

On behalf of the Endocrine Society, thank you for the opportunity to discuss the ARPA-H proposal. Founded in 1916, the Endocrine Society is the world's oldest, largest, and most active organization of scientists and healthcare professionals dedicated to research on hormones and the clinical treatment of patients with endocrine diseases. We welcome new approaches to drive transformational innovation to improve health, and we appreciate your early engagement with us as ARPA-H takes shape.

The endocrine system plays a vital role in maintaining homeostasis essential for human health, and endocrine science is instrumental to the NIH mission to lengthen life and reduce illness and disability. The areas that our members study address the priorities of multiple Institutes and Centers, including those represented here today. For example, endocrinologists study the molecular roots of cancer and endocrine neoplasias. We also study the effects of the environment on endocrine systems, including the harmful consequences of exposure to endocrine-disrupting chemicals, or EDCs, such as the role of EDCs in the initiation and progression of hormone-sensitive cancers. These and other areas of endocrine research are ripe for new approaches, and I would like to share some opportunities as well as some issues that we urge the NIH to consider.

We understand that ARPA-H will focus on 'use-driven' research with targeted near-term deliverables, as well as high-risk high-reward projects. One example of a use-driven project that might be suited to ARPA-H would be the development of better methods to measure hormones present in the body at very small concentrations. This would require partnerships with industry and involve engineering and other research outside of the scope of typical funding mechanisms. Success in such an endeavor would revolutionize the science and practice of endocrinology by creating a pathway towards real-time hormone measurements to diagnose, monitor, and treat diseases.

Broader opportunities exist to improve our understanding of the oft-underappreciated role of the environment in health and disease. Environmental factors may influence the development and severity of nearly all diseases and ARPA-H could drive transformative change by fostering collaborations between researchers across agencies and with industry, to provide a greater understanding of the biological effects of environmental insults across all sectors of the economy. Better exposure and effect models that integrate environmental factors with lifestyle and social determinants of health would advance public health goals through a focus on primary prevention. Such efforts also have the strong potential to address health disparities.

We understand that DARPA is a paradigm for ARPA-H, but we caution that some features of DARPA grants may create unintentional barriers. DARPA grants involve detailed compliance and reporting requirements. Academic scientists already manage significant administrative workloads, and the integration of a DARPA-like grant management system may unintentionally limit the pool of candidates to a select group of researchers at well-resourced institutions. Program officials will be able to better foster collaboration among experts in different settings by implementing a more flexible compliance scheme together with funded support for administrative requirements.

ARPA-H should also support a measure of freedom and flexibility to explore unanticipated results, given the complexities of biological research, such as the importance of sex and gender influences on health and disease, and gene-environment interactions.

Finally, ARPA-H is an opportunity to work with new partners. Leadership must design ARPA-H to incorporate diverse perspectives, with particular attention to groups that have been historically underrepresented in biomedical research, to maximize benefit to society.

Thank you again for the opportunity to comment and I look forward to the discussion.