Miami-Dade County Health Department Childhood Lead Poisoning Prevention (CLPP) Program is Underway

Lead has no known use in the human body, and lead intoxication has been a problem throughout history. Although national data from 1991-1994 demonstrate a decline in elevated blood lead levels in children, lead exposures high enough to cause concern are still common. Much of the reduction in lead exposure has come from eliminating the use of lead in gasoline and house paint that caused widespread, ongoing exposures. The remaining challenge is far more complex: coping with the large reservoirs of lead in paint, soil, and dust contaminated from gas and paint. Despite the good news during 1991-94, approximately 1 million children still have blood lead levels high enough to be considered lead poisoning (more than 10 (µg /dL), and **1 of every 250 one-year to five-year olds have blood lead levels over 20 µg /dL.**

Childhood lead poisoning is an important problem in Miami-Dade County. During the period 1995-1998, the CLPP Program received 2,006 reports of newly diagnosed children with elevated blood lead levels (BLLs). These data are illustrated in Figure 1. While only 21% of Miami-Dade County's population is black, 53% of the reported cases of childhood lead poisoning from 1995-1998 were among black children. Hispanics make up 59% of the county's population and accounted for 31% of the reported childhood lead poisoning cases. Fifty-six percent of cases during this period were among boys, and 44% were among girls. *The CLPP Program adheres to the Florida case definition of lead poisoning: a laboratory confirmed blood lead level of ≥10 or more micrograms per deciliter (µg/dL) of whole blood measured from a venous specimen.*

When childhood lead poisoning cases are plotted using a geographical information system, two clusters appear which cover eight zip code areas. The larger cluster is located in the center of metropolitan Miami and the second cluster is located in Homestead and Florida City. A local screening guide has been developed by superimposing the cases with zip codes containing greater than 27% housing built before 1950, shown in Figure 2.

There is limited information about the total number of children screened for lead poisoning in Miami-Dade County since the state of Florida only mandates the reporting of elevated blood levels. Therefore the prevalence is not known. However, the Jackson Memorial Hospital Pediatric Clinic supplied CLPP Program staff with complete clinic screening data for 1996, enabling the CLPP Program staff to determine the prevalence of lead poisoning among a population of primarily Medicaid-enrolled children. Physicians at the clinic screen all children at ages 1, 2, and if the child was not previously screened, at 36-72 months. Of the 607 children screened for lead poisoning in the clinic during 1996, 8.4% had BLLs of 10 µg/dL or more. In three of the zip code areas the prevalence ranged from 10.8% to 19.5%.

The United States General Accounting Office has estimated that only 17% of children enrolled in Medicaid in Florida are screened for lead poisoning (US GAO, 1999). The CLPP Program has estimated that screening rates in Miami-Dade County are even lower and do not exceed 10%. This estimate is based on two sources of information. First, the Florida Childhood Lead Poisoning Surveillance Program states that of Florida's seven most populous counties, Miami-Dade County ranks last in screening children for lead poisoning, estimating that only 4% of children under six years of age in the county were screened during the period 1993-1998. In addition, applying 1996 prevalence rates for six zip code areas from the Jackson Memorial Clinic to the population of children younger than 6 living in

Mary Jo Trepka, MD, MSPH, Director
Office Of Epidemiology and Disease Control
1350 NW 14 Street BLDG. 7 Miami, Florida 33125
Tel: 305-324-2413/Fax: 305-325-3562/Email: Maryjo_Trepka@doh.state.fl.us
Website:www.dadehealth.org

those six zip code areas, one would expect that 3,119 children with elevated BLLs living in those seven zip code areas would be reported. However, during 1996 only 162, or about 5% of the expected number, were identified and reported.

Lead poisoning has been a reportable disease since 1992. Miami-Dade County Health Department (MDCHD) has been receiving reports since this time. Due to limited resources, only cases with extremely high lead levels were investigated. The Childhood Lead Poisoning Prevention Program has been running since July 1, 1999, when the MDCHD secured a grant from the Centers for Disease Control and Prevention (CDC) in order to develop a comprehensive childhood lead poisoning prevention program consisting six components: screening, surveillance, follow-up, education, primary prevention, and evaluation. Most of the activities of the six components are conducted countywide. However, screening promotion and most educational efforts are targeted in eight zip code areas which were identified through surveillance and census data of children at highest risk for lead poisoning, recommended by the CDC. During the first year, these activities focus on three of the eight high-risk zip codes; 33127, 33137 and 33138. During year 2 of the 3 year grant, three more zip codes will be added, (33147, 33150, & 33034) and the last two zip codes will be addressed during year 3 (33127, 33142). The following activities have been developed for each program component for the first year of the grant:

- **Screening:**
  - Local screening guidelines have been developed from the participation of local professional health community members, as seen in Figure 2.
  - Refugee children have been screened for lead since October 18, 1999, when the Refugee Health Center began performing lead screens on documented refugee children less than 6 years of age. Of the 200 screened since December 31, 1999, the prevalence of children with blood lead levels $\geq$ 10 µg/dL was 19%. Of those refugee children with elevated blood lead levels, 30% had levels greater than or equal to 20 µg/dL.

- **Surveillance:** Throughout the county, CLPP Program staff are working with laboratories and health care providers to increase the reporting of elevated blood lead levels to 95% of all diagnosed children and expand laboratory reporting. This includes obtaining the results of all lead tests so that prevalence rates can be more accurately estimated. In addition, staff members assess all children newly diagnosed with lead poisoning for nontraditional lead sources of exposure. They coordinate the testing of children who are seen at the refugee health clinic in Miami to assess the risk factors among newly arriving children. A total of 267 children with elevated lead levels have been reported to the CLPP Program since the program began in July 1, 1999. Almost 14% of these reported lead levels were greater than 19 µg/dL.

- **Follow-up care:** CLPP Program staff are intensifying medical management and referral efforts for all children in the county to ensure that those with elevated blood lead levels receive medical, environmental, and social service follow-up consistent with CDC recommendations. STELLAR software is used to monitor these services.

- **Public and professional health education:** The Medical Director of the Miami-Dade County Health Department, Dr. Eleni Sfakianaki, and Director of the Office of Epidemiology and Disease Control, Dr. Mary Jo Trepka, are currently conducting grand rounds at local health care facilities in

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order to educate providers who serve children in year 1 zip codes to increase screening of Medicaid enrolled children. The CLPP Program staff have designed public education materials using focus groups to effectively reach area residents in these zip codes. Finally, the CLPP Program has collaborated with a non-profit organization, Hope Worldwide, that distributes health information door to door and is currently conducting lead informational workshops in the targeted zip code areas.

- **Primary prevention:** CLPP Program staff are working with the Department of Children and Families of Miami-Dade County to include lead hazards in existing inspection protocols of day care and Head Start facilities in Miami-Dade County. The CLPP Program environmental specialist started by inspecting the high-risk facilities. Staff will also work with community agencies to test the feasibility of ground cover strategies to decrease lead exposure.

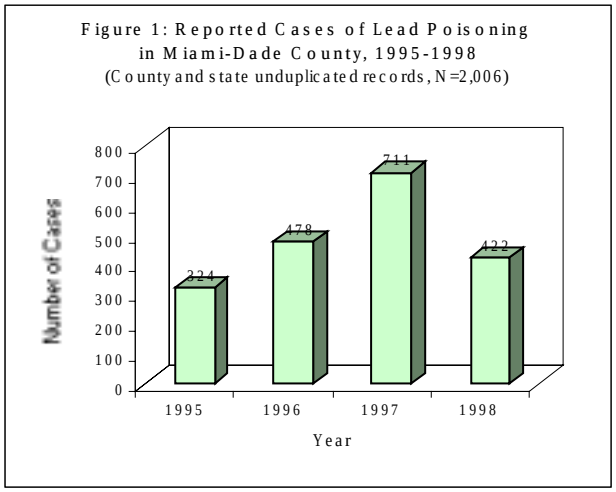
- **Evaluation:** All program activities will be evaluated on an on-going basis and modification will be made if objectives are not being met.

During years 2 and 3, activities will be extended to target zip codes for those years. Through the implementation of these activities, it is anticipated that the prevalence of lead poisoning will decrease among Miami-Dade children.

This is a new program, and our understanding of the problem in this county continues to grow daily. If you are interested in participating in our Advisory Committee Meetings, please feel free to call us.

The success of this program depends on you to appropriately screen children and report lead poisoning.

- **You can report by phone (305)324-2414 or fax (305)325-3443.**
- **Remember to screen at 12 AND at 24 months of age, and at 36-72 months if the child has not been screened before.**



(*Virginia Gilbert, MPH, Tally Hustace, RN, MSN*)

To report diseases or for information:

Office of Epidemiology and Disease Control	
Childhood lead poisoning prevention program	**305-324-2414**
Other diseases and outbreaks	**305-324-2413**
Injury prevention program	**305-324-2953**
HIV/AIDS Program	**305-377-7400**
STD Program	**305-325-3242**
Tuberculosis Program	**305-324-2470**
Special Immunization Program	**305-376-1976**
Nights, weekends, and holidays	**305-377-6751**

Figure 2: Childhood Lead Poisoning* Screening Map for Miami-Dade County

To report lead poisoning* cases, call (305) 324-2414

Directions:

1. Screen at ages 12 and 24 months. Screen at 36-72 months if child has not been screened previously.
2. Ask the parent/guardian for the zip code area(s) where the child lives and attends day care.
3. If any zip code is on the list below (corresponding to the yellow shaded areas on the map), screen the child.
4. Also screen children who
   - ✓ **Are enrolled in Medicaid or receive health care in a publicly funded clinic, or**
   - ✓ **Receive any type of public assistance, or**
   - ✓ **Live in or regularly visit a house that was built before 1950, or**
   - ✓ **Live in or regularly visit a house built before 1978 that is being remodeled, or**
   - ✓ **Have a sibling or playmate with lead poisoning.**

List of Target Zip Code Areas

33125	33130	33135	33140	33150
33126	33131	33136	33141	
33127	33132	33137	33142	
33128	33133	33138	33144	
33129	33134	33139	33147	

* Lead Poisoning is a blood lead level greater than or equal to 10 µg/dL of whole blood.

2/8/00

HEALTH

Geographic Guide to Screening Children for Lead Poisoning

Miami-Dade County

Monthly Report

Selected Reportable Disease/Conditions in Miami-Dade County, *January and February, 2000*

Diseases/Conditions	2000 January & February	1999 Year to Date	1998 Year to Date
AIDS *Provisional	286	272	242
Amebiasis, Acute	0	1	0
Campylobacteriosis	1	2	2
Chancroid	0	0	0
Chlamydia trachomatis	709	715	499
Ciguatera Poisoning	0	0	0
Cryptosporidiosis	0	0	0
Cyclosporosis	0	0	0
Diphtheria	0	0	0
E. coli, 0157:H7	0	0	0
E. coli, Other	0	0	0
Encephalitis	0	0	0
Giardiasis, Acute	0	0	4
Gonorrhea	543	502	360
Granuloma Inguinale	0	0	0
Haemophilus influenzae B (invasive)	0	0	0
Hepatitis A	0	1	16
Hepatitis B	0	6	1
HIV *Provisional	320	290	319
Lead Poisoning	0	0	5
Legionnaire's Disease	0	0	0
Leptospirosis	0	0	0
Lyme disease	0	0	0
Lymphogranuloma Venereum	0	0	2
Malaria	0	2	2
Measles	0	0	0
Meningitis (except aseptic)	1	0	5
Meningococcal Disease	5	1	0
Mumps	0	1	0
Pertussis	0	2	4
Polio	0	0	0
Rabies, Animal	0	0	0
Rubella	0	0	0
Salmonellosis	8	11	10
Shigellosis	3	16	5
Streptococcus pneumoniae, Drug Resistant	18	0	10
Syphilis, Infectious	24	11	6
Syphilis, Other	133	184	99
Tetanus	0	0	0
Toxoplasmosis	0	0	0
Tuberculosis *Provisional	28	10	57
Typhoid Fever	0	1	0
Vibrio, *cholera*	0	0	0
Vibrio, Other	0	0	0

*All data on AIDS is Provisional at the county level and is subject to edit checks by state and federal agencies.

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