Dr. Patrick Breysse
Director, National Center for Environmental Health and
Agency for Toxic Substances and Disease Registry
Centers for Disease Control and Prevention
4770 Buford Hwy NE
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August 2, 2021

Dear Dr. Breysse,

We are members of Project TENDR (Targeting Environmental Neuro-Development Risks), a group of scientists, health professionals, and children's and environmental advocates concerned about the contributions of environmental chemicals to neurodevelopmental disorders such as intellectual and learning disabilities, autism spectrum disorder, and attention deficit hyperactivity disorder.

We urgently call for the Centers for Disease Control and Prevention (CDC) to update U.S. blood lead standards to bring them in line with current science. Specifically, we call on CDC to decrease the reference value for blood lead concentrations in children. In 2012, the Centers for Disease Control and Prevention (CDC) abandoned the concept of a "level of concern" or "action level" for blood lead because of the overwhelming evidence that there is no concentration that is safe for children. To replace the level of concern, the CDC established a reference value, defined as the 97.5th percentile of the distribution of blood lead concentrations in children at that point in time. It was intended to identify children whose exposure is "…much higher than most children's levels." CDC said it would re-evaluate the reference value every 4 years and update it as necessary using the two most recent survey cycles of available National Health and Nutrition Examination Survey (NHANES) data.

The current reference value of 5 µg/dL is based on NHANES data that are more than a decade old (2007-2008 and 2009-2010). More recent survey cycles indicate that the distribution of blood lead concentration in young children has steadily shifted toward lower values since the initial reference value was set. The estimated 97.5th percentile of blood lead levels in children at ages 1-5 years in the NHANES 2011-2014 was 3.48 µg/dL. The CDC has not re-evaluated the reference value since 2012, as it said it would do every 4 years. It is time to do so and lower this value accordingly. The importance of taking this step is supported by the National Toxicology Program's 2012 conclusion, that adverse effects are apparent on academic achievement, IQ, attention-related behaviors, and behavioral problems even at blood lead concentration below 5 µg/dL.

Historically, lead poisoning has provided a case study in environmental injustice and systemic racism, as children of color have suffered the greatest burden from this toxicant. The EPA's 2019 report on children and the environment found that among children with the highest blood lead levels in 2013-16, Black children had higher levels than White or Hispanic children. Children living in poverty had higher blood lead levels than children above the poverty line, and Black children living below the poverty line had higher blood lead levels than White or Hispanic

children living below the poverty line. These differences have life-long consequences. The lifetime earnings lost due to childhood lead exposure are estimated to be 46-55% higher for Black children than for White or Hispanic children. It is critical to continue the efforts to close the disparity between Black children and children of other race/ethnicities.

The current 5 μg/dL blood lead reference level (BLRL) serves as the basis for numerous regulations that seek to reduce children's exposure to lead sources and improve health outcomes. The U.S. Environmental Protection Agency (EPA), one of the lead agencies on the President's Task Force on Environmental Health Risks and Safety Risks to Children, helped to develop a federal action plan to address childhood lead exposure and identified several key regulatory actions to reduce children's harm from lead. These regulations include the Lead and Copper Rule (LCR), which regulates the control and monitoring of lead in drinking water as well as the lead National Ambient Air Quality Standards (NAAQS), which sets limits for allowable levels of lead in air emissions. Practically speaking, EPA is currently overhauling the LCR and is using a cost-benefits analysis to demonstrate how revisions to the LCR are expected to result in significant health benefits. One key component to the benefits analysis includes the use of the BLRL to help quantify the incremental contribution of blood lead concentrations (at or below 5 μg/dL) to cognitive function in children from three months to 16 years of age. The lead NAAQS has not been changed since 2008 and is at the early stages of a new five-year review cycle. Scientists have been calling for a more stringent lead NAAQS, noting that while lead emissions have decreased over time, there are still hundreds of tons of lead emitted into the air via anthropogenic sources, according to EPA's National Emissions Inventory. In the current review cycle, EPA is well positioned to finally strengthen the lead NAAQS and will undoubtedly use the CDC BLRL in its quantitative analysis of human exposure health risk assessment – as it has done in previous reviews.

Lead-based paint and lead contaminated dust remains the most significant source of lead exposure in most children. In 2017, the U.S. Department of Housing and Urban Development (HUD) revised its Lead Safe Housing Rule to modify the definition of "elevated blood lead level" ("EBLL") so hazard reduction requirements – including remedial action – to reduce lead dust in homes are triggered when a child presents with a blood lead level of 5 μg/dL (rather than the previous 20 μg/dL) to align with the CDC's reference level. Importantly, HUD's definition of EBLL states that when CDC changes the reference value, HUD intends to apply the changed reference value as the basis for defining elevated blood lead in children and the level at which action should be taken to reduce lead-based environmental hazards. Any revision to the reference level will undoubtedly affect the underlying parameters used to improve these and other federal regulations concerning lead exposure.

As Project TENDR has previously advocated, primary prevention of children's lead exposure is the key to reducing the ills that it causes. Exposure to any amount of lead threatens the developing brain. Reducing the reference value will benefit children from all racial and ethnic backgrounds and be an important step forward in terms of identifying children who are at greatest risk of such harms and eliminating the disparities that currently result in the greatest burden falling on Black children and children living in poverty.

Thank you for your consideration of this letter. We would be glad to discuss this issue with you and your staff.

Sincerely,

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