further discussion or business brought before ACCLPP, Dr. Campbell recessed the meeting at 4:29 p.m. on October 25, 2005.

Overview of the Washington, DC CLPPP

Dr. Campbell reconvened the ACCLPP meeting at 8:43 a.m. on October 26, 2005 and yielded the floor to the first presenter. Ms. Christine Onwuche, the Program Manager of the Washington, DC CLPPP, described key milestones of the program from 1973 to the present. CDC allocated funding to establish and administer DCCLPPP. The Student Health Care Amendment Act made lead screening a law in DC. The Stellar Database System was established and later refined as the LeadTrax Web System. DCCLPPP was restructured with the Childhood Lead Poisoning, Screening and Education Program (CLPSEP) and the Lead-Based Paint, Licensing, Certification and Accreditation Program.

CLPSEP adopted 10 µg/dL as the BLL for an EBLL, hired a manager, formed the Lead Screening Advisory Committee, required all outreach investigators to be certified as phlebotomists, and formally adopted venous blood draw as its only screening method. The Childhood Lead Poisoning Screening and Reporting Act was established and mandated universal blood lead screening of all children <6 years of age. The law requires healthcare providers and facilities to report all blood lead results. Lead in water was identified as a crisis in DC.

CLPSEP's five key program elements are epidemiology, case management, quality control and assurance, screening and public health education. CLPSEP began focusing on primary prevention activities by collaborating and exchanging data with HUD grantees and conducting risk assessments in homes involved in the DC Water and Sewer Authority (WASA) lead line replacement program (LLRP). DCCLPPP gathers data on the estimated prevalence of BLLs among children <6 years of age by wards and zip codes.

CLPSEP received earmarked funds to partner with WASA in LLRP. As of July 2005, 961 addresses received either partial or full replacement of pipes. Under LLRP, comprehensive lead hazard risk assessments are conducted in pre-1950 housing units, blood lead testing is provided to children living in these properties, and assistance is given to families to enroll in DC Department of Housing and Community Development programs. CLPSEP was transferred to the Department of Health Promotions due to the passage of a resolution to establish the Department of Environment.

DCCLPPP is structured with ten essential program components: mandatory reporting of all blood lead test results from laboratories; a viable data management system with medical and environmental data; mandatory dust wipe testing and clearance standards following abatement or remodeling; regulatory authority to require abatement of lead

hazards in units housing children with EBLLs; statutory protection for clients from retaliatory eviction or discrimination related to disclosure of lead and all other housing hazards; a targeted screening plan for high-risk populations; an EPA-authorized licensing, certification and accreditation program for lead hazard professionals and firms; case management protocols at all levels for children with EBLLs; formal partnerships with diverse groups at federal, state, local, community and private levels; and development, implementation and evaluation of a lead poisoning elimination plan by 2010.

Update on the Federal Interagency Task Force on Non-Housing Lead Sources

Dr. Brown described CDC's role on the task force. CDC has long recognized that non-lead paint items are important sources of EBLLs for some children. CLPPPs report that as many as 30% of children have no obvious lead paint source. Due to potential adverse health effects from non-housing sources, CDC requested that an interagency task force be established. The task force is primarily focusing on two key issues. Environmental lead sources should be eliminated or controlled prior to a child presenting with an EBLL. A transparent process should be developed for persons in the field to obtain guidance from appropriate entities and outreach to other communities.

The task force has held four meetings to date and reached agreement for the federal agencies to collaborate on non-housing lead sources. Each federal partner is now identifying gaps and policies in its individual agency to ensure the task force uses existing mechanisms in the most efficient manner. For example, CDC is a non-regulatory agency, but its task force partners have existing authority to enforce regulations or policy.

Ms. Mosby described EPA's role on the task force. EPA realizes that non-housing lead sources must be addressed and resources and outreach efforts must be targeted beyond lead paint to reach the *Healthy People 2010* goal for childhood lead poisoning. EPA is a regulatory agency and can use TSCA to ban the manufacture, production or distribution of products that lead to unreasonable risks. EPA is exploring the possibility of using TSCA to make label changes of non-housing lead products, but will continue to partner with the other task force agencies, non-governmental organizations and industry because regulatory authority under TSCA is limited.

EPA will take several actions to support activities of the task force. A lead source strategic plan is being developed to identify non-housing lead products and strategies to mitigate risk. EPA hopes the finalize the document in 2006. Partnerships will be

established with industry to voluntarily phase-out or ban non-housing lead products. Outreach and education initiatives will be implemented.

Ms. Lori Saltzman is ACCLPP's *ex officio* member for CPSC. She described CPSC's role on the task force. CPSC's mission is to reduce deaths and injuries from consumer products, but the number of EBLL cases associated with consumer products is not known. The Consumer Product Safety Act authorized CPSC to ban lead paint, while the Federal Hazards Substances Act (FHSA) can be used to address non-lead paint sources. An FHSA ban, recall or other action requires a product to be toxic and a determination to be made that exposure to the product will result in substantial illness or injury under reasonably foreseeable handling and use.

CPSC codified its lead guidance in the late 1990s to caution manufacturers, retailers, distributors and importers against using lead in products and to urge testing of products that contain lead. CPSC uses existing authorities to develop mandatory and voluntary standards, formulate guidance for industry and consumers, create testing protocols, initiate product recalls and engage in public awareness. CPSC's recent activities include policy enforcement and collaborative efforts with manufacturers, health departments and state governments to remove lead from mini-blinds, imported crayons, children's metal jewelry and lead paint from playgrounds.

CPSC takes several actions to reduce deaths and injuries from consumer products. U.S. Customs and field compliance officers throughout the country identify, investigate and inspect products on a regular basis. Complaints made directly to CPSC by other federal agencies, state and local health departments, industry and consumers are investigated. The CPSC laboratory is used to test samples and health scientists conduct assessments to determine whether products pose a health risk. Collaborative efforts are undertaken with manufacturers, testing laboratories and trade associations. Press releases, safety alerts and informative brochures are developed and disseminated.

The Neighborhood Safety Program distributes materials throughout the country. Materials are routinely translated into Spanish and other languages for a particular at-risk population. CPSC attends technical meetings and maintains involvement with activities of state and local health departments throughout the country. CPSC's existing authorities do not cover pre-market approval or clearance of products. As a result, CPSC hopes that EPA can use TSCA to ban lead from products prior to production or require manufacturers to label lead in products. CPSC plans to use the interagency task force to continue to collaborate with its federal partners in this effort.

Mr. Terry Troxell of FDA described FDA's role on the task force. Current lead exposure levels range from 1.4-2.4 µg/day in the United States. Dietary lead exposures and BLLs dramatically declined after leaded gasoline and lead soldered cans were phased-out in the 1980s. FDA has addressed other contributions to dietary exposure, such as infant formula, fruit juices, ceramicware, wine, bottled water and candy. Particular emphasis has been placed on foods consumed by pregnant women and children.

Some imported candy products were found to be contaminated from lead-based ink used in wrappers in the 1990s. FDA issued a guidance letter in 1995 to address this issue and is unaware of occurrences of lead-based ink migrating into candy since that time. FDA cannot take action on lead ink in candy wrappers that does not migrate to candy, but CPSC can evaluate this occurrence as a hazardous consumer product. FDA established a guidance level of 0.5 ppm for the maximum lead level in candy, but has found that most candy products contain lead well below this level. However, sampling has shown that some Mexican candy products contain significant amounts of chili or salt of >0.5 ppm lead. These types of Mexican candy products are subject to enforcement action if identified, strongly emphasized during sampling at the Border, and may result in increased BLLs.

Sources of lead in Mexican candy include unwashed chili peppers and salt. FDA believes that Mexican candy manufacturers should utilize good manufacturing practices (GMPs) to ensure lead levels are as low as feasible. In March-April 2004, FDA announced its intent to lower the guidance level for lead in candy and issued recommendations to parents to not allow children to consume chili candy, powdered snack mixes and tamarind candy packed in ceramic bowls. FDA's rationale for lowering the guidance level from 0.5 ppm is based on three key factors. Some types of Mexican candy have been found to contain lead levels that are the result of avoidable contamination. Companies should reduce lead in candy to levels that are achievable or feasible with GMPs. Efforts should be made to ensure lead in candy does not pose a health risk to children.

FDA's lower guidance level will result in two major changes. Producers of Mexican candies containing chili and salt will be encouraged to control lead levels in candy ingredients. Producers of other types of candy that occasionally contain elevated lead levels will be encouraged to review practices to more consistently achieve the lowest and most practically achievable lead levels. Limited changes are expected to be made for sugar-based candies because extremely low lead levels are consistently found in sugar.

FDA's lower guidance level will result in a lead intake for the 90th percentile of children <6 years of age of <0.1 µg/day for sugar-based candies; <1 µg/day for chocolate; and <1.5 µg/day for traditional style Mexican candies with 15% chili. Candy intake was estimated using consumption surveys expressed in grams. FDA expects to release the draft guidance for lead in candy for public comment before the end of 2005 and publish the final document in 2006. FDA will continue to conduct other activities, such as assisting state and local governments, making recommendations on analytical methodologies; reviewing test results and commenting on public advisories. FDA plans to use the task force as an opportunity to strengthen coordination and collaboration with its federal partners.

Several ACCLPP members expressed concern that no laws or policies have been established to date requiring manufacturers to test products prior to placement on the market. Stores can be ordered to remove products or items can be embargoed, but these actions are reactive after consumers have purchased products containing lead. Moreover, manufacturers are only "urged" or "encouraged" to not place lead in products.

ACCLPP emphasized the need for federal agencies to develop new and proactive strategies to address products containing lead prior to placement on the market. The interagency task force could serve as the lead in this effort. For example, FDA could help state and local health departments coordinate with other countries to discontinue the manufacture of products that contain lead. CPSC could collaborate with manufacturers in voluntary pilot projects to test products under a stringent quality assurance process prior to placement on the market. Federal agencies could financially penalize manufacturers that are responsible for the production of lead in products.

The interagency task force representatives made several comments in response to ACCLPP's discussion. Pre-market approval or clearance of products will be extremely difficult to obtain without an act of Congress. However, Ms. Mosby made a commitment to determine whether any of EPA's existing authorities can be used or tailored to address lead in products prior to placement on the market. She planned to report her findings to ACCLPP in the near future.

Mr. Troxell announced that manufacturers generally view FDA "guidance" as "*de facto* regulation" and typically comply with the recommendations. Regulatory agencies can also enforce FHSA, TSCA and other existing regulations that prohibit manufacturers from producing hazardous products or foods. The interagency task force representatives welcomed additional comments and suggestions from ACCLPP in addressing non-housing lead sources.

Mr. Wilson described lessons learned from the project. NCHH and the University of Cincinnati initiated the study in 1992 with funding and support from CDC and HUD. The rationale for the initiative was based on three key issues. A large-scale study of lead hazard control in privately-owned houses had not been conducted. A programmatic evaluation of the grant program was needed. Regulations will be issued and guidance will be developed in the future under Title X.

The study was designed to address four major questions. First, can homes treated with less than full abatement meet clearance standards? Second, will children be poisoned in homes being treated? Third, what is the length of time for dust lead loadings to decline after treatment? Fourth, can housing treatments effectively reduce BLLs regardless of pre-intervention levels? Data elements collected under the study included detailed paint lead inspections pre-intervention; serial dust wipe samples pre- and post-intervention; serial blood lead samples from children <6 years of age; and lead hazard control treatments and costs.

From 1994-1998, 14 grantees throughout the country participated in the basic evaluation by taking samples from homes and children before interventions, during clearance, and six and 12 months after clearance. Nine grantees voluntarily participated in an extended evaluation at 24 and 36 months post-clearance and four grantees were recruited into a six-year evaluation at 72 months post-clearance.

Key findings of the evaluation are outlined as follows. Successful reductions in floor DLLs were achieved at clearance. Lead hazard control did not pose a substantial risk to children when HUD guidelines were followed. Cleaning alone showed limited benefits. DLLs at pre-intervention and six to 12 months post-intervention were not found to be different. Full abatement was found to be the gold standard and resulted in significant long-term reductions of DLLs of <1 $\mu g/ft^2$ on floors and <20 $\mu g/ft^2$ on window sills at six years. The data showed that less than perfect cleanup can be overcome.

Costs for interior lead hazard control activities in both single and multi-family units increased with the intensity of seven strategies: 1) cleaning alone, 2) cleaning and spot painting, 3) full paint stabilization, 4) partial window treatment, 5) full window abatement, 6) full lead abatement, and 7) full lead removal. Paint stabilization and interim controls, strategies 2 and 3, significantly reduced dust lead loadings for at least six years. Stabilized paint was found to generally last for at least three years. Statistical modeling found no significant difference in floor dust lead loadings between treatment levels over

the post-clearance period. Both treatment groups showed an 8% failure rate at six years post-intervention.

Significant differences were seen between treatment levels in window sill DLLs over the post-clearance period. Evidence of higher failure rates in the low-level treatment group was seen across the post-clearance period. Statistically significant differences were seen between treatment levels in window trough DLLs and failure rates over the post-clearance period. Windows that were maintained for at least six years showed dramatic reductions in window DLLs. However, window replacements were not found to be associated with any better reductions in floor DLLs than interim controls. Dust lead re-accumulated on windows, but not on floors in units treated with interim controls.

Common areas and exterior spaces were found to influence DLLs in the dwelling. Units with no exterior treatment showed 32% higher interior floor DLLs. Units with no site landscaping or soil treatment showed 45% higher interior floor DLLs. A strong correlation between exterior and site treatment may affect these estimates. Overall, the evaluation demonstrated the effectiveness of interventions. BLLs declined by 37% two years post-intervention. With the exception of children 6-11 months of age, pre-intervention BLLs as low as 10 µg/dL substantially declined in all other children up to 71 months of age. No significant differences were seen by treatment strategy.

Dr. Friedman announced that HUD developed a step-by-step guide to inform applicants about the central contractor registry and the process to electronically submit proposals for HUD's lead hazard control grants to www.grants.gov. HUD is now asking CDC to assist in widely distributing the grants process guide to applicants.

Update on the CMS/CDC Policy on Targeted Screening of Medicaid Children

Ms. Anne Guthrie-Wengrovitz is ACCLPP's liaison member for the Alliance for Healthy Homes (AFHH). She provided a status report on ACCLPP's involvement in the Medicaid lead screening requirement. CDC's 1991 revised lead screening policy recommended that all children 6-72 months of age be screened and BLLs rather than erythrocyte protoporphyrin (EP) be measured. A BLL of 10 µg/dL was established as the level of concern. The 1992 update of the Medicaid policy required both a verbal risk assessment and blood test for screening, but the use of EP or a blood lead measurement was left to the discretion of providers. A class action lawsuit settlement in 1992 resulted in another Medicaid policy. Blood lead measurement was adopted as the only acceptable test and agreement was reached to screen all children.

CDC issued another revision of its policy in 1997 recommending that state and local health departments review data, develop screening plans and screen Medicaid children. The 1998 update of the Medicaid policy required screening of all children at one and two years of age, screening of children 36-72 months of age with no screening record, and blood lead tests rather than a verbal risk assessment. No waivers from the screening requirement were granted even for children in low-risk states. The 1998 and 1999 Government Accounting Office (GAO) reports showed low compliance with the Medicaid lead screening requirement.

Low-risk states submitted complaints to CDC about universal screening and resources that would be needed to adhere to the requirement. The HHS Secretary at that time asked ACCLPP to formulate recommendations to address these concerns. In response to the request, ACCLPP formally established the "Medicaid Targeted Screening Workgroup;" submitted recommendations to the HHS Secretary in 2002 on improving screening and follow-up care of Medicaid children; and published the guidance in the *MMWR*. CDC and CMS have discussed ACCLPP's recommendations at the staff level, but no policy changes have been made and no report has been given to ACCLPP on actions taken.

Since 1999, CMS has required states to submit Form 416 each April to report lead screening data and summary data on Early and Periodic Screening Diagnosis and Treatment (EPSDT) services. AFHH and the National Health Law Program (NHLP) jointly submitted a Freedom of Information Act request to CMS to obtain state data over the five-year period of 1999-2003. AFHH and NHLP analyzed and published these data in reports entitled "Stuck in Neutral" and "Children's Health Under Medicaid: A National Review of Early and Periodic Screening Diagnosis and Treatment."

Form 416 data are categorized by children <1, 1-2 and 3-5 years of age. Key findings from the AFHH/NHLP analysis of Form 416 data are summarized as follows. Most Medicaid children received some type of preventive care each year that states billed for an EPSDT service. In 2003, 83% of enrolled infants <1 year of age and 70% of children 1-2 years of age received at least one EPSDT screening. However, only 24% of children 1-2 years of age served by Medicaid received the required lead screening test.

Limited progress has been seen in the percentage of children who received EPSDT screening and were also tested for lead. The trend has only slightly increased from 16% in 1999 to 24% in 2003 since the 1998 GAO report was published. The overarching problem is that children who present to providers still do not receive required lead screening tests. In 2003, only 34% of children 1-2 years of age who obtained preventive care received a blood lead screening test as part of screening.

The AFHH/NHLP analysis also identified several limitations. Form 416 data are entirely self-reported. States may encounter difficulties in collecting data from managed care organizations (MCOs) and laboratories that provide services under contract to state Medicaid agencies. An assessment is difficult to make on whether apparent changes in screening reflect actual changes in service delivery or anomalies in data reporting, such as age classification issues. Trend analyses are limited because state forms are not included for each year and data are missing for some large states. Specific services delivered to individual children are not identified. Some states claim that Form 416 data under-represent actual screening performance. The need for accurate data to implement successful screening programs has been emphasized.

AFHH made several recommendations in its report to advance targeted screening of Medicaid children. Responsibility for Medicaid lead screening should be shifted from CMS to CDC. State Medicaid agencies should adopt lead screening strategies with proven effectiveness in other states. Critically needed resources should be allocated to CDC for lead poisoning prevention. ACCLPP should identify its next steps in this effort.

ACCLPP emphasized the need to collect data from billing rather than epidemiological departments to accurately capture screening trends of Medicaid children. Billing records are more computerized and systematic than EPSDT records. Moreover, providers and health department staff should be educated on the difference between a lead screen and hemoglobin test.

ACCLPP noted that several successful state models of lead screening of Medicaid children are available for replication or adoption. For example, Wisconsin will download lead level data to the state computerized immunization registry beginning in 2006 to provide physicians with more accurate information. As of January 1, 2006, MCOs will pay any Women, Infants and Children (WIC) program and all other providers in Wisconsin for blood lead testing. Wisconsin has developed the "Blood Lead Testing Profile" as a report card for physicians to test for lead poisoning in Medicaid children.

Dr. Brown described several activities that are underway at CDC. ACCLPP's recent letter to the HHS Secretary was forwarded to CMS for a response. CDC is allocating funding to the National Committee for Quality Assurance to develop a Health Plan Employer Data and Information Set measure for screening of Medicaid children. The measure will be used as a report card for MCOs and other groups to evaluate and publicly report screening of Medicaid children.

CDC is now requiring CLPPPs to match blood lead test results to children enrolled in Medicaid. However, several CLPPPs are not in compliance due to concerns with Health Insurance Portability and Accountability Act of 1996 (HIPAA) requirements. CDC has informed CLPPPs that public health needs are always prioritized over HIPAA. CDC has also advised CLPPPs to replicate the Rhode Island model in which the state health department and Medicaid state agency have agreed to match CLPPP and MCO data.

CDC is attempting to pilot an initiative to reimburse WIC programs for conducting blood lead testing. Four case studies have demonstrated success in this effort. CDC will meet with the National Association of WIC Directors to discuss the initiative and will also present the project to CMS. CDC is engaging in these communications to assure WIC that blood lead testing is not expected to be performed free of charge.

Update on ACCLPP Documents

Adverse Effects of BLLs <10 µg/dL Report. Dr. Brown reported that the document was issued as the fifth revision of CDC's statement on "Preventing Lead Poisoning in Young Children" and is consistent with AAP's lead poisoning statement. The CDC Media Office declined to issue the document with a press release due to more pressing news about the recent hurricanes and other priorities. CDC made the report available to partner organizations and cleared a series of questions and answers that CLPPPs can use to respond to inquires or comments at state and local levels. LPPB is continuing to collaborate with ACCLPP members who represent parent and community groups to address issues specifically related to parents.

In response to ACCLPP's questions, Dr. Brown confirmed that a notice of the <10 report will be distributed to groups and individuals on LPPB's mailing list. Hard copies of the document will also be provided to CLPPPs and key organizations for wider dissemination. The full report is now available on the LPPB web site.

Clinical Paper. Dr. Helen Binns is ACCLPP's liaison member for AAP and primary author of ACCLPP's paper on *Understanding Blood Lead Levels and Primary Prevention*. She covered the following areas in her update. ACCLPP reached consensus during its previous meeting to co-publish the paper in the *MMWR Reports and Recommendations* and *Pediatrics*. CDC approved the document for the initial *MMWR* clearance process, but *Pediatrics* will only publish the paper if ACCLPP addresses several concerns raised by two reviewers. Drs. Binns, Brown and Campbell

decided to postpone initiation of the *MMWR* clearance process at this time because comments by the two reviewers will result in a substantial revision of the document.

In general, the most significant changes will be made to the prevention and intervention section. In particular, the reviewers raised six key concerns. One, the paper "fails to recommend the use of dust wipe sampling before purchasing or leasing a house or apartment and after renovation." The authors are proposing to address this concern with the following revisions. More emphasis will be placed on CDC, HUD and CLPPP activities that are being implemented to advance toward primary prevention strategies. More information will be provided on the disclosure rule. A statement will be made to assume that lead is present in older housing. Dust testing will be described as a possible strategy, but a disclaimer will be included. A single dust test should not be viewed as a lead-safe home because all surfaces may not be cleaned.

The need to decrease opportunities for lead exposure to children will be emphasized. The failure of educational strategies and benefits of professional cleaning will be described. The importance of making repairs only if LSWP and clearance testing are followed will be underscored. A disclaimer will be included that controlled studies have not produced evidence demonstrating the role of repairs in lowering BLLs <10 µg/dL. Some previous studies have shown that repairs resulted in harm. A new resources table for pediatricians and parents to obtain additional information was drafted and will be included in the revised paper. The table was distributed to ACCLPP for review and comment.

Two, the "recommendations do not adequately address the problem of modifying treatment and environmental testing based on the child's age. A BLL of 9.9 µg/dL in a child six months of age should be treated much more aggressively and urgently than if the same value was reported for a child 24 months of age." The authors are proposing to address this concern by adding the following language to the current recommendation. "Clinicians might consider more frequent blood lead testing of younger children; children believed to be at higher risk for lead exposure; and children whose BLLs are approaching 10 µg/dL, especially at the beginning of a season in which BLLs tend to be higher."

Three, "what will be CDC's recommendation for an early intervention referral?" The authors are proposing to address this concern by adding the following language. "CDC has previously recommended that if children with EBLLs were referred for intervention services, referral should be made to early intervention/stimulation programs. Clinicians might consider referral of children in the first three years of life with lower BLLs as well,

particularly for those with risk factors for impaired development." CDC's 2002 case management document will be cited.

Four, "the authors indicate that a BLL of 10 µg/dL might be more clearly called a current 'public health action' level. However, CDC fails to recommend environmental testing of housing or other potential sources of environmental lead intake until children's BLLs exceed 15 or 20 µg/dL." The authors are proposing to address this concern by adding the following language. "Primary prevention recommends de-linking the inspection from BLLs, while maintaining services to children as currently recommended." The authors have not decided whether a strong recommendation should be made on children <2 years of age with BLLs >10 µg/dL.

Five, "a recommendation for pediatricians to use blood lead testing laboratories that meet a standard of ±2 µg/dL is easily feasible." The authors are proposing to address this concern by adding recommendations for pediatricians to evaluate the proficiency of local laboratories.

Six, "pediatricians can advocate for numerous other items, including lists of housing shown to be either safe or contain lead hazards. Milwaukee and Rhode Island serve as models in this effort. Pediatricians can also advocate for dust wipe testing in rental properties or federally subsidized housing. Pediatricians and community advocates in Rochester, New York serve as models in this effort. Pediatricians can implement software programs that use the child's address to determine the probability of a BLL 5 or 10 µg/dL; maximize the use of surveillance data; and minimize the amount of time needed to ask parents of patients about risk factors for lead exposure." The authors did not propose changes to the current language for pediatricians to "advocate for primary prevention interventions in the community and encourage parents to contact local, state and federal agencies for more information."

ACCLPP agreed with the revisions proposed by the authors of the clinical paper, but several members made additional remarks to address concerns raised by the reviewers. For comment 3, the current language on the sum total of all risk factors to refer a child for early intervention should be retained in the paper. A strong statement should be made that an enriched environment is now believed to be critically important in an early intervention referral. Available services in an enriched environment play a strong role in the future success of children.

For comment 4, an explicit recommendation should be made on children with BLLs 10-15 µg/dL. For example, blood lead tests of children <2 years of age should be repeated if the result is a BLL >10 µg/dL. Existing guidance in the blue book on managing

children with BLLs 10-14 µg/dL should be cited. However, the new language should be placed in the proper perspective by noting the lack of supporting data on this issue and describing activities of health departments as potential models to replicate. References should be provided on state and local CLPPPs that can be used as resources.

For comment 6, references to ACCLPP's primary prevention document, the *Building Blocks* publication and registries of lead-safe housing in communities should be added to the current recommendation. Pediatricians should be advised to ask parents of patients about risks in the home and report suspicions of deteriorated properties to the health department for investigation.

Dr. Campbell described next steps with the clinical paper. Dr. Binns will draft a response to concerns raised by the reviewers and will also revise the document based on these comments. The reviewers' comments, ACCLPP's response and the revised clinical paper will be distributed to ACCLPP for review and comment. The authors will re-revise the document based on ACCLPP's comments and the voting members will be asked to submit formal approval in writing. ACCLPP's approved document will be resubmitted to *Pediatrics* and the *MMWR.* Dr. Campbell acknowledged Dr. Binns' tremendous efforts in continuing to revise the clinical paper.

New ACCLPP Business

Over the course of the meeting, ACCLPP suggested that the following items be placed on the next agenda.

- Presentation by the NCEH laboratory on quality assurance/quality control procedures of the LeadCare instrument.
- Presentation by the Administration for Children and Families on TANF dollars that can be used for lead-safe housing.
- Discussion on ACCLPP's role in assisting the interagency task force to address non-housing lead sources. ACCLPP to formulate questions to the task force agencies to guide the discussion.
- Update on the CMS/CDC policy on targeted screening of Medicaid children.

Dr. Rogan asked ACCLPP to consider placing another item on a future agenda. Recent papers and meta-analyses show that lower BLLs in older children associated with changes in IQ appear to be independent of or much stronger than effective BLLs at two years of age. New data demonstrating that peak BLLs at two years of age produce

measurable deficits at five years of age are not consistent with the majority of existing papers. These new data contain implications for children who should be targeted and the issue of health effects from BLLs <10 µg/dL. Dr. Rogan noted that a sufficient amount of new data has been produced for ACCLPP to consider. Experts from the University of Cincinnati who are researching this issue should be invited to present these findings at a future meeting.

Dr. Campbell confirmed that Dr. Kim Dietrich will be invited to the next ACCLPP meeting to present the new data on concurrent BLLs. She asked Dr. Rogan to also serve as a presenter and assist in guiding ACCLPP's discussion on this issue.

Public Comment Period

Ms. Linda Lewis is the Chair of the DC Lead Screening Advisory Committee. She was uncertain about CDC's rationale for funding interventions only when a child's BLL reaches 15 or 20 µg/dL. BLLs <10 µg/dL are known to cause adverse health effects. She asked ACCLPP to recommend to CDC that 10 µg/dL be used as the BLL to take action.

Dr. Brown made several remarks in response to Ms. Lewis' comments. Only weak data have been produced to date demonstrating the effectiveness of interventions on lowering BLLs. Home visits, de-leading, health education and materials have shown limited if any impact on lowering BLLs from 15 or 20 µg/dL. Data from the TLC trial showed that these interventions also do not preserve IQ points at higher BLLs when chelation is recommended. Based on these outcomes, CDC and ACCLPP shifted the focus in childhood lead poisoning prevention from interventions to individual children at lower BLLs to primary prevention. These strategies emphasize the elimination of lead from paint and other sources before children are exposed.

The phase-out of lead from gasoline and all other regulatory or voluntary processes that control or eliminate lead sources have always resulted in a decline in children's BLLs on average. CDC must be assured that cleaning or other interventions will improve the future health of an individual child. CDC must also be mindful of limited resources that are dedicated to childhood lead poisoning prevention.

Dr. Campbell added that ACCLPP has called for studies to be conducted on the effectiveness of interventions at very low BLLs. ACCLPP will reinforce the need to fill this data gap in its current documents. The voting members will be asked to decide whether this issue should be discussed in the clinical paper.

Closing Session

The next meeting will be held in March 2006 in Atlanta, Georgia. LPPB will circulate the exact dates of the two 2006 meetings to ACCLPP. ACCLPP applauded LPPB staff, Mr. Penn Jacobs and Ms. Evelyn Shepard, for planning, organizing and making logistical arrangements for a successful meeting.

With no further discussion or business brought before ACCLPP, Dr. Campbell adjourned the meeting at 1:02 p.m. on October 26, 2005.

I hereby certify that to the best of my knowledge, the foregoing Minutes of the proceedings are accurate and complete.

1/24/2006
Date

Carla C. Campbell, M.D., M.S.
ACCLPP Chair