

Submitted By: The Endocrine Society

FY 2019 HOUSE APPROPRIATIONS COMMITTEE PUBLIC TESTIMONY
SUBMITTED BY THE ENDOCRINE SOCIETY
FOR THE SUBCOMMITTEE ON LABOR, HEALTH AND HUMAN SERVICES, EDUCATION, AND
RELATED AGENCIES
ADDRESSING THE NATIONAL INSTITUTES OF HEALTH

The Endocrine Society thanks the Subcommittee for the opportunity to submit the following testimony regarding Fiscal Year (FY) 2019 federal appropriations for biomedical research.

The Endocrine Society is the world's largest and most active professional organization of endocrinologists representing more than 18,000 members worldwide. Our organization is dedicated to promoting excellence in research, education, and clinical practice in the field of endocrinology. The Society's membership includes basic and clinical scientists who receive federal support from the National Institutes of Health (NIH) to fund endocrine-related research on diseases that affect millions of Americans, such as diabetes, cancer, fertility, aging, obesity and bone disease. Our membership also includes clinicians who depend on new scientific advances to better treat and cure these diseases. To support necessary advances in biomedical research to improve health, the Endocrine Society asks that the NIH receive total funding of least \$39.3 billion for fiscal year (FY) 2019.

Endocrine Research Improves Public Health

Sustained investment by the United States federal government in biomedical research has dramatically advanced the health and improved the lives of the American people. The United States' NIH-supported scientists represent the vanguard of researchers making fundamental biological discoveries and developing applied therapies that advance our understanding of, and

ability to treat human disease. Their research has led to new medical treatments, saved innumerable lives, reduced human suffering, and launched entire new industries.

Endocrine scientists are a vital component of our nation's biomedical research enterprise and are integral to the healthcare infrastructure in the United States. Endocrine Society members study how hormones contribute to the overall function of the body, and how the glands and organs of the endocrine system work together to keep us healthy. Consequently, endocrinologists contribute an important understanding of how the various systems of the human body communicate and interact to maintain health. The areas governed by the endocrine system are broad and essential to overall wellbeing: endocrine functions include reproduction, the body's response to stress and injury, sexual development, energy balance and metabolism, bone and muscle strength, and others. Endocrinologists also study interrelated systems, for example how hormones produced by fat can influence the development of bone disease.

Endocrine Research is Supported by Numerous NIH Institutes

Endocrine society members are funded by and contribute to the scientific missions of many of the NIH Institutes and Centers (ICs), reflecting the cross-cutting nature of endocrinology. For example:

- Endocrine researchers funded by the National Institute of Aging help us understand how hormonal treatment for menopause might improve stress responses in women¹;

¹ <https://www.endocrine.org/news-room/press-release-archives/2017/treating-menopausal-symptoms-can-protect-against-stress-negative-effects> Accessed March 11, 2018.

- Scientists funded by the National Institute of Diabetes and Digestive and Kidney Diseases, and the National Center for Advancing Translational Sciences are helping us understand the association between levels of thyroid-stimulating hormone (TSH) and unexplained infertility².
- Researchers funded by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) are discovering how hormones influence the gut microbiome, which in turn can influence the development of polycystic ovarian syndrome (PCOS)³.
- Endocrine oncologists supported by the National Cancer Institute developed a new drug with a unique mechanism that could inhibit the growth of drug-resistant prostate cancer⁴.
- Diabetologists funded by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) are exploring new genes and biological pathways that could prevent or reverse the development of diabetes⁵.
- Endocrinologists funded by NIDDK are also studying hormones that influence eating behavior and metabolism might be potential therapeutic targets for weight loss⁶.

² Orouji Jokar, T, et al., “Higher TSH Levels Within the Normal Range Are Associated With Unexplained Infertility” *The Journal of Clinical Endocrinology & Metabolism*. Volume 103, Issue 2, 1 February 2018, Pages 632–639.

³ Torres, PJ, et al., “Gut Microbial Diversity in Women with Polycystic Ovary Syndrome Correlates with Hyperandrogenism” *The Journal of Clinical Endocrinology & Metabolism*, jc.2017-02153.

⁴ <https://www.endocrine.org/news-room/press-release-archives/2013/new-medication-treats-drug-resistant-prostate-cancer-in-the-laboratory>. Accessed March 11, 2018.

⁵ Cinti, F, et al., Evidence of β -Cell Dedifferentiation in Human Type 2 Diabetes. *The Journal of Clinical Endocrinology & Metabolism*, Volume 101, Issue 3, 1 March 2016, Pages 1044–1054,

⁶ Lawson, EA., The effects of oxytocin on eating behaviour and metabolism in humans. *Nat Rev Endocrinol*. 2017 Dec;13(12):700-709. 7

An effective biomedical research enterprise requires a strong base appropriation for the NIH and sustained support for all institutes and centers. Many endocrine diseases and disorders are addressed by the missions of multiple NIH ICs, therefore fundamental research on all biological systems and disease states is necessary to advance effective therapies for these diseases.

Continuing Resolutions Threaten Scientific Momentum

The Endocrine Society appreciates the \$7 billion in total increases NIH has received in the FY 2016, FY 2017, and FY 2018 Omnibus Appropriations bills. This funding will help address the erosion in buying power from appropriations not keeping pace with biomedical research inflation. However, the NIH and other federal agencies have dealt with Continuing Resolutions (CRs) in each of these years and in many years prior. Extended CRs, like those required in FY 2018, threaten to derail the significant progress gained through recent funding increases; without a final appropriation, the NIH cannot make decisions on many worthwhile grant applications, and the overall pace of scientific discovery is severely diminished by fiscal uncertainty. Well-regarded research projects are therefore left waiting for confirmation of the status of their grant application, and highly-qualified research staff are unable to put their expertise to productive use. Or worse, labs are forced to reduce staff, putting longstanding research programs in jeopardy. We urge you to support the NIH on a more predictable funding schedule that allows the agency to engage in more strategic and long-term planning.

NIH Requires Steady, Sustainable Funding Increases

The biomedical research community requires steady, sustainable increases in funding to ensure that the promise of scientific discovery can efficiently be translated into new cures. NIH grant

success rates are predicted to remain at historically low averages, meaning that highly skilled scientists will continue to spend more time writing highly meritorious grants that will not be funded. Young scientists will also continue to be driven out of biomedical research careers due to the lack of funding.

We may never be able to quantify the opportunities we have missed to improve the health and economic status of the United States due to persistent underinvestment in research. We do know however, that when “laboratories lose financing; they lose people, ideas, innovations and patient treatments⁷.” Based on the personal stories of researchers who have been forced to curtail research programs, we know that research programs to understand how genetics can influence heart disease, develop therapeutic treatments for Parkinson’s disease, and evaluate the effect of metal contaminants on reproductive health, among many others, are delayed or terminated⁸.

FY 2019 NIH Funding Request

The Endocrine Society recommends that the Subcommittee provide at least \$39.3 billion, representing further steady, sustainable, increases in funding for NIH through the FY 2019 Labor-HHS-Education Appropriations bill. This funding recommendation represents the minimum investment necessary to avoid further loss of promising research and at the same time allows the NIH’s budget to keep pace with biomedical inflation.

⁷ Teresa K. Woodruff “Budget Woes and Research.” *The New York Times*. September 10, 2013.

⁸ Sequester Profiles: How Vast Budget Cuts to NIH are Plaguing U.S. Research Labs. *United for Medical Research*. http://www.unitedformedicalresearch.com/advocacy_reports/sequestration-profiles/ Accessed March 20, 2014.