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POLLUTION

Get the Lead Out: Why the Best Way to Improve Health in Poor Countries Is to Clean Up Industrial Pollution

By Bryan Walsh | May 08, 2013 | 4 Comments

Most of the attention on global environmental issues goes to climate change, and not without reason. The carbon dioxide we're adding to the atmosphere — where carbon-concentration levels have almost passed the 400-ppm threshold — is already changing the climate for the worse and will likely screw us over in the future in ways that we can't even imagine.

But there are far more pressing environmental threats for the average person in a poor country — threats that directly impact human health and well-being in the hear and now. Take lead, a known neurotoxin. High lead exposure in small children has been linked to a whole mess of complications later in life, including lower IQ, hyperactivity, behavioral problems and learning disabilities. Overwhelmingly a disorder of the poor — who live in the crowded urban tenements and near toxic industrial sites where lead exposure is too common — lead contamination can alter the course of entire lives and maybe even change the fabric of societies, all for the worse.

DAVID ROCHKIND / GETTY IMAGES

A view of the Doe Run Peru metallurgical plant, which processes metals like gold and silver, in Oroya, Peru, on July 28, 2008

In the postwar era, lead contamination was common even in a rich country like the U.S., thanks largely to the widespread use of leaded gasoline, which wasn't phased out until the 1970s, as well as lead paint and lead in soil. Once that happened, lead contamination plummeted—blood lead levels among children 5 years and younger dropped from 16.5 micrograms per deciliter between 1976 and 1980 to just 3.6 micrograms per deciliter between 1992 and 1994. As Kevin Drum of *Mother Jones* argued in a great piece earlier this year, getting lead out of the environment might have been one of the most important public-health actions the U.S. has ever taken. Toddlers who ingested high levels of lead in the 1940s and '50s were more likely to become violent criminals as adults in the 1970s and '80s — and when they were replaced in the 1990s by young people who had never been exposed to such high levels of lead, violent crime rapidly waned. All because of one molecule.

Other countries — and the children who live in them — are less fortunate. As two new studies show, lead contamination from toxic-waste sites is still a major public-health problem in developing countries — and a criminally undercovered one.

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Researchers from New York's Mount Sinai Medical School and the Blacksmith Institute — a New York–based NGO that focuses on industrial pollution in the developing world — looked at children living near toxic-waste sites in lower- and middle-income countries like India, Bangladesh and Indonesia. After sampling lead levels in soil and drinking water near those waste sites, the researchers concluded that the average blood lead levels for exposed children age 4 and younger was a dangerously high 21 micrograms per deciliter. That's high enough to result in an estimated loss of 5 to 8 IQ points per child, and an incidence of mild mental retardation in 6 out of every 1,000 children.

The average blood level for an American child now is 1.3 micrograms per deciliter, though contamination can be much higher in poor urban areas. So kids in poor countries stand a good chance of having blood lead levels that are higher than they were for U.S. kids even during the days of leaded gasoline — contamination levels that likely help lead to the violent crime waves of the 1970s and 80s. You can only imagine what the impact on young children might be in a desperately poor part of a county like India or Bangladesh. As if grinding poverty isn't enough to overcome, these kids are handicapped by the fact that they live next to a toxic waste site that hasn't been cleaned up.

In a statement, Dr. Philip Landrigan, the dean of global heat at the Icahn School of Medicine at Mt. Sinai, said:

On a global level, this analysis highlights the importance of assigning more public health resources to identify, evaluate and remediate lead-contaminated toxic waste sites in these countries. In order to prevent further detrimental effects on neurodevelopment in children, these countries should create programs to identify toxic wastes and reduce lead exposure.

(**MORE:** Greenhouse Gases Make High Temps Hotter in China)

And lead isn't the only toxic waste threatening people in poor countries. In another study published this week in *Environmental Health Perspectives*, researchers from Sinai and Blacksmith looked at nearly 400 toxic sites in India, the Philippines and Indonesia, and found that elevated levels of dangerous chemicals like lead and chromium can directly impact disease and mortality. They found that the total number of disability-adjusted life years (commonly used to measure the effect of disease and accidents) lost because of toxic waste was 828,722, compared with 725,000 lost years of full health because of malaria in those countries.

All those toxic chemicals add up — especially for young children who are still developing — but industrial waste and other environmental-health threats rarely get the attention or the funding they deserve. The Blacksmith Institute is trying to change that — the group funds decontamination and other cleaning projects in dirty and polluted sites around the world. The good news is that — quite unlike climate change — we have the means now to clean up most of these sites inexpensively. A 2007 study done by Blacksmith found that pollution cleanup projects produced a year of life gained for every $1 to $50 spent, compared with $250 to $300 for every year of life gained for projects that focused on infectious disease or malaria.

This isn't to argue that we should be shifting the money we spend on HIV or malaria to lead waste. If anything, we need to be spending more on that sort of social good across the board — climate mitigation and adaptation included. But we know that cleaning up traditional industrial pollution is doable because it's already been done in the rich world — just look at the lead-contamination story in the U.S., or compare the air in Los Angeles today with the smog of the 1960s. Kids in poor developing nations deserve the same opportunities to grow up without the extra burden of pollution.

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