

## ***Rachel's News #689 (March 2, 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?

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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](http://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](http://www.childrensdefense.org/fairstart_povstat1.html) accessed Mar. 1, 2000.

[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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