



## Appendix A: Project TENDR Published Policy Recommendations

The following recommendations were published in peer-reviewed scientific and medical journals, as indicated.

### Overarching Policy Recommendations

“Project TENDR: Targeting Environmental Neuro-Developmental Risks. The TENDR Consensus Statement,” *Environmental Health Perspectives*, July 2016.

**Evidence of neurodevelopmental toxicity of any type—epidemiological or toxicological or mechanistic—by itself should constitute a signal sufficient to trigger prioritization and some level of action.** Such an approach would enable policy makers and regulators to proactively test and identify chemicals that are emerging concerns for brain development and prevent widespread human exposures.

**We call on regulators to follow scientific guidance for assessing how chemicals affect brain development,** such as taking into account:

- the special vulnerabilities of the developing fetus and children,
- cumulative effects resulting from combined exposures to multiple toxic chemicals and stressors, and
- the lack of a safety threshold for many of these chemicals

### Chemical-Specific Policy Recommendations on Lead, Organophosphate Pesticides and Air Pollution.

#### Lead:

“Establishing and Achieving National Goals for Preventing Lead Toxicity and Exposure in Children,” *JAMA Pediatrics*, May 2017.

**Project TENDR recommends** that the US government adopt the following national goals: ensure that, by 2021, no child has a blood lead level greater than 5 µg/dL and, by 2030, no child has a blood lead level greater than 1 µg /dL. To achieve these goals, we recommend several actions.\*

*\*In November 2016, the American Medical Association adopted Project TENDR’s proposed national goals for reducing lead in children, and our recommendations for achieving these goals, as AMA policy.*

**Recommendation 1:** Project TENDR calls on federal agencies to adopt health-based standards and action levels that rely on the most up-to-date scientific knowledge. The current US standards for allowable levels of lead in dust, soil, air, and drinking water are outdated and fail to protect pregnant women and children.

- The US Environmental Protection Agency (EPA) should promulgate health-based standards for lead in paint, dust, soil, and drinking water that are designed to prevent all children from having a blood lead concentration greater than 1 µg/dL.
- The EPA should strengthen the National Ambient Air Quality Standards for Lead to reduce ambient air levels.
- The Centers for Disease Control and Prevention (CDC) should follow through on its commitment to update its definition of an elevated blood lead level (ie, reference level) every 4 years.
- In the future, the U.S. Department of Housing and Urban Development (HUD) should amend the Lead Safe Housing Rule in a timely manner when the CDC modifies its reference level for identifying children with an elevated blood lead concentration.\*\*

*\*\*Since this article was published, HUD has amended the Lead Safe Housing Rule as recommended.*

**Recommendation 2:** Project TENDR calls on federal, state, and local governments to protect pregnant women and children by identifying and remediating sources of lead exposure (in paint, dust, air, soil, water, and consumer products) before pregnant women and children are exposed. In addition, governments should continue targeted screening of children to identify those who already have had lead exposures that place them in need of case management and educational and other services. To improve the lives of children in communities that are disproportionately exposed to lead and other environmental stressors, Project TENDR calls on federal, state, and local governments to provide a dedicated funding stream to identify and eliminate sources of lead exposure and to provide educational, social, and clinical services to mitigate the harms of lead toxicity.

- HUD should remediate or require remediation of all public and other federally supported housing (eg, Section 8 housing) before children occupy these units.
- The federal government should permit and encourage the Centers for Medicare & Medicaid Services and private health insurance companies to cover the cost of investigating lead hazards before children move to a property.

**Recommendation 3:** Project TENDR calls on the federal government to prevent the release of lead into the environment. Accomplishing this goal requires the government to ban or phase out all remaining use of lead in products, including aviation gas, cosmetics, wheel weights, industrial paints, batteries, and lubricants; ban the import and export of products containing lead; and set more protective limits on releases from battery recyclers and other sources of lead emissions.

**Recommendation 4:** Project TENDR urges Congress to establish an independent expert advisory committee to develop a long-term national strategy to eliminate lead toxicity in pregnant women and children, defined as a blood lead level greater than 1 µg /dL. This plan should set goals for eliminating legacy sources of lead, including abatement of residential hazards, full service line replacement of lead drinking water pipes, and remediation of lead-contaminated soils from former industrial sites in residential areas. Project TENDR also urges Congress to provide dedicated funding to implement the national strategy.

## Organophosphate Pesticides:

From “Organophosphate exposures during pregnancy and child neurodevelopment: Recommendations for essential policy reforms,” *PLoS Medicine*, October 2018.

We recommend the following actions by governments:

- National and state governments: phase out use of all OPs in agriculture;
- National and state governments: ban nonagricultural use of all OPs, including household products;
- US EPA: revoke all food tolerances for chlorpyrifos, as the agency previously proposed;
- US EPA and state governments: phase out the use of all other OPs in agriculture;
- US EPA: ban nonagricultural pest control uses of the few remaining OPs;
- In the interim, national, state, and local agencies: take steps to reduce human exposure (e.g., require advance notification to nearby residents and schools before applications of OP pesticides; implement restrictions on application methods such as aerial spraying and air blast to reduce drift exposures and to protect water and sensitive sites such as homes and schools);
- National, state, and local agencies: conduct regular monitoring of watersheds to ensure OPs do not continue to pollute lakes, rivers, and streams, including those that are sources of drinking water, and implement targeted monitoring of drinking water;
- National and state agencies: establish an effective comprehensive pesticide use and illness reporting program either nationally or through coordinated statewide programs.

## Air Pollution:

From “Healthy Air, Healthy Brains: Advancing Air Pollution Policy to Protect Children’s Health,” *American Journal of Public Health*, February 2019.

**Recommendation 1:** The US Environmental Protection Agency (EPA) should give greater consideration to the evidence on the effects of air pollutants on neurodevelopment when setting standards for combustion-related air pollutants and when assessing the full cost of the health effects of air pollution.

**Recommendation 2:** Strengthen and enforce federal fuel efficiency standards.

**Recommendation 3:** Promote and advance clean energy policies that reduce reliance on fossil fuels, including coal, combusted for energy generation and transportation.

**Recommendation 4:** Target existing large sources of combustion-related air pollutants for emissions reductions, dramatically reducing exposures in neighboring communities.

**Recommendation 5:** Regional air pollution control agencies across the United States should restrict permitting new sources of combustion-related air pollutants in close proximity to residential areas and other sensitive receptors. Siting high-pollution sources near neighborhoods often affects communities with the fewest resources that are already heavily burdened, particularly communities of color. This long-documented practice gave rise to the call for environmental justice.<sup>44</sup>

**Recommendation 6:** Expand air monitoring near locations where children spend time.

**Recommendation 7:** Expand research on effectiveness of strategies to mitigate exposures near large sources of combustion-related air pollution that could guide implementation in neighborhoods close to such sources.

**Recommendation 8:** Increase research on the human health effects of ultrafine particles. Efforts are needed at the federal level to develop a UFP monitoring network. This would facilitate studies of the neurodevelopmental health effects of UFP exposures during pregnancy and childhood. Furthermore, funding is needed to support prospective epidemiological studies in birth or pregnancy cohorts to elucidate further the effects of UFP (and other combustion-related air pollution) on neurodevelopment.