

March 29, 2018

Richard Woychik, PhD  
Office of the Deputy Director  
National Institute of Environmental Health Sciences  
Research Triangle Park, NC 27709

Re: NIEHS Strategic Plan 2018-2023: Advancing Environmental Health Science, Improving Health 2.0

Dear Dr. Woychik,

The Endocrine Society appreciates the opportunity to comment on the National Institutes of Environmental Health Sciences (NIEHS) draft Strategic Plan for 2018 – 2023: Advancing Environmental Health Science, Improving Health 2.0.

Founded in 1916, the Endocrine Society is the world's oldest, largest, and most active organization devoted to research on hormones and the clinical practice of endocrinology. The Society's membership consists of over 18,000 scientists, physicians, educators, nurses, and students from more than 120 countries. Many of our members conduct NIEHS-supported research on the health effects of environmental exposures, including endocrine-disrupting chemicals (EDCs).

We strongly support NIEHS' goal to conduct and support the best science while aligning the science with real-world public health needs and translation of findings to individual and public health outcomes. In general, we agree with the goals and focus areas of the plan, and we commend NIEHS for developing a plan that reflects the latest science and appropriate tangible objectives. In our comments, we identify several cross-cutting themes and emerging research areas we believe if included in the strategic plan would help achieve NIEHS' strategic objectives.

We look forward to opportunities to work together as the NIEHS explores new research areas and implements the objectives outlined in the strategic plan. Thank you for considering the Endocrine Society's comments. If we can be of further assistance, please contact Dr. Joseph Laakso, Director of Science Policy, at [jlaakso@endocrine.org](mailto:jlaakso@endocrine.org).

Sincerely,



Susan Mandel, MD, MPH  
President  
Endocrine Society



### **Strategic Objective 1: Advancing Environmental Health Sciences**

The Strategic Plan highlights several discrete emerging areas of scientific interest; we urge NIEHS to consider scientific themes that could be integrated across disciplines. For example, how combinatorial environmental factors result in different outcomes in different populations and subpopulations. Human subjects research and epidemiology is also a critical need to advance each of the proposed focus areas in objective 1, and the strategic plan should emphasize the utility of clinical research to better understand individual and population-level impacts of environmental exposures.

We note that research on animals is reflected in the section on predictive toxicology; however, other important opportunities exist to engage with the animal research community to advance environmental health research. For example, companion animals and pets are exposed to many of the same environmental factors as their human caretakers. Livestock can also provide baseline measurements of exposures to common chemicals used by farm workers. In these and other cases, animals serve as sentinel species for human endocrine diseases. We encourage NIEHS to explore opportunities to work with comparative endocrinologists to monitor environmental exposures and the incidence of endocrine disease in companion animals.

We strongly support the section on basic biological research and recognition of the need to better understand how early life exposures can result in alterations in later-life disease risk. We note that the endocrine system is susceptible to perturbations during early life, and the later-life consequences of exposure to EDCs include disease such as diabetes, metabolic disease, reproductive health complications, respiratory disease, cancer, and others. We encourage NIEHS to support more research in this critically important area.

### **Strategic Objective 2: Promoting the Translation of Data to Knowledge to Action**

The Endocrine Society stands ready to serve as a partner and advocate to drive better understanding of environmental health research and action to minimize harms due to exposures to environmental harms such as EDCs. Our membership represents the entire spectrum of biomedical research from fundamental biological science through to applied clinical practice. We also develop resources and educational materials for clinicians and patients with our Hormone Health Network ([www.hormone.org](http://www.hormone.org)). Our membership is truly international and can facilitate global environmental health research through our network of endocrine experts.

We fully support the focus on environmental health disparities and environmental justice to address health disparities and differential exposures faced by disadvantaged and diverse communities. This focus area would be strengthened by including an emphasis on geocoding, or an explicit reference to the need to study high-exposure hotspots and build capacity for exposure monitoring at multiple levels within subpopulations or communities.



### **Strategic Objective 3: Enhancing EHS through Stewardship and Support**

We are encouraged by the high priority given to infrastructure and resources. However, data infrastructure and technical resources will be of limited use if training programs do not also build competencies for researchers to analyze the data. We recommend that “training in analytics” and “data standardization” be added to the high-priority areas in the “Scientific Research and Data Infrastructure” focus area. In addition to data science and development of digital data resources, we encourage NIEHS to invest in mechanisms for researchers to share biological resources such as comprehensively defined animal tissues and physical samples useful for exposure monitoring, such as soil repositories. Supplemental funding mechanisms to support new research projects using existing tissues and samples would make more efficient use of limited research funds. A centralized repository that could be accessed by researchers and utilized to build longitudinal data sets would result in tremendous cost savings and improved comparability between studies in different labs.

We also share NIEHS’ interest in ensuring that the products of biomedical research are supported by a foundation of rigorous and reproducible discoveries. Accurate model systems are necessary to ensure that research projects investigating different mechanisms or endpoints are comparable across laboratories. We encourage NIEHS to prioritize research related to identifying, developing, and validating model systems for researchers.