DECREASING CHILDHOOD LEAD POISONING IN NEW YORK CITY: 1970–1998

SUSAN KLITZMAN, DRPH AND JESSICA LEIGHTON, PHD

Since 1970, when the New York City Department of Health first established a childhood lead poisoning prevention program, there have been dramatic declines in both the number and the severity of new cases. In 1970, 2,649 cases were diagnosed at the then-current action level of 55 micrograms per deciliter ($\mu\text{g}/\text{dl}$); in 1998, there were 1,072 newly diagnosed cases at the action level of 20 $\mu\text{g}/\text{dl}$, a reduction of about 60% (Fig. 1). This decline becomes even more significant when severity is considered: In 1998, only 15 newly diagnosed cases (less than 2%) met the 1970 case definition of 55 $\mu\text{g}/\text{dl}$. Between 1970 and 1998, the number of children with blood lead levels of 55 $\mu\text{g}/\text{dl}$ or higher declined by almost 99%, from 2,649 to 15 (Fig. 2). The decline in the incidence of childhood lead poisoning in New York City coincides with national trends and has been attributed to regulatory bans on the use of lead in gasoline, paint, food and beverage cans, and plumbing.¹

Over this 28-year time period, the action level for environmental investigation, enforcement, and case management of lead-poisoned children was reduced five times by the New York City Board of Health in light of medical and epidemiological evidence of the potentially deleterious effects of lead at lower levels. To be consistent with current recommendations of the Centers for Disease Control and Prevention (CDC),² the department again lowered its action level, beginning in

Dr. Klitzman is from the Urban Public Health Program at Hunter College, City University of New York. Dr. Leighton is from the New York City Department of Health.

Dr. Klitzman may be contacted at 212-481-5155 (telephone), 212-481-5260 (fax), and sklitzma@hunter.cuny.edu (e-mail). Dr. Leighton may be contacted at 212-676-6323 (telephone), 212-676-6326 (fax), and jleight@dohlan.nycnet.ci.nyc.ny.us (e-mail).

Correspondence: Susan Klitzman, DrPH, Hunter College, 425 E. 25th St., Box 768, New York, NY 10010.

FIGURE 1 New cases of childhood lead poisoning, New York City, 1970–1998, for cases at the medical and environmental action level. Action levels: 1970–1974, 55 µg/dl; 1975–1980, 40 µg/dl; 1981–1985, 30 µg/dl; 1986–1992, 25 µg/dl; 1993–present, 20 µg/dl.

FIGURE 2 Incidence of children with blood lead levels ≥ 55 $\mu\text{g}/\text{dl}$, New York City, selected years 1970–1998.

July 1999, to include children with two blood lead test results between 15 and 19 $\mu\text{g}/\text{dl}$, as well as children with one blood lead test result greater than or equal to 20 $\mu\text{g}/\text{dl}$.

Despite these overall citywide declines, the impact of childhood lead poisoning on certain subgroups in the population remains significant, including African-American and Latino children (over 80% of new cases); children living in neighborhoods where there is a high percentage of older, distressed housing that contains lead-based paint (such as Central Brooklyn and South Queens); and toddlers (almost half of all new cases are between 1 and 2.5 years of age).³ Also, many more children continue to experience mildly elevated blood lead levels. In 1997, 12,308 of 341,983 children tested (3.6%) had blood lead levels greater than or equal to 10 $\mu\text{g}/\text{dl}$ (CDC's current level of concern) that were reported to the New York City Department of Health. The actual number of children with elevated blood lead levels may be substantially higher, however. Despite requirements for universal screening of all 1- and 2-year-olds in New York State and required evidence of blood lead screening on school entry, only about half of all children aged 1–5 years old are screened for lead poisoning.

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