

Inequality, lead poisoning, and children

New study documents the impact of lead on Detroit school children

Debra Watson
29 June 2010

A new study, groundbreaking in its design, has correlated high lead exposure among Detroit children in their early years to later school-age learning deficits. It found that children exposed to lead in early childhood were more likely to be designated for special education services later on. They also are more likely to have lower test scores in elementary and middle school.

The study, conducted with the collaboration of the Detroit Department of Health and Wellness and the Detroit Public Schools (DPS), correlates health records of students recorded when they were under age 5 with the current student rosters.

Research revealed a startling fact—just 23 out of 40,000 students in the study had no lead in their bodies when tested as young children. This is an astonishing statistic under conditions where federal officials have regularly asserted that no blood lead level should be considered safe.

More than half, 58 percent, of the children had lead levels higher than 5 µg/dL, a level of great concern among epidemiologists. Four percent had levels greater than 10 µg/dL, the official federal lead poisoning cut-off point instituted in 1991.

The incidence of Detroit children with high lead levels is more than ten times the figure in the US as a whole. It compares to just five percent of children aged 1 or older in the US with blood lead levels of 3.7 µg/dL or greater, a figure released by Environmental Protection Agency for 2007-2008.

In 2004, Detroit ranked fourth among large cities for childhood lead poisoning. For Michigan, in 2007, 57 percent (1154) of the statewide total of elevated blood lead level (EBL) was from Detroit, and in 2008 the percentage actually rose to 58 percent, or 983 children.

The findings correlating EBL and learning deficits are in line with studies over the last decade that have

connected neurobehavioral, emotional, and learning problems with elevated blood lead levels in early childhood.

It has long been known that children with elevated lead levels are at increased risk for reading problems, school failure, delinquency, criminal behavior, attention deficit hyperactivity disorder, and antisocial behavior.

A full 30 years ago Dr. Herbert Needleman, then a physician at Children's Hospital in Boston, found that asymptomatic working-class children in Chelsea and Somerville, Massachusetts, who had higher lead residues in their teeth, performed worse on IQ and development tests than those with less lead.

The newer study tracked current students back to their early medical records. It looked at special education status and found that those students in special education classes had significantly higher mean blood lead levels: 9.7 µg/dL vs. 7.3 µg/dL. Fifteen percent of students at DPS are in special education and roughly six in ten of those students had blood lead levels above 5 µg/dL.

For all subjects mean blood lead levels increased as Michigan Educational Assessment Program (MEAP) proficiency decreased. Sixty percent of students identified as not working at grade level from their 3rd, 5th and 8th grade MEAP scores were found to have elevated blood lead levels.

The MEAP study is Michigan's version of the high stakes tests that have become pervasive in US public schools since the Bush administration signed the cynically-named No Child Left Behind federal education legislation in 2001.

The study was able to correlate records for nearly half of the 93,000 students enrolled in DPS in 2008. The nearly 23,000 students they identified with blood lead

test levels over 5 µg/dL means that at least one in four children in the school system had elevated blood lead levels during their critical formative years. Had early health records been locatable for all the students, this figure would likely have been much, much higher.

The information is yet another indictment of widening income inequality in America that has left poor urban areas with huge and unabated sources of lead that continue to poison significant numbers of children living there.

Federal laws banning lead paint and leaded gasoline and federal and state initiatives to reduce lead hazard in new housing and housing renovations were highly effective measures that drastically cut overall US lead exposure. Prevalence went from almost universal prior to the 1970s to the single digit figure across the nation now. The amount of lead in the blood when tested also dropped precipitously when it was detected.

The demographics and distribution of lead poisoning in the US has changed dramatically because poverty and inequality keep the science and technical know-how to eradicate the major housing sources of lead poisoning unavailable in urban areas.

According to the EPA, “Although the use of lead-based paint was banned in 1978, it is the primary source of lead poisoning in children today because it is still present in older cities like Detroit where approximately 56 percent of all housing stock was built prior to 1950” (Detroit Department of Health and Wellness Promotion 2005a). As it is easily found inside and outside of houses, apartments, and public housing in the city, young children are at greater risk to swallow paint chips and inhale lead dust.

Children under three years of age are even more susceptible to being exposed to lead because they crawl and play on floors where paint chips and dust are deposited, ingesting them by the oral route. Given that lead-based paint was used outdoors as well as indoors, lead dust can also wash off to the soil surrounding a home and poison a child during play.

Other important sources of lead contamination in the city of Detroit are former smelter sites in certain residential areas. It is at such former smelter sites where both adult and children have been exposed to long-term emissions of lead dust that settled in the soil around the industrial site, as well as outside its boundaries.

Now Obama’s Race to the Top funding reform takes

aim at the very schools where children are most likely to have been adversely affected by lead poisoning and other factors related to abject poverty. States are required to identify their bottom five percent of schools in performance and “fix” them with closures, teacher firings and charter schools that perform no better than the schools they replaced, if not worse.

Though the 2010 Detroit report adds to a mountain of proof that low-performing schools are the result of poverty, poor social conditions, and meager resources, these officials will elect to ignore the obvious if it gets in the way of their assault on universal public education.



To contact the WSWS and the
Socialist Equality Party visit:

wsws.org/contact