Rachel's Environment & Health Weekly

#687 - Dumbing Down the Children--Part 1, February 17, 2000

Dumbing Down the Children--Part 1

The NEW YORK TIMES reported in 1999 that, "Federal investigators say most states are flouting a 1989 law requiring that young children on Medicaid be tested for lead poisoning. As a result, they say, hundreds of thousands of children exposed to dangerously high levels of lead are neither tested nor treated."[1]

The TIMES explained that, "The General Accounting Office [GAO], an investigative arm of Congress, found that 'few Medicaid children are screened for blood-lead levels,' even though the problem of lead poisoning is concentrated among low-income children on Medicaid." Medicaid is a federal medical insurance program for poor people. In the U.S. today, more than 40% of all poor people are children.[2]

Today nearly a million children (983,000) in the U.S. younger than 5 are believed to suffer from low-level lead poisoning, according to the federal Centers for Disease Control.[3] Low-level lead poisoning can cause permanent learning disabilities, hyperactivity, poor motor coordination, and other developmental deficits. Indeed, reduced IQ, hearing loss and diminished stature are associated with lead levels considerably lower than the 10 micrograms of lead per tenth-of-a-liter of blood now deemed "acceptable" by the U.S. government.[4]

Supplementing and corroborating the GAO study, the state auditor of California, Kurt R. Sjoberg, reached a similar conclusion about Medicaid compliance in a separate 1999 report. "'Thousands of lead-poisoned children have been allowed to suffer needlessly,' because California has not complied with the federal requirement to test them for lead poisoning, Mr. Sjoberg said," according to the TIMES.[1]

Federal rules require that children in the Medicaid program be tested for lead poisoning at age 12 months and again at age two years. The GAO report found that states varied considerably in their compliance with this federal law. Washington State tested fewer than 1% of eligible children; New Jersey tested 40%. Alabama performed best, testing the highest proportion but still fewer than half (46%) of all eligible children.

The TIMES also reported that many states simply don't keep the necessary records to know whether they are complying with federal law or not. "Many states, including Connecticut [the wealthiest state in the Union] said they did not have statewide data on testing rates or the prevalence of lead poisoning," the TIMES reported. The question occurs, why would a state not maintain records to assess the size of this problem and the steps being taken to solve it?

From a state's perspective, the problem isn't one of cost. A lead poisoning test is relatively cheap at $10 or less and besides the federal Medicaid program pays 100% of the costs of testing. If a child is found to have elevated lead levels, Medicaid will pay 100% of the costs of treatment. (Medicaid will NOT pay to test water, paint or house dust to find the source of the contamination, however.)

To summarize: An 11-year-old federal law requires all children

up to age 2 in the Medicaid program to be tested for lead poisoning. Medicaid pays all the costs. The purpose of the law is to catch signs of lead poisoning early in hopes of limiting the damage to the child's central nervous system. Lead poisoning, even at low levels, can leave a permanent legacy of slow learning, hearing impairment, cardiovascular disease, behavioral problems and delinquent behavior.2 But the states are thumbing their noses at the federal law, thus allowing these debilitating medical conditions to develop in tens of thousands of American children each year.

Why? Why are governments refusing to comply with a public health law intended to protect children?

Here are a few preliminary reasons:

** Dr. Maxine D. Hayes, the acting health officer for Washington state, gave a states-rights explanation: "We don't think it's right for the Federal Government to dictate what states should do," she told the NEW YORK TIMES. Dr. Hayes seems to be asserting a state's right to ignore the poisoning of its children and to disregard federal law if it chooses to do so, a dubious legal proposition at best (leaving aside the ethical issues it raises). The question still remains, why would a state government choose to do such a thing?

** Washington state does participate in the federal Medicaid program. The state's Medicaid director gave the TIMES a different explanation: "We don't believe we have much of a problem with lead exposure here." However, this is speculation and the purpose of the lead-testing program is to lay such speculation to rest by producing hard evidence. Bitter experience shows that testing is likely to identify some lead-poisoned children who live in homes built prior to 1978, particularly homes that have been poorly maintained. Eighty percent of housing built before 1978 contains some lead-based paint, which in poorly-maintained buildings is by now probably turning into a fine powdery dust, which toddlers may get on their hands and then into their mouths. But of course without testing, a state official is free to speculate that his or her state is, miraculously, an exception to this general rule. The question remains, why would a state medical officer choose to speculate rather than acquire hard data?

** Many states have turned over their Medicaid responsibilities to health maintenance organizations (HMOs) but have neglected to specify the full range of services they expect HMOs to provide, so lead testing has often slipped through the cracks. The question remains: since Uncle Sam is picking up the tab, why don't states require lead testing when they negotiate contracts with HMOs?

The long and the short of it seems to be that most state governments have designed policies that assure that the lead-poisoning of children continues, and the federal government seems paralyzed in the face of this rebellion.

The question remains, Why?

* * *

There are two major sources of lead in the environment, both of them human in origin. The first is leaded gasoline, which was outlawed in the U.S. in 1976 but which left a residue of about 5.9 million metric tonnes (13 billion pounds) of lead in the environment in the form of a fine, toxic dust.[2] Much of that

powdery lead is still moving around in soil and house dust. Furthermore leaded gasoline is still being used in many countries outside the U.S., so contamination of the atmosphere continues, producing a steady toxic fallout.[5] Without human help, nature does produce some lead dust, but humans now produce 19 times as much as nature produces each year -- a startling reminder of how numerous market-based decisions can add up to an intractable problem of enormous proportions.[5]

The second major source of lead dust is lead in paint. Lead, the soft, gray metal makes an excellent white pigment, and paint made with white lead pigment provides a high-quality, durable protective coating. Eventually, however, even lead-based paint deteriorates. It begins to flake, peel and disintegrate into a fine, powdery dust, which is toxic. Lead in paint was restricted on a voluntary basis by the paint industry in 1955, but voluntary compliance proved ineffective so, in 1970, Congress outlawed leaded paint for interior uses. However there is evidence that leaded paint was used illegally inside buildings until at least 1978. Between 4 and 5 million metric tonnes (approximately 10 billion pounds) of lead were used in paint in the U.S. between 1889 and 1979 and much of it remains where it was originally put, slowly deteriorating into a toxic dust. An estimated 42 million families live in homes containing an average of 140 pounds of lead in paint. If it has not been covered, this paint is a constant danger to toddlers who often pick up the dust on their hands, then transfer it into their mouths.[3]

The danger of lead in paint was first identified 96 years ago when J. Lockhart Gibson, an Australian physician, published the first report in a medical journal describing children poisoned by lead-based paint. Gibson specifically described the dangers to children from lead-based paint on the walls and verandas of houses.[1] The following year Gibson urged that, "[T]he use of lead-based paint within the reach of children should be prohibited by law."[6] Australia finally took Gibson's advice in 1922, 50 years before the U.S. took similar action.

Unfortunately, lead is extremely toxic, especially to children whose developing nervous systems are particularly susceptible to lead poisoning. As little as 10 micrograms ingested daily can poison a child;[2] a microgram is a millionth of a gram and there are 28 grams in an ounce. With 10 micrograms being a toxic daily quantity, the 10 million metric tonnes of lead introduced into the environment by humans during the 20th century creates an almost unbelievably large "sink" of toxic powder available in soil and in house dust, waiting to cause brain damage in toddlers.

Lead poisoning of children in the U.S. was first described in medical literature in 1914.[7] In 1917, a physician at Johns Hopkins University in Baltimore suggested that, if physicians looked harder for lead poisoning in children, they would find more of it. A pediatric textbook in 1923 described 8 cases of childhood lead poisoning: "The poisoning was caused in each instance by the child's nibbling and swallowing the paint from his crib or furniture."[7] In 1924 an article in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION said, "There are many mild cases of lead poisoning in children, manifested by spasms or colic."[7] The article pinpointed the source of the problem as window sills, porch railings, and crib railings coated with lead

paint. In 1926, an article in the AMERICAN JOURNAL OF DISEASES OF CHILDREN said, "Lead poisoning is of relatively frequent occurrence in children."[7]

Jane Lin-Fu, a well-known lead researcher, summarizes the early history of childhood lead poisoning in the U.S. this way: "By the 1920s... severe forms of childhood lead poisoning were recognized, and it became obvious that the illness was quite common in the U.S."[7] The federal Centers for Disease Control concurred in 1979, saying, "Lead poisoning in children from paint was recognized early in this century."[7] But recognizing a problem and acting upon it are two different things.

[More next week.]

--Peter Montague (National Writers Union, UAW Local 1981/AFL-CIO)

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[1] Robert Pear, "States Called Lax on Tests for Lead in Poor Children," NEW YORK TIMES August 22, 1999, pg. A1.

[2] Laura E. Montgomery and others, "The Effects of Poverty, Race, and Family Structure on US Children's Health: Data from the NHIS, 1978 through 1980 and 1989 through 1991," AMERICAN JOURNAL OF PUBLIC HEALTH Vol. 86, No. 10 (October 1996), pgs. 1401-1405.

[3] Howard W. Mielke and Patrick L. Reagan, "Soil Is an Important Pathway of Human Lead Exposure," ENVIRONMENTAL HEALTH PERSPECTIVES Vol. 106, Supplement 1 (February 1998), pgs. 217-229.

[4] Institute of Medicine (U.S.) and National Institute of Public Health (Mexico), LEAD IN THE AMERICAS (Washington, D.C. and Cuernavaca, Morelos, Mexico: Institute of Medicine and National Institute of Public Health, 1996), pg. 62.

[5] Jerome O. Nriagu and Jozef M. Pacyna, "Quantitative assessment of worldwide contamination of air, water and soils by trace metals," NATURE Vol. 333 (May 12, 1988), pgs. 134-139.

[6] Gerald Markowitz and David Rosner, "'Cater to the Children:' The Role of the Lead Industry in a Public Health Tragedy, 1900-1955," AMERICAN JOURNAL OF PUBLIC HEALTH Vol. 90, No. 1 (January 2000), pgs. 36-46.

[7] Richard Rabin, "Warnings Unheeded: A History of Child Lead Poisoning," AMERICAN JOURNAL OF PUBLIC HEALTH Vol. 79, No. 12 (December 1989), pgs. 1668-1674.}}

Descriptor terms:

topback to the top

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Rachel's Environment & Health Weekly

#688 - Dumbing Down the Children--Part 2, February 24, 2000

Dumbing Down the Children--Part 2

We began this series last week with a 1999 report from the NEW YORK TIMES which said state governments in the U.S. are refusing to comply with a 1989 federal law requiring that children be tested for lead poisoning. Even at low levels, lead poisoning can reduce a child's IQ, impair hearing and stunt growth. Federal law requires all children enrolled in the Medicaid medical insurance program to be tested for lead poisoning at age 12 months and again at age 2 years. The federal government pays the costs of testing and subsequent treatment for any children found poisoned. However, according to a 1999 study by the General Accounting Office (GAO), an investigative arm of Congress, state governments are simply refusing to comply with the law. As a result, the GAO said, hundreds of thousands of children exposed to dangerously high levels of lead are neither tested nor treated, the TIMES reported. (See REHW #687.)

We are seeking an answer to the question, "Why would governments set policies that continue to poison children?"

* * *

Childhood lead poisoning is not new. Medical reports of children poisoned by lead began to appear in the U.S. in 1914. By the 1930s, a torrent of information about the problem was appearing in medical journals.[1,2,3] Prior to World War I, one obvious source of the problem had been clearly identified: lead-based paint applied to the walls, toys, and furniture in children's homes. Lead, the soft, gray toxic metal makes an excellent white pigment (to which other colors can be added) and leaded paints provide durable protective coatings. Nevertheless, as time passes, leaded paint dries out and begins to peel, flake and disintegrate into a toxic powder. As a result, toddlers can get toxic flakes or dust on their hands, then into their mouths.[4,5,6] Brain damage often follows.

Long before World War I this information was so widely understood that France, Belgium and Austria restricted the use of leaded paint in 1909. Tunisia, Greece and Australia took similar action in 1922, the same year the Third International Labor Conference of the League of Nations recommended a complete ban on leaded paint for indoor use. In 1924, Czechoslovakia restricted the use of lead paint; Great Britain, Sweden and Belgium followed suit in 1926; Spain and Yugoslavia in 1931; Cuba in 1934. The U.S. on the other hand took no action until 1970.[3]

How did the paint and lead industries react to the information that their products were poisoning children? Recently, as a result of a lawsuit, many internal documents from the paint and lead

industries became public for the first time. Two historians, Gerald Markowitz and David Rosner, have summarized some of these documents in a remarkable history published last month in the AMERICAN JOURNAL OF PUBLIC HEALTH.[3]

To begin with, lead paint manufacturers acknowledged -- at least privately -- that lead was toxic. In 1921, Edward J. Cornish, president of the National Lead Company, manufacturer of the leading brand of lead-based paint, wrote to David Edsall, dean of the Harvard Medical School, saying that, as a result of "50 or 60 years" of experience, paint manufacturers agreed that "lead is a poison when it enters the stomach of man -- whether it comes directly from the ores and mines and smelting works"1 or from the finished forms of lead (carbonate of lead, lead oxides, and sulfate and sulfide of lead).

As early as 1897 one paint manufacturer in New York City was advertising that "Aspinall's Enamel is NOT made with lead and is non poisonous."[7]

Within the paint industry, there were voices of prudence. In 1914 the director of the scientific section of the Paint Manufacturer's Association predicted that "lead poisoning will be done away with almost entirely"[1] because "sanitary leadless" paints had been developed.[3] In truth, titanium and zinc substitutes for lead paint pigments had become readily available during the latter part of the 19th century, so there was never any compelling need for toxic lead-based pigments. However, lead was plentiful and profitable and its victims were not organized.

As the bad news about lead-based paint accumulated, the paint and lead industries took the offensive by using images of children in their advertising and sales promotions. Starting in 1907, the National Lead Company began to promote its "Dutch Boy White Lead Paint" using the image of a child on the label. Before 1920, National Lead was explicitly aiming its marketing and advertising at children. An ad in 1918 showed a little girl purchasing "Dutch Boy White Lead Paint." The ad recommended that paint merchants should "Cater to the children." It asked, "Have you stopped to think that the children of today are the grown-ups of tomorrow..." A 1920 ad -- headlined "Don't Forget the Children" -- suggested that paint sales personnel should give gifts to children who visited their paint store accompanied by a parent. "Parents appreciate little attentions of this sort paid to their children," the ad said. In 1924, National Lead began promoting the use of lead-based paint in public schools.

The Lead Industry Association (LIA) was formed in 1928 to promote the use of lead. At that time, lead-based paint was the single biggest user of lead, though lead in gasoline was rising as well. Acknowledging the poisoned-children problem, the LIA claimed it was urging toy and furniture manufacturers to avoid lead-based paints, but toy manufacturers who tested their products found them contaminated with lead-based paints. Someone was lying. For its part, National Lead -- the lead-paint industry leader -- was aggressively marketing lead-based paint to children. For example, the firm published a booklet for children in 1930, showing the Dutch Boy skipping along hand-in-hand with 2 children, then mixing white lead with colors and painting walls and furniture. The booklet contained this jingle:

The girl and boy felt very blue Their toys were old and shabby

too, They couldn't play in such a place, The room was really a disgrace. This famous Dutch Boy Lead of mine Can make this playroom fairly shine Let's start our painting right away You'll find the work is only play.

Another promotion showed a crawling infant making hand-prints on a painted wall. The caption said, "There is no cause for worry when fingerprint smudges or dirt spots appear on a wall painted with Dutch Boy white-lead." Historians Markowitz and Rosner observe, "The explicit message was that it was easy to clean the wall; the implicit message was that it was safe for toddlers to touch woodwork and walls covered with lead paint."

In addition to using images of children to sell lead paint, National Lead emphasized that lead was healthy. Beginning in 1923, National Lead was advertising in NATIONAL GEOGRAPHIC that "lead helps to guard your health." Throughout the 1920s, National Lead advertised in MODERN HOSPITAL magazine, calling white lead paint "the doctor's assistant." The ads assured readers that walls covered with lead-based paint "do not chip, peel, or scale" -- an obvious falsehood.

The Lead Industry Association (LIA) promoted lead paint in a 1930 booklet: "White lead paint is widely used for home interiors." Accompanying illustrations showed several home interiors freshly-painted with lead.

There were warnings against such practices from within the lead industry. In 1933, Robert Kehoe, chief medical scientist at the Ethyl Corporation (which was at that time busy providing millions of tons of toxic lead to the nation's children via gasoline) urged in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION that "strenuous efforts must be devoted to eliminating lead from [children's] environment." Kehoe was specifically referring to lead-based paint.

Nevertheless, in 1938 the LIA began a multi-year nationwide "White Lead Promotion Campaign." The purpose of the campaign was to "dispel fear or apprehension" about using lead-based paint in your home. Three years later, in 1941, the secretary of the LIA, Felix Wormser, noted that the campaign was helping: "[I]n the long run [the campaign] will share in dispelling anxiety about [lead's] use. In any event the problem remains serious for our industry. Hardly a day passes but what this office has to devote some attention to lead poisoning," Wormser said.

In December 1943 TIME magazine reported on a medical study of children poisoned by lead-based paint used on toys, cribs and window sills. The result was permanently reduced IQ, with learning disabilities, among the children.

Felix Wormser of the LIA took the offensive; in a response to the TIME article, Wormser claimed that the connection between lead poisoning in infancy and later mental retardation had never been proven. For the next 15 years this was the LIA's position -- permanent injury to children from sub-lethal lead poisoning had not been proven.

Wormser's position was scientifically indefensible in 1941. Wormser's position was insupportable. Robert Kehoe informed the head of the LIA that in his own work he had observed "serious mental retardation in children that have recovered from lead poisoning." Kehoe argued that Wormser's position was not consistent with the available facts: "Unfortunately for Wormser's

thesis, comparable results [i.e., mental retardation] have been obtained in almost every other area of the United States where there have been facilities that enable accurate investigation of this type to be made," Kehoe wrote.

By the 1950s, the lead and paint industries both acknowledged that their products were poisoning children, and their defense took a new turn. In its 1959 annual report the LIA noted that "lead poisoning, or the threat of it, means thousands of items of unfavorable publicity each year."[8]

"This is particularly true," the LIA report continued, "since most cases of lead poisoning today are in children, and anything sad that happens to a child is meat for newspaper editors and is gobbled up by the public. It makes no difference that it is essentially a problem of slums, a public welfare problem. Just the same the publicity hits us where it hurts,"[8] the LIA report said, clearly implying that it SHOULD make a difference that only slum children were being poisoned.

This became the lead industry's main line of argument: lead only harmed slum children. In 1955 the LIA's director of health and safety went on record saying, "Childhood lead poisoning is common enough to constitute perhaps my major 'headache,' this being in part due to the very poor prognosis in many such cases, and also to the fact that the only real remedy lies in educating a relatively ineducable category of parents. It is mainly a slum problem with us." To summarize the Lead Industry Association's argument: The poisoning of children cannot be remedied because of parents who live in slums and cannot be educated. In short, lead poisoning is the parents' fault.

More next week.

--Peter Montague (National Writers Union, UAW Local 1981/AFL-CIO)

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[1] Richard Rabin, "Warnings Unheeded: A History of Child Lead Poisoning," AMERICAN JOURNAL OF PUBLIC HEALTH Vol. 79, No. 12 (December 1989), pgs. 1668-1674.

[2] John C. Burnham, "Biomedical Communication and the Reaction to the Queensland [Australia] Childhood Lead Poisoning Cases Elsewhere in the World," MEDICAL HISTORY Vol. 43 (1999), pgs. 155-172.

[3] Gerald Markowitz and David Rosner, "'Cater to the Children': The Role of the Lead Industry in a Public Health Tragedy, 1900-1955," AMERICAN JOURNAL OF PUBLIC HEALTH Vol. 90, No. 1 (January 2000), pgs. 36-46.

[4] Howard W. Mielke and Patrick L. Reagan, "Soil Is an Important Pathway of Human Lead Exposure," ENVIRONMENTAL HEALTH PERSPECTIVES Vol. 106 Supplement 1 (February 1998), pgs. 217-229.

[5] Bruce P. Lanphear and others, "The Contribution of Lead-Contaminated House Dust and Residential Soil to Children's Blood Lead Levels," ENVIRONMENTAL RESEARCH SECTION A Vol. 79 (1998), pgs. 51-68.

[6] Bruce P. Lanphear and others, "Lead-Contaminated House Dust and Urban Children's Blood Lead Levels," AMERICAN JOURNAL OF PUBLIC HEALTH Vol. 86, No. 10 (October 1996), pgs. 1416-1421.

[7] National Research Council, MEASURING LEAD

EXPOSURE IN INFANTS, CHILDREN AND OTHER SENSITIVE POPULATIONS (Washington, D.C.: National Academy Press, 1993), pg. 25.
[8] Richard A. Oppel, Jr., "Rhode Island Sues Makers of Lead Paint," NEW YORK TIMES October 14, 1999, pg. A18.
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topback to the top

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Rachel's Environment & Health Weekly

#689 - Dumbing Down the Children--Part 3, March 02, 2000

Dumbing Down the Children--Part 3

We have previously published considerable information about toxic lead and its permanent detrimental effects on young children.[1] At low levels, lead impairs hearing, diminishes growth, and reduces IQ. Children with low levels of lead in their blood may have a hard time paying attention, controlling their impulses, and learning. In some children, lead contributes to delinquency and violence.

In recent weeks we started asking, Why are governments refusing to comply with a 1989 federal law that requires all infants and toddlers in the Medicaid program to be tested for lead poisoning? Medicaid is a federally-funded medical insurance program for poor people. It is well-established that lead poisoning now occurs mainly in poor neighborhoods.[2] In 1998, 13.5 million children (18.9% of all children in the U.S.) lived in poverty.[3] The General Accounting Office (an investigative branch of Congress) reported during 1999 that "hundreds of thousands of children exposed to dangerously high levels of lead are neither tested nor treated," because state governments are refusing to comply with the law, the NEW YORK TIMES said.[4]

The current federal "acceptable" level of lead in children's blood is 10 micrograms (mcg) of lead in each deciliter (tenth of a liter) of blood, expressed as 10 mcg/dL. One way to get this lead toxicity standard into perspective is to compare it to naturally-

occurring levels. Even before Europeans arrived in North America, humans had some lead in their blood (and bones, where it is still measurable today) because lead is a naturally-occurring element and some of it is always blowing around on the wind. We could argue about whether it is proper to call this a "natural background level" because humans have been mining lead out of the ground for perhaps 6000 years, so some human-mobilized lead has been blowing on the wind for aeons, adding to the levels that nature produces by itself.[5]

In any case, according to the National Research Council, people in the U.S. have average body burdens of lead approximately 300 to 500 times those found in our prehistoric ancestors.[6]

So how does the "acceptable" limit of 10 mcg/dL compare to pre-historic lead levels? The relationship between lead in people's bones and lead in their blood is well-known. Careful measurements of the bones of pre-Columbian inhabitants of North America reveal that average blood lead levels were 0.016 mcg/dL -- about 625 times lower than the 10 mcg/dL now established as "acceptable" for our children.[7] On the face of it, the current 10 mcg/dL standard seems imprudent because it assumes that a potent nerve poison at levels 625 times as high as natural background is "acceptable" for children.

Indeed, some of the nation's most prestigious medical organizations acknowledge that children are being harmed at the current federally-established "acceptable" level. The American Academy of Pediatrics in 1993 reviewed 18 medical studies showing that lead diminishes a child's mental abilities. "The relationship between lead levels and IQ deficits was found to be remarkably consistent," the Academy said. "A number of studies have found that for every 10 mcg/dL increase in blood lead levels, there was a lowering of mean [average] IQ in children by 4 to 7 points." Four to 7 IQ points may not sound like a major loss, but an average loss of 5 IQ points puts 50% more children into the IQ 80 category, which is borderline for normal intelligence. It also reduces the number of high IQs; for example, one group that should have had 5% children with IQs of 125 (or above) contained none.[8] So 10 mcg/dL of lead -- the federal government's current "acceptable" standard for lead poisoning -- is sufficient to cause a general dumbing down of children exposed at that level. As the federal Centers for Disease Control (CDC) acknowledges, "Blood lead levels at least as low as 10 mcg/dL can adversely affect the behavior and development of children."2

Thus the federal government has set a "acceptable" level of lead in blood that it acknowledges does not protect children. Indeed, damage to children has been documented at blood-lead levels considerably below 10 mcg/dL. The federal Agency for Toxic Substances and Disease Registry (ATSDR, within the CDC) cites studies showing that children's growth, hearing, and IQ can be diminished by blood-lead levels as low as 5 mcg/dL.[9]

In any case, federal law says that all children in the Medicaid program should be tested for lead at age 12 months and again at 2 years. Many states have no idea what percentage of children they have tested because they have failed to keep records. Among states that have kept records, the worst is Washington state, which has tested only 1% of eligible children; the state with the best record, Alabama, has tested only 46% of those eligible.[4] Why?

Is it because the problem is too small to merit attention? Has the problem of lead-poisoned children gone away, as some would have us believe? Here is the most recent published information: During the period 1991-1994, the federal Centers for Disease Control (CDC) tested the blood of a representative sample of the U.S. population, looking for lead poisoning. They found that 4.4% of children ages 1 to 5 have at least 10 mcg/dL; CDC says 4.4% represents just under a million children (890,000) ages 1 to 5.[2] Of course each year roughly 200,000 of these children grow to age 6 and leave the "high-risk" group (carrying their intellectual deficit with them) and another 200,000 children join the "high-risk group" and become brain-damaged. In some cities of the northeastern U.S., 35% of pre-school children have 10 mcg/dL or more of lead in their blood.[10]

Who are these children? Although poverty itself is a good predictor of childhood lead poisoning, there is a clear racial disparity at work as well.[11] One researcher who examined this question reported that "the homes of Black children had higher levels of lead-contaminated dust and their interior surfaces were in poorer condition."[11] Children living in low-income families are 8 times as likely to be lead poisoned as children who are not poor. Black children are 5 times as likely to be lead poisoned as white children.[12]

How can this problem be fixed? The source of the lead must be eliminated without leaving a dangerous residue of toxic dust. The American Academy of Pediatrics said in 1993, "Identification and treatment of the child poisoned with lead continues to be essential, but of greater importance is IDENTIFICATION OF THE SOURCE and PREVENTION OF SUBSEQUENT EXPOSURES for that child and other children in the future."[8] [Emphasis in the original.] In other words, the only real solution is primary prevention.

Testing children for lead poisoning is the current federally-approved method for identifying lead-contaminated homes. It is important to recognize that this approach is not primary prevention. This approach uses children the way miners formerly used canaries -- as a signal that trouble has already occurred. In the mines, a dead canary meant that toxic gases had built up to dangerous levels in the mine; similarly, finding 10 mcg/dL or more of lead in a child's blood is a sign that excessive lead is present in the child's environment and poisoning has already occurred.[10]

Primary prevention -- preventing lead exposures -- is the only permanent solution to this problem, and it will be expensive. It has been estimated that the first-year cost of reducing lead hazards in federally-owned and federally-assisted housing would be $458 million. However, the calculated benefits from such lead abatement would be $1.538 billion -- a net benefit of $1.08 billion,[11] so it is certainly affordable.

Other public policies could help. A careful study of two districts in Massachusetts and neighboring Rhode Island showed that lead poisoning is much less common in Massachusetts.[13] For 20 years, Massachusetts has required lead abatement in all homes built before 1978 that are inhabited by children younger than 6. And Massachusetts law makes property owners legally responsible for damage sustained by lead-exposed children.

Rhode Island has no such policies and it has a much higher incidence of lead poisoned children. Most states have no laws like those in Massachusetts.

When lead abatement occurs, it can be done well or it can be done badly. Five to 10 percent of current childhood lead poisoning in the U.S. is thought to have resulted from sloppy lead abatement.[12] Here again, public policies have gone awry. The main source of lead in children is house dust. Both the federal Department of Housing and Urban Development (HUD) and the U.S. Environmental Protection Agency (EPA) have set standards for lead in dust which, if met, essentially guarantee that childhood lead poisoning at the level of 10 mcg/dL will continue.[10,14,15] Even if the current government standard for lead in dust were reduced to one-tenth its present level, it would still allow children to be poisoned by lead in dust.[10,14,15]

In sum, we have a federally-mandated blood-lead standard (10 mcg/dL) that permanently dumbs down any children who meet it, which is nearly a million children at any moment, and roughly 200,000 new dumbing-downs are occurring each year. Medical authorities agree that the only real solution is primary prevention -- keeping lead-contaminated dust away from children. Credible estimates show that the federal government could make a profit of $1.08 billion by undertaking primary prevention in federally-owned or -assisted housing, but instead the government requires the dead-canary approach, blood-lead testing, which the states then refuse to carry out. We know from the Massachusetts experience that public policies that put the onus on the private sector can make a big difference -- but most states have failed to adopt such policies.

Most of the victims of all this are babies born into poverty. We can only conclude that current government policies must reflect the values of those who hold power. Those who make public policies must feel a need to maintain a permanent pool of people disadvantaged from birth. Governments throughout the U.S. must be doing what powerful elites want them to do -- refusing to confront the lead industry, the paint industry, the housing industry, the real estate industry and the campaign contribution industry, refusing to apply the primary prevention approach to this public health menace, and, instead, continuing to poison hundreds of thousands of poor black and hispanic children each year.

If you are skeptical of (or offended by) the suggestion that this problem is allowed to endure because it mainly affects poor children and minority children, ask yourself this: how long would this problem persist if those being poisoned were mainly white children who spent their summers at the country club?

--Peter Montague (National Writers Union, UAW Local 1981/AFL-CIO)

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[1] See Rachel's #2, #5, #9, #10, #20, #22, #25, #27, #32, #36, #92, #95, #114, #115, #140, #155, #162, #189, #190, #209, #213, #214, #228, #258, #294, #314, #318, #319, #323, #330, #331, #351, #352, #356, #357, #366, #369, #371, #376, #392, #403, #411, #442, #490, #501, #508, #526, #529, #539, #540, #551, #561, #590, #591, #633, #687, #688 available at www.rachel.org.

[2] Anonymous, "Update: Blood Lead levels -- United States,

1991-1994," MORBIDITY AND MORTALITY WEEKLY REPORT Vol. 46, No. 7 (February 21, 1997), pgs. 141-146. A correction was published in "Erratum: Vol. 46, No. 7," Morbidity and Mortality Weekly Report Vol. 46, No. 26 (July 4, 1997) pg. 607.
[3] Children's Defense Fund, "Poverty Status of Persons Younger Than 18: 1959-1998," available at http://www.-childrensdefense.org/fairstart_povstat1.html.
[4] Robert Pear, "States Called Lax on Tests for Lead in Poor Children," NEW YORK TIMES August 22, 1999, pg. A1.
[5] Jerome O. Nriagu, "Tales Told in Lead," SCIENCE Vol. 281 (September 11, 1998), pgs. 1622-1623.
[6] National Research Council, MEASURING LEAD EXPOSURE IN INFANTS, CHILDREN, AND OTHER SENSITIVE POPULATIONS (Washington, D.C.: National Academy Press, 1993), pg. xii.
[7] A. Russell Flegal and Donald R. Smith, "Lead Levels in Preindustrial Humans," NEW ENGLAND JOURNAL OF MEDICINE Vol. 326, No. 19 (May 7, 1992), pgs. 1293-1294.
[8] Committee on Environmental Health, American Academy of Pediatrics, "Lead Poisoning: From Screening to Primary Prevention," PEDIATRICS Vol. 92, No. 1 (July 1993), pgs. 176-183.
[9] ATSDR, TOXICOLOGICAL PROFILE FOR LEAD (Atlanta, Ga.: Agency for Toxic Substances and Disease Registry, July 1999). Available from ATSDR, 1600 Clifton Rd., NE, E-29, Atlanta, Ga. 30333, pgs. 26-29.
[10] Bruce P. Lanphear, "The Paradox of Lead Poisoning Prevention," SCIENCE Vol. 281 (September 11, 1998), pgs. 1617-1618.
[11] Bruce P. Lanphear, "Racial Differences in Urban Children's Environmental Exposures to Lead," AMERICAN JOURNAL OF PUBLIC HEALTH Vol. 86, No. 10 (October 1996), pgs. 1460-1463.
[12] Don Ryan and others, "Protecting Children From Lead Poisoning and Building Healthy Communities," AMERICAN JOURNAL OF PUBLIC HEALTH Vol. 89, No. 6 (June 1999), pgs. 822-824.
[13] James D. Sargent and others, "The Association Between State Housing Policy and Lead Poisoning in Children," AMERICAN JOURNAL OF PUBLIC HEALTH Vol. 89, No. 11 (November 1999), pgs. 1690-1695.
[14] Bruce P. Lanphear and others, "Lead-Contaminated House Dust and Urban Children's Blood Lead Levels," AMERICAN JOURNAL OF PUBLIC HEALTH Vol. 86, No. 10 (October 1996), pgs. 1416-1421.
[15] Bruce P. Lanphear and others, "The Contribution of Lead-Contaminated House Dust and Residential Soil to Children's Blood Lead Levels," ENVIRONMENTAL RESEARCH, SECTION A Vol. 79 (1998), pgs. 51-68.
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topback to the top

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