Lead Poisoning: *A National Tragedy*

Tragic because of its consequences, and tragic because it can be prevented.

About the Author:

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In addition, Mr. Keck is President of Leadtec Services, Inc., one of the first firms authorized by the Maryland State Department of the Environment to conduct the mandatory worker training.

Mr. Keck is frequently called upon to speak on the subject of lead-based paint for professional organizations such as the Asbestos Abatement Council of AWCI. Mr. Keck was a featured speaker at the Council's World Congress III in Washington, D.C., December, 1988.

Lead poisoning, particularly childhood lead poisoning, is truly a national tragedy; tragic because of its consequences, and tragic because it can be prevented. Several case histories may help provide an understanding of the breadth of the problem.

Case-in-point number one: Samantha was on the phone. From the outset the tremor in her voice betrayed her near panic. Last year she and her husband had realized a dream-the purchase of a big old house in western Maryland. The house was in reasonably good shape; the usual chipping and peeling paint, but otherwise basically sound. The mortgage payments were high-$1,000 per month-but with a little hard work and elbow grease, the place would soon be perfect for them and their children, with plenty of room for the third, which they had newly discovered was on the way.

As with many dreams, however, the transition to nightmare was all too simple. That first summer had been great. The scraping and sanding of the exterior paint soon led to a transformation. The paper dust masks made the effort tolerable, and the dust that filtered into the house seemed a small price to pay as they looked at the gleaming exterior. As time went by, seventeen month old Tracy seemed less than her usual self, however. Her appetite was not so good, she wasn't sleeping well, and she fussed more than usual. Doctors couldn't find anything wrong. Samantha remained worried, however. Then one day she read an article in a news magazine about lead paint poisoning and became even more concerned. Could they have lead paint in their beautiful old house?

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A call to the Department of the Environment lead to an inspection of the house with an X-ray fluorescence (XRF) analyzer. Much of the paint on the outside and inside of the house contained high levels of lead. Portions of it were chipping in nearly every room. Tracy's pediatrician was asked to per-

form a blood lead test, and Samantha's worst fears were confirmed. Tracy was suffering from mild lead poisoning. Furthermore, it was possible that her unborn child was also poisoned from the lead Samantha had inhaled and ingested while helping to sand the exterior of the house. The doctor told her that both children, Tracy and the as yet unborn child, might already have suffered a degree of permanent brain damage. Samantha wanted to know what to do!

Case-in-point number two: Evelyn's home was not nearly so gracious as Samantha's. The roof was leaking, as was the toilet in the second floor bathroom. The ceiling was beginning to sag, and the windows, with their peeling paint and large gaps, barely kept out the cold.

Evelyn's son, Derwin, now two, had recently been diagnosed as having severe lead poisoning. Evelyn wasn't quite sure what that meant, but she did know that Derwin was fussy and irritable almost all the time, often refused to take his meals, and he seemed a lot slower than her other two children, aged five and seven. Inspectors had come to her house. They said it had a lot of lead. And poor Derwin had to go to the hospital for about four weeks. She visited him as often as she could. All those shots certainly weren't helping his fussiness, but she was pleased that he would soon be well—that he could soon be home.

Evelyn had a friend who had gone through a similar experience. She told Evelyn that she could make her landlord do the work by going to court-by putting her rent in escrow. The landlord wouldn't get his money until he got rid of the lead.

With a little help, Evelyn got her day in court shortly after Derwin returned home from the hospital. It was even better than she thought. Not only did the judge allow her to pay her rent to the court, he reduced the rent to $1.00 per month. Now she would be able to afford all those things for Derwin—and herself—that she wanted.

Two months passed, however, and the landlord still insisted he could not afford the very expensive lead-paint abatement work. And Derwin was doing poorly again. Following a trip to the clinic, he was back in the hospital for another series of painful treatments. The doctor now said that he would probably have trouble in school; that he would probably *always* be a little slow. Maybe with the money she was saving on rent, she could get him some medicine or something; that and good food, warm clothes and books—books would help.

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Four weeks later Derwin returned again to the same home. The paint was still chipping and peeling, the pipes and roof leaking, and the windows gaping. The landlord was trying to get her to move; he said he wanted to board up the house. Lord knows she would like a better place. Maybe a few months more of this $1.00 per month rent and she would be able to afford a really nice place. Maybe.

Before the money was saved, however, Derwin had to be hospitalized for a third time. The doctors now said he was severely mentally retarded. He would require special education and special care for the rest of his life.

The cases above represent two ends of a spectrum that is filled with thousands of Derwins and Tracy's each year. In Baltimore City alone it is estimated that over 2,000 children per year suffer permanent brain and neurological damage from lead-paint poisoning. The majority, like Derwin, come from low income families living in older housing that suffers from inadequate maintenance and deteriorating lead-based paint.

Recently we have become more and more aware of the results of low-level lead poisoning—permanent I.Q. depression, loss of attention span, often accompanied by hyperactivity. These results are both asymptomatic and nondiscriminating. We are, therefore, learning that lead poisoning is not just a problem of the poor, but cuts across all economic and social groups. *Any* child living in a house with lead-based paint is potentially at risk.

With tens of thousands of children being affected across the country each year, lead poisoning is a public health problem of major proportions. The real tragedy lies in the fact that the problem is nearly totally preventable, if only our country has the will. Eliminate lead-based paint and we essentially eliminate the problem.

Eliminating lead-based paint is a costly process, however. Poorly performed abatements can actually increase the levels of hard-to-remove lead dust in the environment, creating an even greater hazard for months, or years to come. Abatement must be accompanied by careful containment; workers must use methods that minimize the amount of lead dust and residue that is produced; and the abatement must conclude with very specific clean-up procedures, followed by surface lead dust clearance tests.

To assure a safe and thorough job, abatement workers must receive *proper training* to protect themselves and the residents of the property being abated. Whatever abatement method is being used—replacement, encapsulation or paint-removal—the effort can leave a house *more* hazardous unless the workers know what they are doing.

Not many know how to perform such work properly, however. Consequently, there is a great need for a set of national guidelines to assure that owners, contractors and public health authorities make the right decisions as they approach the problem of lead poisoning prevention and lead-based paint abatement.

In case you believe the absence of such guidelines is because lead poisoning is a relatively new phenomenon, let me hasten to put that idea to rest. On July 31, 1786, Benjamin Franklin wrote to a friend, Benjamin Vaughn, regarding the hazards of lead poisoning. He commented in particular about the dangers of drinking rainwater which had flowed over roofs where some parts of those roofs had been painted with white lead. As early as 1935, the Baltimore City Health Department was

sufficiently concerned about lead poisoning to provide local physicians with free blood lead tests. Not until 1971, however, was there any federal legislation designed to reduce the incidence of lead paint poisoning.

In January of that year, President Nixon signed the "Lead-Based Paint Poisoning Prevention Act." The purpose of this act was "to provide Federal financial assistance to help cities and communities to develop and carry out intensive local programs to eliminate the causes of lead-based paint poisoning and local programs to detect and treat incidents of such poisoning, to establish a Federal demonstration and research program to study the extent of the lead-based paint poisoning problem and the methods available for lead-based paint removal, and to prohibit future use of lead-based paint in Federal or federally assisted construction or rehabilitation.

Though the LPPPA "authorized" HHS, HEW and HUD to move on the lead poisoning problem, no funds were appropriated for that purpose in 1971, and only $4 million was made available in 1972. In 1973, the act was amended and HUD was instructed to eliminate all lead in HUD owned housing constructed before 1950.

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In the period from 1974 through 1981, approximately 4 million children were screened under grants provided through HEW. Of these, nearly 250,000 were found to be suffering from lead exposure. If lead-based paint was the major culprit, as HEW felt, HUD estimated a cost of $40 to $50 billion to remove it from the nation's housing stock. In spite of these high estimates, however, industry apparently still did not feel that the potential for profit was high enough to warrant the investment of capital in the development of newer, less costly methodologies.

During the years from then to now little of note happened in the abatement arena. Medical researchers, however, became increasingly aware of permanent neurological deficits occurring at ever lower blood lead levels in children.

In 1975, 40 micrograms of lead per deciliter of whole blood was set as the guideline for an elevated blood lead in a child by the Centers for Disease Control. In 1978 the threshold was reduced to 30 ug/dl; and in 1985 it was lowered again to 25 ug/dl. CDC has indicated that it may lower the level once again, perhaps to 15 ug/dl. Consequently, the numbers of children "defined" as poisoned has been steadily increasing.

In 1987, Congress made quite clear its displeasure with HUD's lack of progress in dealing with the problem. The Housing and Community Development Act of 1987 further amended the Lead-Based Paint Poisoning Prevent Act. The amendments required HUD to publish testing and abatement regulations by June, 1988. Within five years of that date, all family units of Public and Indian Housing in the country would have to be tested for lead-based paint hazards. At the same time, the definition of hazardous lead-based paint was changed from deteriorated paint, or paint on surfaces accessible to a child, to all intact or non-intact paint on *all* interior or exterior surfaces. All lead-based paint on such surfaces would have to be removed or encapsulated.

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The LPPPA amendments also required HUD to conduct an 18 month demonstration project to test various methods of testing and abating lead paint hazards in an attempt to reduce cost while insuring safety and effectiveness. As of this writing, HUD is nearly ready to award a contract for the abatement of 200 units of HUD owned housing. The abatements will test some 20 different abatement methods on 40 separate substrates. It is hoped that HUD's report to Congress on this subject, due in December of 1989, will add considerably to our body of knowledge.

Earlier in 1987, the National Institute of Building Sciences, an organization in Washington, D.C. charged with the responsibility of making recommendations to Congress and the building industry on problems within that industry, established a Lead Poisoning Prevention Task Force. This Task Force, comprised of a broad range of persons from the fields of public health,

the environment, housing and real estate, public housing, industry and various public advocacy groups, took an in-depth look at the current state of the problem. Their studies indicated that there was a distinct lack of national direction on the lead paint abatement issue.

Recent findings that lead *dust* rather than paint chips were the most significant hazard were not widely known or understood. Consequently, many abatements being performed across the country actually *increased* the very hazard they were supposed to eliminate. The NIBS report, released in May, 1988, called upon Congress, HUD and other federal agencies to make the development of national guidelines for the identification and abatement of lead-based paint hazards a priority.

In the meantime, HUD met the deadline for the June, 1988 regulations. In the absence of adequate guidelines, however, the regulations were without substance. Groups representing Public Housing Authorities were concerned. In the absence of definitive guidelines for safe and effective abatement, the rush to abate mandated by the newly enacted LPPPA amendments could not only lead to further poisonings, but also to extremely expensive lawsuits. After consultation with Congress, the regulations were put on hold, and HUD entered into contract negotiations with the National Institute of Building Sciences to develop the guidelines. The continued impatience of Congress was evident in the establishment of deadlines, however. NIBS was given less than six months to produce the guidelines; they were to be delivered to HUD by February 15, 1989.

NIBS created a Project Committee for the development of the guidelines by expanding its earlier Task Force. Additional representation was added from the medical, environmental, public housing and building communities, as well as professionals in the testing and abatement fields. Consultants, considered to be the best in the field, were contracted to participate in the process. The goal was to develop a set of guidelines for the identification, abatement, clean-up and disposal of lead-based paint that could be used by Public Housing Officials, contractors and the general public, that would be safe and effective.

The deadlines presented the NIBS Project Committee with a formidible challenge. Nevertheless the 40 Committee members approached the task with a sense of personal commitment. Long hours were required reviewing drafts of the guidelines as well as supporting literature. A final document was produced which, by a consensus of the Committee members, outlines the *only* tested and proven methods for dealing safely with the lead-based paint hazard.

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The major problem was the cost. The "price" for not carrying out abatements which would actually result in the poisoning of young children was a set of procedures that could be expected to cost considerably more than hitherto had been the case.

The Project Committee realized that further research could well develop abatement methods which would reduce those costs, and they called upon the various agencies of the federal government to do so. Until this can be done, however, the Committee realized that the protection of the public health was paramount. Abatement methods that did not take into account the health and safety of both abatement workers and residents, particularly young children, could not be allowed.

The response of Public Housing officials was not surprising. All certainly expressed concern regarding the health of children residing in public housing projects. On the other hand, the potential cost of carrying out the provisions of the 1987 LPPPA amendments was staggering. Unfortunately Congress had authorized no additional funds beyond the Comprehensive Modernization dollars already available to Public Housing Authorities. The PI-IA's were concerned that these badly needed modernization funds, slated for improvements to older public housing projects badly in need of repair, would be eaten up by lead paint abatement activity. Hoping that, with time, a cheaper method of abatement could be found, the PHA organizations lined up in solid opposition to the new guidelines.

NIBS presented the newly drafted guidelines to HUD by the February 15 deadline. The ultimate fate of the guidelines remain uncertain. Faced with strong PHA opposition, HUD has decided to submit the guideline to extensive internal, and perhaps external, review. This process could take many months. In the meantime, PHA's and the many other owners and contractors faced with ongoing abatements each day are still without definitive guidance.

HUD is now in possession of a document which can provide effective guidance for those in lead paint abatement activity, both in the public and private sectors. The guidance available in the document can do much to assure that abatements will indeed improve the quality of the residential living environment, and not worsen it. Hopefully, HUD will see the importance of releasing such an important document as soon as possible. While it may be improved upon with time, no one on the NIBS Project Committee believed that the outlined procedures would not be effective. The concerns expressed were over cost, not effectiveness. The question of cost is for the property owner to decide. After so many years of pain for the Tracys and Derwins, let us not compound the lead-based paint poisoning tragedy by withholding such valuable guidance.