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October 2016

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**PLAN OF ACTION TO PREVENT CHILDHOOD LEAD EXPOSURE**

Dear Administrator McCarthy, Secretary Burwell, Dr. Etzel and Ms. Howard:

The undersigned organizations are grateful for your renewed commitment to ensuring that the President’s Task Force on Environmental Health and Safety Risks to Children (“Task Force”) takes a leadership role in protecting children, infants, and fetuses from the harms of chemical exposure.<sup>1</sup> We understand that the Task Force has established a working group focused on federal strategies to protect children from lead exposure. This effort cannot come too soon. We urge you to quickly develop a *comprehensive* federal strategy – including concrete, meaningful action steps with clear deadlines – to end lead exposure from all pathways so that another generation of children does not face unacceptable harm from this toxic chemical.

As organizations that work to protect children from exposure to lead, we write to offer recommendations for key regulatory actions that the Environmental Protection Agency (“EPA”) and other federal agencies should commit to take as part of the Task Force’s updated federal lead strategy. Our recommended steps to meaningfully reduce and prevent *the full range of exposure* to lead are set forth in the attached Call to Action document. Additional information on the urgency of this work is laid out below.

### **It’s time to solve the problem of lead exposure.**

Lead is a potent neurotoxic chemical that has no known safe level of human exposure.<sup>2</sup> Children are especially vulnerable to harm when exposed early in life, including in utero.<sup>3</sup> There is a scientific consensus on the devastating harm that lead causes to children, especially in neurological development.<sup>4</sup> Neurological harm from lead is known to be irreversible.<sup>5</sup> Lead can also cause grave harm to the hematologic, gastrointestinal, cardiovascular and renal systems in children and adults.<sup>6</sup> Lead is also a likely carcinogen, adding to the effect of other carcinogens in a child’s environment.<sup>7</sup> On top of all of these harms, there is an association between higher childhood blood lead levels and violent or anti-social behaviors resulting in entry into the criminal justice system later in life.<sup>8</sup> The Centers for Disease Control & Prevention (“CDC”) and EPA have recognized that there is no safe level of human exposure to lead.<sup>9</sup>

The lead crisis in this country is not isolated to Flint, Michigan. In 2010, an estimated 535,000 children had a blood lead level of 5 µg/dL or higher.<sup>10</sup> Children with elevated blood lead levels live across the country. According to calculations from CDC data, in 2014, 6.7 percent of children in New York State (excluding New York City) had elevated blood lead levels; in Pennsylvania, 8.5 percent of children did.<sup>11</sup> In Philadelphia, more than 10 percent of children tested in 2014 had elevated blood lead levels.<sup>12</sup> And those numbers only represent children with blood lead above the then-applicable CDC level — which is recognized as not protective enough. This means that many additional children with dangerous blood lead levels remain uncounted. EPA and other federal agencies must act to address and reduce the very high blood lead levels of children around the country. Prompt guidance from the Task Force would be invaluable to ensure this outcome.

Exposure to lead is disproportionately greater (in amount and frequency) among children in communities of color and low-income communities — a fact that poses a serious justice concern.<sup>13</sup> In addition, a 2012 study found that lead exposure resulted in greater cognitive detriment for children with a lower socioeconomic status, and that current air standards would not protect children with low socioeconomic status from neurological and other harm resulting from lead (such as an IQ loss of more than 2 points — a level higher than EPA decided to allow for the general exposed population).<sup>14</sup>

### **Primary prevention steps we must take to protect our children**

As the Task Force well knows, public health experts and medical professionals agree that “prevention is the best way to prevent lead poisoning.”<sup>15</sup> Most Americans have come to appreciate the need to dramatically reduce lead exposure and would welcome stronger federal leadership to reduce harm from this toxic substance, especially in light of the Flint tragedy. Even so, and despite the severe and permanent harm that lead exposure is known to cause, lead

pollution releases are out of control in the United States. EPA's Toxics Release Inventory shows that, in 2015 alone, reported industrial releases of lead and lead compounds totaled over 564.9 million pounds (about 282,494 tons).<sup>16</sup> This only adds to the widespread contamination remaining from past use and releases.<sup>17</sup> Lead remains in the soil and other media, including human bone and breast milk.<sup>18</sup> Thus, past and present contamination and exposure compound and exacerbate future harm and future exposure.

In the recently released TENDR Consensus Statement, which was endorsed by major medical associations, leading scientific and medical experts issued a call to action on neurotoxic chemicals, with a focus on lead. They stated that

lead exposure continues to be a preventable cause of intellectual impairment, ADHD and maladaptive behaviors for millions of children.... Scientists agree that there is no safe level of lead exposure for fetal or early childhood development..., and studies have documented the potential for cumulative and synergistic health effects from combined exposure to lead and social stressors .... Thus, taking further preventive actions is imperative. . . . **[W]e call on policy makers to take seriously the need to reduce exposures of all children to lead—by accelerating the clean-up from our past uses of lead such as in paint and water pipes, by halting the current uses of lead, and by better regulating the industrial processes that cause new lead contamination.**<sup>19</sup>

We urge the Task Force to heed the call to action issued in the TENDR Consensus Statement and “take seriously the need to reduce exposures of all children to lead” by adopting a federal lead strategy that focuses on children’s exposure to both (1) lurking contamination from legacy lead sources, and (2) new lead sources. We urge the Task Force to call for robust action to ensure clean-up and remediation of all lead in children’s homes, schools, playgrounds, and environments. The plan should also ensure a strong focus on preventing all avoidable lead from newly entering the air, water, soil, household products, and areas where children live and play.

The attached recommendations identify concrete and urgent regulatory measures to protect children from lead in drinking water, air, soil, household products, personal care products, and imported food, folk medicines, and cosmetics. They also address how the reformed Toxic Substances Control Act (“TSCA”) should be used to protect children from lead exposure. Finally, our recommendations identify outdated federal reference levels, standards, and limits that should be updated to be health-protective. The undersigned groups, and other allied organizations, are raising the importance of these issues directly with the agencies listed. For example, comments that Earthjustice submitted to EPA on Plan EJ2020 in July 2016 on behalf of a coalition of groups included key issues described in the attached Call to Action. We ask the Lead Status Report Working Group of the Task Force to include all of the attached recommendations in the comprehensive federal lead strategy it is developing.<sup>20</sup>

### **Conclusion**

Thank you for your time and attention to the urgent matter of protecting children from exposure to lead. We welcome the opportunity to meet in person to discuss these matters in more

depth. For additional information and to schedule a meeting, please contact Eve Gartner or Emma Cheuse at Earthjustice.

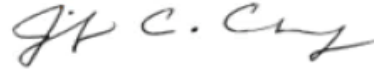
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**CALL TO ACTION ON CHILDREN’S HEALTH:  
RECOMMENDED STEPS TO REDUCE AND PREVENT EXPOSURES TO LEAD**  
*Prepared by Earthjustice*  
*October 2016*

In view of the scientific consensus on the need to prevent children’s exposure to lead to protect their health, the following key actions are critical for the federal government to take without delay.

**1. The U.S. Environmental Protection Agency (“EPA”) should protect the public from lead in drinking water.**

Drinking water is a major source of lead for many of those most vulnerable to the toxicant, including children, infants, pregnant women, and fetuses. Lead-bearing plumbing poses a serious risk of lead exposure, even when the local water utility is in compliance with federal regulations. Unfortunately, health harms from lead in water have been obscured by improper water sampling techniques and blood testing practices that fail to detect exposures in utero and during the first year of life. It is imperative that the revised Lead and Copper Rule (“LCR”) do as much as possible to remove the sources of lead in our water and protect public health.

- EPA should do more to ensure that the public is informed of the risks of lead in drinking water. The general public is not receiving effective, consistent messaging from EPA about the following key facts: potential sources of lead in plumbing are ubiquitous, including lead pipes, lead solder, leaded brass, galvanized iron (which can “absorb” lead from other plumbing materials and later release it into water), and copper (which can trigger galvanic corrosion of other leaded materials); lead poses a health threat even when water is properly treated for corrosion control; and individual water consumers are expected to and must take actions on their own to protect themselves from lead in water, even when water is properly treated for corrosion control. People need this information to understand how to protect themselves, and to help build support for aggressive action to get lead out of U.S. drinking water. At a minimum, EPA should integrate lead in drinking water into lead hazard disclosure requirements in connection with buying or renting housing, which is now focused exclusively on lead-based paint.
- EPA should improve oversight and enforcement of the LCR. According to one recent report, 5,363 community water systems serving over 18 million people committed 8,093 violations of the LCR in 2015; yet EPA took formal enforcement action against just 11.2 percent of those violations.<sup>21</sup> Failure to police LCR violations exposes the public to greater risk of harm from lead-contaminated drinking water, and it sends the message that the EPA does not take this problem seriously.
- EPA should close sampling loopholes that result in underreporting of water lead levels. When conducting LCR-mandated tap water sampling, many water systems use sampling techniques that are known to *reduce* lead capture, such as aerator removal, pre-flushing, and the use of small-mouthed bottles.<sup>22</sup> Such “gaming” can give water



consumers false assurances regarding lead levels in their water and seriously undermines implementation of the LCR. EPA has advised against the use of several of these misleading sampling techniques,<sup>23</sup> but such guidance currently lacks the force of law.

- EPA should require utilities to replace the entire length of lead service lines (“LSLs”) under their control and ban partial LSL replacements. Under the current LCR system, homeowners are asked to pay out of pocket the cost of replacing the portion of an LSL deemed privately owned, which can range from \$1,000 to \$7,000.<sup>24</sup> Homeowners who cannot afford to pay this price are often subjected to partial LSL replacement, a practice that has been shown to *increase* lead levels at the tap.<sup>25</sup> Tens of thousands of families have thus been put at greater risk of lead contamination in their drinking water simply because of their inability to pay.<sup>26</sup> Partial LSL replacements must be banned, and we urge EPA to require utilities to replace the entire length of an LSL under their control, regardless of ownership.<sup>27</sup>
- EPA should require proactive replacement of all lead service lines. LSLs are the main source of lead in drinking water, and the revised LCR should require that all water systems adopt a proactive LSL replacement program that includes numeric LSL replacement benchmarks and enforceable deadlines for meeting them.
- EPA should significantly lower its drinking water action level, which is now set at 15 parts per billion (“ppb”).<sup>28</sup> While there is no known safe level of lead in water, lowering the action level would help to drive more effective corrosion control, further reducing the chance of exposure to lead at the tap. In 1994, the Food and Drug Administration (“FDA”) set the maximum amount of lead allowed in bottled water at 5 ppb.<sup>29</sup> EPA should establish 5 ppb as the action level for *all* drinking water.

## **2. EPA should protect the public from lead in the air.**

A variety of industrial sources currently emit new lead emissions into the air, which fall on homes, schools, playgrounds, and day care centers. Children’s exposure to lead from air pollution has not received the attention it deserves.

- EPA should set stronger national emission standards for battery recyclers. To protect children in communities across the U.S. from dangerous new lead exposure, EPA should strengthen the national emission standards for battery recyclers (also known as secondary lead smelters), which are currently under reconsideration at EPA.<sup>30</sup> These sources use smelting or processing techniques that emit lead. More than 80,000 people experience elevated health threats from the 14 currently operating facilities, located in 10 states and Puerto Rico. Children are disproportionately exposed to these facilities (30 percent of the affected population, compared to 27 percent of the national population). In the most-affected communities, 41 percent are people of color (compared to 25 percent of the national population); 52 percent of the exposed people are Latino or Hispanic (compared to 14 percent of the national population).

Low income households are also over-represented among those who are most exposed to these facilities' emissions.<sup>31</sup>

- EPA should immediately start to phase out leaded aviation fuel. Leaded aviation gasoline, or avgas, which is used in a large fraction of piston-engine aircraft in the United States, is the single largest source of lead to the air, contributing about 59 percent of the National Emission Inventory in 2011.<sup>32</sup> Studies have shown that children's blood lead levels increase dose-responsively in proximity to the airports used by piston engine aircraft.<sup>33</sup> A recent MIT study estimated nationwide economic losses of over \$1 billion annually due to the IQ deficits caused by leaded avgas emissions alone.<sup>34</sup> Phasing lead out of automobile gas in the 1970s was a huge public health advance, and it is long past time for EPA to phase lead out of aviation gas. EPA has denied two petitions to make a Clean Air Act "endangerment" finding – a finding that lead emissions from aircraft cause or contribute to air pollution, which is reasonably anticipated to endanger the public health or welfare – stating that it must first complete additional studies. No further study is needed; EPA should promptly issue an endangerment finding and proceed to ban or phase out leaded avgas in general aviation aircraft. In the meantime, EPA should require airports where leaded fuel is in use to monitor and report ambient air concentrations of lead.
- EPA should chart a path to reduce children's exposure to new lead-in-air emissions from other major industrial sources. For example, electric power plants emit about 63,711 pounds of lead per year.<sup>35</sup> The Toxic Release Inventory for 2014 includes a total of 367,761 pounds per year of lead air emissions from all reporting industries.<sup>36</sup> EPA has found that the highest concentrations of lead in air near lead-emitting stationary sources are generally found near smelters, but a number of other types of sources also emit significant amounts of lead.<sup>37</sup> Reducing these exposures is also necessary to protect workers at these facilities.
- In addition to requiring source-specific emission reductions, EPA should protect children's health by strengthening the National Ambient Air Quality Standard ("NAAQS") for lead to reduce ambient air levels. As the Children's Health Protection Advisory Committee ("CHPAC") compellingly wrote in its January 2015 letter to EPA, the current Lead NAAQS (established in 2008) "is insufficient to protect children's health."<sup>38</sup> EPA must lower the NAAQS for lead, and we support CHPAC's 2015 recommendations to (1) reduce the standard to 0.02  $\mu\text{g}/\text{m}^3$  or below, (2) require a more robust lead particulate monitoring network, and (3) base the standard's measurements on an averaging period of one month. The NAAQS in place now only seeks to avoid an air-related *population mean* IQ loss in excess of 2 *points*.<sup>39</sup> It is unacceptable for the federal government to set standards that tolerate such significant IQ loss in our children as an indicator of and in addition to all of the neurological and other harms of lead. This is particularly true when these impacts do not fall equally across the country, but hit poor children and communities of color the most.<sup>40</sup>

### **3. EPA should protect the public from lead in soil.**

- EPA must update its standard for lead in residential soil. The federal standard of 400 parts per million (“ppm”),<sup>41</sup> which has not changed since it was first adopted in the 1990s, is far in excess of California’s standard of 80 ppm.<sup>42</sup> Children across the country deserve at least the same level of protection as California’s children. Therefore, EPA must significantly lower its current soil lead standard. In addition, we urge EPA to eliminate the dual standard for “children’s play areas” and other outdoor areas around residences. Children do not limit their activities to “play areas.”
- EPA should work with states and municipalities to develop and implement programs to remediate lead in soil on residential properties where deterioration of lead-painted structures has caused very high lead levels in surrounding soil. This contaminated soil puts children at risk both when they play in their yards, and when the soil is tracked into homes.<sup>43</sup>
- The lead-contaminated soil in the vicinity of hundreds of former lead smelter sites and other industrial and hazardous waste sites around the country has never been fully remediated; indeed many of these sites have never even been adequately assessed. In 2014, EPA’s Office of the Inspector General found that EPA had made progress in assessing and remediating these former smelter sites. However, it concluded that there are still dozens of former smelter sites (if not more) with lead-contaminated soil in residential areas around the country,<sup>44</sup> and that there are serious problems with EPA’s approach to assessment and cleanup.<sup>45</sup> EPA must move promptly and transparently to protect the communities in the vicinity of lead-contaminated sites from exposure to lead in the soil.
- EPA must also ensure that soil contamination in communities with facilities that are emitting lead on an on-going basis, such as currently operating lead smelters, is addressed. Communities should not have to wait until an existing exposure source shuts down before lead being deposited in the soil is remediated. Waiting until a source shuts down to mount a clean-up effort—like the effort currently underway at Exide Technologies in California<sup>46</sup>— not only leaves communities exposed to lead contaminated soil for the decades during the operations, but can also mean that a clean-up never occurs because there are often few funds to address the problem after the facility closes.

### **4. EPA should protect the public from exposures to lead resulting from its manufacture, processing, distribution, use and disposal.**

With the reform of the Toxic Substances Control Act (“TSCA”), EPA has new authority and a new mandate to protect human health from toxic chemical substances, including lead. It should move forward promptly to use that authority to ban or significantly reduce the ongoing manufacturing, processing, distribution, use and disposal of lead in this country, including the

importation of products containing lead and the domestic production of products containing lead intended for export.

- EPA should commit to prioritize lead as one of the Work Plan chemicals for immediate risk evaluation and action under the amended TSCA. The scope of the risk evaluation should include the manufacture, distribution, use and disposal of industrial and decorative paint, residential paint manufactured for export, lubricants, products where lead is used as a stabilizer, ceramics, cookware, jewelry and all other products where the use of lead is not essential. It is unacceptable that these uses are ongoing despite the well-recognized harms of even low levels of lead exposure.
- EPA should also commit to ensure that the risk evaluation process includes a systematic review of health impacts; and uses current science to evaluate the real-world risks and impacts from lead, including information on multiple types of exposure or aggregate exposure, and on early-life vulnerability and exposure, to protect children in overburdened communities.
- In 2009, EPA agreed to promptly commence a rulemaking under TSCA to ban lead wheel weights,<sup>47</sup> but it has not moved forward as promised. The United States Geological Survey estimates that 4.4 million pounds per year of lead enter the environment due to lost lead wheel weights<sup>48</sup> and studies show that about half of the wheel weights are abraded into small pieces leading to exposure via a variety of routes.<sup>49</sup> Without further delay, EPA should move forward with the rulemaking it committed to undertake 7 years ago.
- EPA should adopt and use health-based action level standards for what constitutes a lead hazard in indoor dust. In 2009, EPA agreed with evidence that the current hazard standards established under TSCA may not be sufficiently protective, but the agency has not moved forward since that time to promulgate a rulemaking to revise the standards.<sup>50</sup> This delay is unacceptable.
- EPA should update its standard for what constitutes “lead-based paint” when inspections and risk assessments are performed in housing constructed prior to 1978. Under the current standard, which is established under TSCA, in situ paint that contains less than 0.5 percent lead by weight, or 5,000 ppm, would not be considered lead-based paint.<sup>51</sup> This outdated and inappropriate standard far exceeds the 0.06 percent by weight, or 600 ppm, threshold the Consumer Product Safety Commission (“CPSC”) used when banning the sale of lead-based paint for residential use in 1978,<sup>52</sup> and even further exceeds the 90 ppm threshold that currently applies to lead in paint sold for residential use.<sup>53</sup> As a result, paint with lead well in excess of what has been banned by CPSC since 1978 is still considered “lead-free” under TSCA.

**5. The Department of Housing and Urban Development (“HUD”) should protect children from exposure to lead in housing.**

- HUD must align the Lead Poisoning Prevention in Certain Residential Structures regulations (24 C.F.R. Subt. A, Pt. 35) with current science and CDC standards in order to identify lead hazards before a child is exposed. This includes: updating HUD’s definition of lead poisoning to match the CDC reference level;<sup>54</sup> replacing ineffective visual assessment<sup>55</sup> with lead hazard risk assessments; updating the inspection and clearance standards for lead dust, lead dirt, and lead paint; allowing families a right to move out of a home with lead hazards; and removing the exemption for zero-bedroom dwelling units.

**6. The Consumer Product Safety Commission (“CPSC”) should protect consumers from lead in household products.**

CPSC also has the authority and obligation to protect consumers from lead in household products.

- Although lead in excess of 100 ppm is banned in “children’s products,” lead is still used in other common household products, including ones used by children but which do not fall within the definition of “children’s products,” such as novelty jewelry.<sup>56</sup> Many of the remaining products made with lead are sold in dollar stores, which are disproportionately frequented by low income communities and communities of color. CPSC should move forward promptly to protect children by banning lead in *all* household products and especially in jewelry using its authority under the Federal Hazardous Substances Act.
- CPSC must do more – using its recall authority under the Federal Hazardous Substances Act – to protect children from lead in products that remain in many homes, even if they are no longer sold in this country, such as vinyl mini-blinds and other kinds of plastic that contain lead, which release lead-contaminated dust as the plastic breaks down.<sup>57</sup>

**7. The Food and Drug Administration should protect the public from lead in personal care products, as well as in imported food, folk medicines and cosmetics.**

- Lead acetate is currently permitted and used in various hair conditioning and hair dye products, with FDA asserting that they are safe because they do not penetrate the user’s scalp.<sup>58</sup> Even if that were true, these products should not be permitted. FDA’s safety findings do not take into account the dangers to children when lead residue from these leave-in hair products is spread throughout the bathroom and home via the user’s hands. As one study noted, “Given the requirement to continually reapply these hair coloring agents, the user becomes a living purveyor of lead contamination.”<sup>59</sup> FDA should immediately withdraw approval of lead acetate as a color additive in hair dye, and in any other personal care product or cosmetic.

- Lead is also found in a variety of FDA-regulated products imported into this country, such as traditional folk remedies,<sup>60</sup> cosmetics, and contaminated foods — significant sources of exposure in some communities. FDA must do more to ensure that these products are lead-free.

**8. The Occupational Safety and Health Administration (“OSHA”) should strengthen protection for workers, including pregnant workers, and reduce workplace-related lead exposure that can harm both workers and their children.**

- OSHA should do more to protect workers and their families from exposure to lead. This includes adopting industry safety standards that follow CDC’s recommendations for lead exposure. Under existing, outdated OSHA regulations, workers can legally be exposed to lead such that their blood lead levels reach 60 µg/dL. In industries with high potential for lead exposure, such as construction, gun ranges, and battery reclamation, not only are workers at risk, but their families may also be exposed through take-home lead dust. Furthermore, since lead crosses the placenta, children born to lead-exposed workers are at risk for neurodevelopmental impacts and other adverse health effects.<sup>61</sup>

**9. The Centers for Disease Control (“CDC”) should update its reference level to communicate the need for all federal, state, and local governments and private actors to assure stronger protection for children from lead exposure.**

- CDC should keep its commitment to update its definition of what constitutes an elevated blood lead “reference” level this year, and in future years, relying on the recently released NHANES data.<sup>62</sup> The CDC’s current reference level of 5 µg/dL (micrograms per deciliter) does not represent a safe blood lead level.<sup>63</sup>

Indeed, evidence shows harm from lead exposure can occur at much lower levels than the CDC reference level. For example, the National Toxicology Program has acknowledged that the following kinds of harm have been demonstrated to occur at levels below 5 µg/dL:

- *neurological harm, including cognitive ability (thinking, understanding, learning, and remembering), achievement, behavior, and ADHD (attention deficit hyperactivity disorder);*
- *decreased prenatal and postnatal growth and potential impacts on puberty;*
- *decreased hearing;*
- *renal and kidney impacts;*
- *cardiovascular harm.*<sup>64</sup>

Due to such evidence, California’s Office of Environmental Health Hazard Assessment has set as a benchmark for action *any change* in blood lead level of 1.0 µg/dL.<sup>65</sup> Unlike the static CDC reference level, this is a more health-protective standard because it directs action to prevent an incremental increase (regardless of

initial level) that causes a loss of up to one IQ point, along with other harm.<sup>66</sup> Notably, a fact sheet on lead prepared by the CHPAC recognizes that a child's blood lead level as low as 0.1 µg/dL could be associated with a one-point IQ loss, as well as a range of neurological and other health and developmental harms.<sup>67</sup>

### **For Additional Information**

Earthjustice prepared this proposed lead action agenda with key input from allies and partners. We warmly welcome additional input on and may update this document as appropriate, going forward. For additional information, please contact: Eve Gartner ([egartner@earthjustice.org](mailto:egartner@earthjustice.org), (212) 845-7376), or Emma Cheuse ([echeuse@earthjustice.org](mailto:echeuse@earthjustice.org), (202) 745-5220).

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<sup>1</sup> Ruth A. Etzel, et al., *Renewing the Federal Commitment to Advance Children's Health: The President's Task Force on Environmental Health Risks and Safety Risks to Children*, 124 *Env'tl. Health Persp.* A3 (2016).

<sup>2</sup> See, e.g., World Health Org., *Exposure to Lead: A Major Public Health Concern at 1* (2010), <http://www.who.int/entity/ipcs/features/lead..pdf?ua=1>.

<sup>3</sup> Deborah Bennett et al., *Project TENDR: Targeting Environmental Neuro-Developmental Risks, The TENDR Consensus Statement*, 124 *Env'tl. Health Persp.* A-118, A-118 (2016) (citing Bruce P. Lanphear, *The Impact of Toxins on the Developing Brain*, 36 *Ann. Rev. Pub. Health* 211 (2015); Kristen Lyall et al., *Maternal Lifestyle and Environmental Risk Factors for Autism Spectrum Disorders*, 43 *Int'l J. Epidemiology* 443 (2014); Deborah Rice & Stan Barone Jr., *Critical Periods of Vulnerability for the Developing Nervous System: Evidence from Humans and Animal Models*, 108 *Env'tl. Health Persp.* 511 (2000)).

<sup>4</sup> See, e.g., Agency for Toxic Substances & Disease Registry, Dep't of Health & Human Servs., CAS#: 7439-92-1, *Public Health Statement: Lead* (2007), <http://www.atsdr.cdc.gov/ToxProfiles/tp13-c1-b.pdf>; EPA, *Lead Compounds, Hazard Summary*, <http://www3.epa.gov/airtoxics/hlthef/lead.html> (last updated Feb. 23, 2016).

<sup>5</sup> World Health Org., *supra* note 2; *Fact Sheet, World Health Organization, Lead Poisoning and Health* (updated July 2016), <http://www.who.int/mediacentre/factsheets/fs379/en/>.

<sup>6</sup> World Health Org., *supra* note 2.

<sup>7</sup> As EPA has stated: "EPA has considered lead to be a probable human carcinogen, and, under more recent assessment guidelines, it would likely be classified as likely to be carcinogenic to humans." EPA, *supra* note 4. The National Toxicology Program ("NTP") has listed lead and lead compounds as "Reasonably Anticipated to Be Human Carcinogens." See NTP, *Report on Carcinogens, Substances Listed in the Thirteenth Report on Carcinogens (13th ed. 2014)*, available at [http://ntp.niehs.nih.gov/ntp/roc/content/listed\\_substances\\_508.pdf](http://ntp.niehs.nih.gov/ntp/roc/content/listed_substances_508.pdf). The International Agency for Research on Cancer has found that inorganic lead compounds are probably carcinogenic to humans. See Int'l Agency for Research on Cancer, World Health Organization, *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Vol. 87 Inorganic and Organic Lead Compounds* 378 (2006), available at <https://monographs.iarc.fr/ENG/Monographs/vol87/mono87.pdf>.

<sup>8</sup> John Paul Wright et al., *Association of Prenatal and Childhood Blood Lead Concentrations with Criminal Arrests in Early Adulthood*, 5 *PLoS Med.* e101 (May 2008); Howard W. Mielke & Sammy Zahran, *The urban rise and fall of air lead (Pb) and the latent surge and retreat of societal violence*, 43 *Env't Int'l* 48 (Aug. 2012).

<sup>9</sup> See, e.g., CDC, *CDC Response to Advisory Committee on Childhood Lead Poisoning Prevention Recommendations in "Low Level Lead Exposure Harms Children: A Renewed Call of Primary Prevention"*, § I. Recommendation, [https://www.cdc.gov/nceh/lead/acclpp/cdc\\_response\\_lead\\_exposure\\_recs.pdf](https://www.cdc.gov/nceh/lead/acclpp/cdc_response_lead_exposure_recs.pdf) ("CDC will emphasize that the best way to end childhood lead poisoning is to prevent, control or eliminate lead exposures. Since no safe blood lead level in children has been identified, a blood lead 'level



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of concern' cannot be used to define individuals in need of intervention.”); National Ambient Air Quality Standards for Lead (“2008 Lead NAAQS”), 73 Fed. Reg. 66,963, 66,972 (Nov. 12, 2008); Agency for Toxic Substances and Disease Registry, Toxicological Profile for Lead 31 (2007), <http://www.atsdr.cdc.gov/toxprofiles/tp13.pdf> (explaining that “MRLs [minimum risk levels] were not derived for lead because a clear threshold for some of the more sensitive effects in humans has not been identified.”).

<sup>10</sup> EPA, Children’s Environmental Health Facts, Lead Exposure, <http://www2.epa.gov/children/childrens-environmental-health-facts> (last updated Apr. 6, 2015).

<sup>11</sup> Nicholas Kristof, Op-Ed, *America is Flint*, N.Y. Times, Feb. 6, 2016, <http://www.nytimes.com/2016/02/07/opinion/sunday/america-is-flint.html>.

<sup>12</sup> Holly Otterbein, *It’s Not Just Flint – Philadelphia Has a Huge Lead Problem, Too*, Philadelphia Mag. (Feb. 21, 2016), <http://www.phillymag.com/citified/2016/02/21/philadelphia-lead-poisoning/>.

<sup>13</sup> EPA, Children’s Environmental Health Facts, Disparities in Lead Exposure, <http://www2.epa.gov/children/childrens-environmental-health-facts> (last updated Apr. 6, 2015); see *See* Exec. Order No. 12,898, Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations, 59 Fed Reg. 7629 (Feb. 11, 1994).

<sup>14</sup> *See* R. Chari *et al.*, Integrating Susceptibility into Environmental Policy: An Analysis of the National Ambient Air Quality Standard for Lead, March 27, 2012, Int’l J. Environ. Res. Public Health 2012, 9, 1077-1096, at 1084-85 (Mar. 27, 2012) (summarized in NRDC *et al.* Follow-up and Supplement to Petition for Reconsideration on Secondary Lead Smelting (June 27, 2012)).

<sup>15</sup> World Health Org., *Childhood Lead Poisoning* 54 (2010), available at <http://www.who.int/ceh/publications/leadguidance.pdf> (“Prevention is the best way to deal with lead poisoning.”); see CDC, *What Do Parents Need to Know to Protect Their Children?* (last updated Mar. 15, 2016), [http://www.cdc.gov/nceh/lead/ACCLPP/blood\\_lead\\_levels.htm](http://www.cdc.gov/nceh/lead/ACCLPP/blood_lead_levels.htm) (“The most important step parents, doctors, and others can take is to prevent lead exposure before it occurs.”).

<sup>16</sup> EPA, 2014 Toxics Release Inventory National Analysis: Release of Chemicals, *Supporting Data Files for the 2014 TRI National Analysis* (Jan. 2016), [https://www.epa.gov/sites/production/files/2016-01/ch\\_3\\_releases.xlsx](https://www.epa.gov/sites/production/files/2016-01/ch_3_releases.xlsx). (Scroll along bottom to page entitled: “Air releases of lead 03-14”).

<sup>17</sup> *See, e.g.*, World Health Organization, Lead poisoning and health (Sept. 2016), <http://www.who.int/mediacentre/factsheets/fs379/en/>; EPA, Learn About Lead (last updated Sept. 8, 2016), <https://www.epa.gov/lead/learn-about-lead#exposure>.

<sup>18</sup> *See, e.g.*, EPA, Learn About Lead, <https://www.epa.gov/lead/learn-about-lead#effects> (last updated Sept. 8, 2016) (“Lead can accumulate in our bodies over time, where it is stored in bones along with calcium. During pregnancy, lead is released from bones as maternal calcium and is used to help form the bones of the fetus.”).

<sup>19</sup> Project TENDR, *supra* note 3.

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<sup>20</sup> We do not discount the steps that federal agencies have taken to protect children from lead. For example, HHS has set specific goals of reducing the level of blood and urine concentrations of lead for all Americans, and, specifically, to reduce the blood lead levels and average blood lead levels for children ages 1-5 by at least 10% by 2020. *See id.*, Healthy People 2020, Environmental Health Goals EH-8.1, 8.2 (Reduce blood lead level in children aged 1–5 years to 5.2 µg/dL or lower; Reduce the mean blood lead levels in children to 1.6 µg/dL or lower); Environmental Health Goal EH-20.3 (Reduce exposure to lead in the population, as measured by blood and urine concentrations of the substance or its metabolites; from the baseline which was the concentration level of lead in blood samples at which 95 percent of the population aged 1 year and older is below the measured level in 2003–04, of 4.2 µg/dL to 2.94 µg/dL or lower), <https://www.healthypeople.gov/2020/topics-objectives/topic/environmental-health/objectives>. In addition, EPA’s recently released strategic environmental justice plan for 2016-2020 (“EJ 2020”), includes the objective to “eliminate disparities in childhood blood lead levels, while reducing lead exposure for all people.” EPA, EJ 2020 Action Agenda, Environmental Justice Strategic Plan 2016-2020, Draft Final for Public Comment at 41-44 (May 23, 2016), <https://www.epa.gov/environmentaljustice/ej-2020-action-agenda>. These goals are laudable, but definitive federal actions are needed to achieve them. EPA’s draft Plan EJ2020 as released for public comment earlier this year does not ensure strong action will occur, as discussed in coalition comments submitted in response to this draft plan in July 2016. The Task Force should assist the agency in issuing and implementing a more effective plan for achieving the objectives listed under EJ2020, by including actions listed in this Call to Action.

<sup>21</sup> Erik D. Olson & Kristi Pullen Frederick, Natural Resources Defense Council, *What’s In Your Water? Flint and Beyond* at 5 (June 28, 2016), <https://www.nrdc.org/resources/whats-your-water-flint-and-beyond>. This figure includes failures to follow LCR provisions for testing of water, reporting of contamination, and treatment to prevent lead pipe corrosion.

<sup>22</sup> Oliver Milman, *US authorities distorting tests to downplay lead content of water*, The Guardian, Jan. 22, 2016, <https://www.theguardian.com/environment/2016/jan/22/water-lead-content-tests-us-authorities-distorting-flint-crisis>.

<sup>23</sup> Memorandum from Peter Grevatt, Director, EPA Office of Ground Water and Drinking Water to Water Division Directors on Clarification of Recommended Tap Sampling Procedures for Purposes of the Lead and Copper Rule (Feb. 29, 2016), [https://www.epa.gov/sites/production/files/2016-02/documents/epa\\_lcr\\_sampling\\_memorandum\\_dated\\_february\\_29\\_2016\\_508.pdf](https://www.epa.gov/sites/production/files/2016-02/documents/epa_lcr_sampling_memorandum_dated_february_29_2016_508.pdf).

<sup>24</sup> *See* Yanna Lambrinidou & Marc Edwards, *Improving Public Policy through Qualitative Research: Lessons from Homeowners about Lead Service Line Replacement under the Federal Lead and Copper Rule* (presentation at 141st APHA Annual Meeting and Expo, Nov. 2-6, 2013, Boston, MA).

<sup>25</sup> EPA, *Scientific Advisory Board Evaluation of the Effectiveness of Partial Lead Service Line Replacements* at 12-13 (Sept. 28, 2011), [http://www.epa.gov/sites/production/files/2015-09/documents/sab\\_evaluation\\_partial\\_lead\\_service\\_lines\\_epa-sab-11-015.pdf](http://www.epa.gov/sites/production/files/2015-09/documents/sab_evaluation_partial_lead_service_lines_epa-sab-11-015.pdf).

<sup>26</sup> Sheila Kaplan & Corbin Hiar, *Toxic Taps: Lead is Still the Problem*, Am. Univ. Investigative Reporting Workshop (Aug. 8, 2012),

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<http://investigativereportingworkshop.org/investigations/toxic-taps/story/toxic-taps-lead-is-still-the-problem>.

<sup>27</sup> EPA included this requirement when it first promulgated the LCR. *See* Maximum Contaminant Level Goals and National Primary Drinking Water Regulations for Lead and Copper, 56 Fed. Reg. 26460, 26503-09 (June 7, 1991). This provision was never enforced: In response to a challenge by the American Waterworks Association, the D.C. Circuit struck down EPA's definition of "control" in the final 1991 rule, solely on the grounds that "EPA failed to provide adequate notice that it would adopt a novel definition of control." *Am. Water Works Ass'n v. EPA*, 40 F.3d 1266, 1275 (D.C. Cir. 1994).

<sup>28</sup> 40 C.F.R. § 141.80(c).

<sup>29</sup> Quality Standards for Foods With No Identity Standards; Bottled Water, 59 Fed. Reg. 26,933, 26,937 (May 25, 1994).

<sup>30</sup> *See* Sierra Club *et al.*, Petition for Reconsideration of National Emissions Standards for Hazardous Air Pollutant Emissions from Secondary Lead Smelting and Supplements to this Petition, 77 Fed. Reg. 556 (Jan. 5, 2012), Dkt. ID Nos. EPA-HQ-OAR-2011-0344-0211 (Mar. 5, 2012), EPA-HQ-OAR-2011-0344-0189 (June 21, 2012) and Supplement to Granted Petition for Reconsideration of National Emissions Standards for Hazardous Air Pollutants From Secondary Lead Smelting (filed Jan. 31, 2014); *see also* EPA, Ofc. of Air Qual. Planning & Standards, Ofc. of Air & Radiation, Residual Risk Assessment for Secondary Lead Smelting Source Category (Dec. 2011), Dkt. ID No. EPA-HQ-OAR-2011-0344-0160. As an example of why EPA must strengthen protection further, in this and other risk assessments for lead under its air toxics authority, the Administration is using only the 2008 Lead NAAQS instead of performing a robust risk assessment as required (as described in the above-cited 2012 reconsideration petition). EPA should not rely solely on the Lead NAAQS, but should do an actual inhalation and multipathway cumulative risk assessment for lead-emitting sources under section 112 of the Clean Air Act. *See* 42 U.S.C. § 7412(f)(2) (health risk assessment, required for all major industrial sources of lead and other hazardous air pollutants, including those listed at <http://www3.epa.gov/ttn/atw/mactfnlalplh.html>). Because, as described, the 2008 Lead NAAQS still allows an unacceptable amount of exposure and resulting neurodevelopmental harm to occur to children, EPA must recognize the need to do more to evaluate the full risks and impacts to children who are the most exposed to specific stationary sources of pollution under section 112 of the Act. Ensuring a full assessment, rather than relying solely on the NAAQS as if that were protective enough, should be part of the Taskforce's new plan. *See, e.g.*, Sierra Club *et al.*, Petition for Reconsideration of National Emissions Standards for Hazardous Air Pollutant Emissions from Secondary Lead Smelting, 77 Fed. Reg. 556 (Jan. 5, 2012), Dkt. ID No. EPA-HQ-OAR-2011-0344-0211 at 4-16 (filed Mar. 5, 2012; granted Dec. 5, 2012).

<sup>31</sup> EC/R Inc., Memo, Prepared for EPA OAQPS, Risk and Technology Review – Final Analysis of Socio-Economic Factors for Populations Living Near Secondary Lead Smelting Facilities (Dec. 2011), Dkt ID No. EPA-HQ-OAR-2011-0344-0161.

<sup>32</sup> Emissions Inventory & Analysis Grp., Office of Air Quality Planning & Standards, EPA, *Profile of the 2011 National Ambient Air Emissions Inventory* 20 (Apr. 2014), [http://www.epa.gov/sites/production/files/2015-08/documents/lite\\_finalversion\\_ver10.pdf](http://www.epa.gov/sites/production/files/2015-08/documents/lite_finalversion_ver10.pdf).

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- <sup>33</sup> See Marie Lynn Miranda et al., *A Geospatial Analysis of the Effects of Aviation Gasoline on Childhood Blood Lead Levels*, 119 *Envtl. Health Persp.* 1513 (Oct. 2011); Sammy Zahran et al., *The Effect of Leaded Aviation Gasoline on Blood Lead in Children* (Aug. 2014), <http://mpira.ub.uni-muenchen.de/62238/>.
- <sup>34</sup> See Philip J. Wolfe et al., *Costs of IQ Loss from Leaded Aviation Gasoline Emissions*, 50 *Envtl. Sci. & Tech.* 9,026 (2016).
- <sup>35</sup> See *Envtl. Integrity Project, America's Top Power Plant Toxic Air Polluters* (Dec. 2011), <http://www.environmentalintegrity.org/documents/Report-TopUSPowerPlantToxicAirPolluters.pdf>.
- <sup>36</sup> See *TRI Right-to-Know*, Right-to-Know Network, <http://www.rtknet.org/db/tri> (last visited Aug. 10, 2016).
- <sup>37</sup> See EPA, *Lead Trends*, <https://www.epa.gov/lead-air-pollution/basic-information-about-lead-air-pollution#health> (last updated Mar. 30, 2016) (describing various lead-in-air sources and also stating that: “The highest air concentrations of lead are usually found near lead smelters.”); see also EPA, 2011 National Emissions Inventory v2, <https://fusiontables.google.com/DataSource?docid=1hCFxL0sn25FC6u8v9gL-yghZYwoNCR8Qq3N5hMRd#rows:id=1> (last updated Feb. 5, 2015).
- <sup>38</sup> Letter from Sheela Sathyanarayana, CHPAC to Gina McCarthy, EPA (Jan. 8, 2015) (“CHPAC 2015 Letter”), available at [https://www.epa.gov/sites/production/files/2015-01/documents/naaqs\\_for\\_lead\\_letter.pdf](https://www.epa.gov/sites/production/files/2015-01/documents/naaqs_for_lead_letter.pdf).
- <sup>39</sup> 73 Fed. Reg. at 67,006 (stating that EPA set the NAAQS at 0.15 µg/m<sup>3</sup> based on the finding that “the estimated mean IQ loss from air-related Pb in the subpopulation of children exposed at the level of the standard would generally be somewhat to well below 2 IQ points”).
- <sup>40</sup> See Chari *et al.*, *supra* note 14.
- <sup>41</sup> 40 C.F.R. § 745.65(c).
- <sup>42</sup> See Jim Carlisle, Cal. *Envtl. Prot. Agency, Revised California Human Health Screening Levels for Lead* (2009), <http://oehha.ca.gov/media/downloads/crrn/leadchhsl091709.pdf>.
- <sup>43</sup> Howard W. Mielke, *Leaded dust in urban soil shown to be greater source of childhood lead poisoning than leaded paint*, *Lead Persp.* 28 (Mar./Apr. 1997).
- <sup>44</sup> Alison Young, *Audit faults EPA in delays probing lead factory dangers*, *USA Today* (June 18, 2014), <http://www.usatoday.com/story/news/nation/2014/06/18/epa-oig-lead-smelter-audit/10679089/>.
- <sup>45</sup> Office of Inspector Gen., EPA, *EPA Has Made Progress in Assessing Historical Lead Smelter Sites But Needs to Strengthen Procedures*, Report No. 14-P-0302 (June 17, 2014), <https://www.epa.gov/sites/production/files/2015-09/documents/20140617-14-p-0302.pdf>.
- <sup>46</sup> For a summary of the effort to assess contamination and clean-up needed around the now-closed Exide facility in California, see the sites of the local air district and state’s toxic substance control department: <http://www.aqmd.gov/home/regulations/compliance/exide-updates>; <https://www.dtsc.ca.gov/HazardousWaste/Projects/UpdateExideSuspension.cfm>.

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<sup>47</sup> Letter from Stephen A. Owens, Assistant Administrator, EPA, to Jeff Gearhart, Ecology Center, and Tom Neltner, Sierra Club (Aug. 26, 2009), <https://www.epa.gov/sites/production/files/2015-10/documents/document.pdf>.

<sup>48</sup> Donald I. Bleiwas, U.S. Geological Survey, *Stocks and Flows of Lead-Based Wheel Weights in the United States*, Open-File Report 2006-1111 (2006), <https://pubs.usgs.gov/of/2006/1111/2006-1111.pdf>

<sup>49</sup> See, e.g., Robert A. Root, *Lead Loading of Urban Streets by Motor Vehicle Wheel Weights*, 108 *Envtl. Health Persp.* 937 (Oct. 2000).

<sup>50</sup> Letter from Stephen A. Owens, EPA, to Rebecca Morley et al. (Oct. 22, 2009), <https://www.epa.gov/sites/production/files/2015-10/documents/epa-response.pdf>.

<sup>51</sup> 15 U.S.C. § 2681(9).

<sup>52</sup> 16 C.F.R. § 1303.2(b).

<sup>53</sup> 16 C.F.R. § 1303.1(a).

<sup>54</sup> 24 C.F.R. § 35.110. HUD recently moved to update its regulations in a proposed rule published on September 1, 2016. Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Federally Owned Residential Property and Housing Receiving Federal Assistance; Response to Elevated Blood Lead Levels, 81 *Fed. Reg.* 60,304 (Sept. 1, 2016). HUD should finalize this rule as soon as possible.

<sup>55</sup> 24 C.F.R. §§ 35.720, 35.1015, 35.1215.

<sup>56</sup> For example, a 2015 report on toxic substances in items sold in dollar stores identified earrings sold at Family Dollar containing 6,500 ppm of lead. Ecology Ctr., *2015 Dollar Store Report* (Feb. 4, 2015), <http://www.ecocenter.org/healthy-stuff/reports/dollar-store-report>.

<sup>57</sup> EPA has acknowledged the lead hazard posed by some vinyl mini-blinds. EPA, *Home Danger Zone Finder* (last updated Dec. 28, 2015), <https://www.epa.gov/lead/home-danger-zone-finder-0> (“Some imported, non-glossy vinyl mini-blinds can be a lead hazard. Sunlight and heat can break down the blinds and may release lead-contaminated dust.”).

<sup>58</sup> FDA, *Lead Acetate in “Progressive” Hair Dye Products* (last updated Mar. 13, 2014), <http://www.fda.gov/Cosmetics/ProductsIngredients/Products/ucm143075.htm>

<sup>59</sup> Howard W. Mielke et al., *Lead-Based Hair Coloring Products: Too Hazardous for Household Use*, 37 *J. Am. Pharm. Ass’n* 85 (Jan./Feb. 1997).

<sup>60</sup> CDC, *Folk Medicine* (last updated Oct. 15, 2013), <https://www.cdc.gov/nceh/lead/tips/folkmedicine.htm>; Dep’t of Pub. Health, Cnty of Los Angeles, *Traditional and Home Remedies Known to Contain Lead*, <http://publichealth.lacounty.gov/eh/docs/Lead/FolkRemediesFlyer.pdf> (last visited July 27, 2016).

<sup>61</sup> See Rachel Shaffer & Stephen Gilbert, Commentary: Lead exposure beyond Flint—protecting our nation’s workers, *Envtl. Health News*, Sept. 12, 2016,

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<http://www.environmentalhealthnews.org/ehs/news/2016/sept/commentary-lead-exposure-beyond-flint2014protecting-our-nation2019s-workers>.

<sup>62</sup> See CDC, *New Blood Lead Level Information* (last updated Mar. 15, 2016), [http://www.cdc.gov/nceh/lead/acclpp/blood\\_lead\\_levels.htm](http://www.cdc.gov/nceh/lead/acclpp/blood_lead_levels.htm). (“CDC will update the reference value every 4 years using the two most recent NHANES surveys.”).

<sup>63</sup> See *supra* note 9.

<sup>64</sup> Nat’l Toxicology Program, *NTP Monograph on Health-Effects of Low-Level Lead* at xviii-xix (2012), <https://ntp.niehs.nih.gov/pubhealth/hat/noms/lead/index.html>.

<sup>65</sup> See Jim Carlisle, Cal. Env’tl. Prot. Agency, *Revised California Human Health Screening Levels for Lead* (2009), <http://oehha.ca.gov/media/downloads/crn/leadchhsl091709.pdf>.

<sup>66</sup> Jim Carlisle & Kathryn Dowling, Cal. Env’tl. Prot. Agency, *Development of Health Criteria for School Site Risk Assessment Pursuant to Health and Safety Code Section 901(g): Child-Specific Benchmark Change in Blood Lead Concentration for School Site Risk Assessment Final Report* (Apr. 2007), <http://oehha.ca.gov/media/downloads/crn/pbhgv041307.pdf>.

<sup>67</sup> IQ point loss is just one kind of harm and is frequently recognized as an indicator of neurodevelopmental effects of lead and as a widely measured endpoint for children. See Carlisle & Dowling, *supra* note 66 at 11 (explaining use of IQ point measure indicator and describing other harms). It likely shows further neurological, cognitive, behavioral, physical and other kinds of health impacts. *Id.*; see also CHPAC 2015 Letter, *supra* note 38.