

Investing in Data Infrastructure for More Equitable Environmental Public Health Decisions

RECOMMENDATION

EPA must invest in systems to support collecting, organizing and making accessible environmental and health data that allow the agency and the public to understand, monitor and act on environmental factors that influence health, resulting in more equitable public health safeguards.

ISSUE SUMMARY

We cannot manage what we do not measure. Thus, we need investments in EPA and state partners to implement, house and maintain the most up-to-date data that will allow EPA to better identify potential harms, risks, and effectiveness of interventions as well as prioritize areas of need. This includes quantification of environmental contaminants both released and present in air, water, food and consumer products; health stressors such as poverty; as well as data on environmental health-related diseases. It is crucial that EPA modernize and digitize all its data in order to make it accessible and actionable.

Without adequate monitoring, modeling, and up-to-date data, exposures, hazards, and health effects will remain unknown to the public and unaddressed by the private sector, researchers and government. Thus, government funding of monitoring and data infrastructure should provide concrete, quantifiable measures and indicators for key factors relevant to the environment and health in the United States, and help policymakers understand health risks from chemicals and pollutants in order to identify both opportunities for intervention/prevention and their progress in meeting goals and policies.

PROPOSED ACTIONS

- 1. EPA should restore credibility and increase access to the results of its funded scientific research** by implementing its 2016 Plan to Increase Access to Results of EPA-Funded Scientific Research.
- 2. EPA should apply the methods and tools of CalEnviroScreen nationally**, creating a detailed visualization tool for the exposures and factors that increase a population's susceptibility to industrial chemicals.
- 3. EPA should continue long-term funding and improvements for current systems in place**, such as the America's Children and the Environment Reports, the National Air Toxics Assessment, and other related data across the federal government that are critical for environmental health decision-making (e.g., NCHS related data).

SUPPORTING EVIDENCE

EPA should restore credibility and increase access to the results of its funded scientific research, by implementing its 2016 Plan to Increase Access to Results of EPA-Funded Scientific Research.

Under statute, EPA is charged with multi-trillion-dollar decisions that impact the public health of the nation and the economy for generations. Making science-based decisions means that complex scientific data and modeling need to be available for public scrutiny through appropriate procedures. Responding to this need, in 2016 EPA developed a *Plan to Increase Access to Results of EPA-Funded Scientific Research*¹ (The Plan), in consultation with the National Science and Technology Council

and public input. The Plan is scientifically and technically sound for three key reasons:

1. The scope of the Plan *prospectively* covers peer-reviewed scientific research publications and digital research data that result from EPA-funded research and does not apply retroactively. Thus, it would not impact research underpinning regulations like the Clean Air Act, which comes up for periodic review.
2. The validity of scientific conclusions drawn from research publications or their associated research data, or EPA's ability to consider those conclusions and data in its actions, does not depend on compliance with this Plan.²
3. The Plan is in compliance with EO 12291, acknowledging the costs to researchers that data access may impose and setting up a mechanism to address those costs.³

This Plan is in stark contrast to EPA's proposed Science Transparency Rule, which instead promulgates rules that would require research data to be publicly accessible in order to be used for regulatory actions. Further the Science Transparency Rule has been opposed by authoritative bodies including the University of California.^{4,5} EPA already has a draft plan that will achieve transparency goals and can be implemented now with broad scientific support.

EPA should apply the methods and tools of CalEnviroScreen nationally, creating a detailed visualization tool for the exposures and factors that increase a population's susceptibility to industrial chemicals.

Communities experience environmental exposures from multiple sources simultaneously, and the National Academies of Sciences in its report *Science and Decisions* (2009) recommended cumulative environmental exposure frameworks to avoid the systematic underestimation of risk.⁶ To address this shortcoming, creating a national-level CalEnviroScreen will provide EPA and the public with a better understanding of exposures to multiple chemicals as well as overlapping susceptibilities in the population. Rather than applying a one-size-fits-all approach, a cumulative approach will allow EPA to prioritize interventions that address inequities at their root causes, and then tailor public health interventions to reach different types of vulnerable groups (e.g., that live near multiple polluting facilities or schools near freeways). With improved data visualization, communities will be able to site and manage industrial facilities and infrastructure in a more environmentally just manner and protect vulnerable populations from cumulative exposures. Further, to ensure EPA can access robust and reliable data to inform this data visualization, EPA must continue to fund and develop better tools and methods for exposures assessment, including contaminant modeling and monitoring and biomonitoring, on a national level.

A national EnviroScreen tool should include the mapping of sensitive populations with asthma, cardiovascular disease, and low birthweight, as well as socioeconomic factors such as educational attainment, housing burden, linguistic isolation, poverty, and unemployment. EPA should utilize sentinel surveillance and incorporate key sociodemographic data to identify communities that are suffering the most from health threats. After updating the tool, the Agency should conduct a community listening tour to consider other indicators as necessary.

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REFERENCES

- 1 EPA (2016) Plan to increase access to results of EPA-funded scientific research. Available: <https://www.epa.gov/sites/production/files/2016-12/documents/epascientificresearchtransperancyplan.pdf>.
- 2 EPA (2016) Plan to increase access to results of EPA-funded scientific research. pg. 6. Available: <https://www.epa.gov/sites/production/files/2016-12/documents/epascientificresearchtransperancyplan.pdf>.
- 3 EPA (2016) Plan to increase access to results of EPA-funded scientific research. pg. 11 Available: <https://www.epa.gov/sites/production/files/2016-12/documents/epascientificresearchtransperancyplan.pdf>.
- 4 EPA (2020) Docket ID EPA-HQ-OA-2018-0259. Supplemental notice of proposed rulemaking: Strengthening Transparency in Regulatory Science. Comments submitted by Office of the Vice president – Research and Innovation, University of California. Available: <https://bit.ly/352cBKx>.
- 5 EPA (2020) Docket ID EPA-HQ-OA-2018-0259. Supplemental notice of proposed rulemaking: Strengthening Transparency in Regulatory Science. Comments submitted by Program on Reproductive Health and the Environment, University of California, San Francisco. Available: <https://bit.ly/2H4rAf7>.
- 6 National Research Council. (2009). *Science and Decisions: Advancing Risk Assessment*. Chapter 7. Washington, DC, The National Academies Press.