

This response was developed by the Endocrine Society's Research Affairs Core Committee in response to NOT-HL-23-118 Request for Information (RFI): National Heart Lung and Blood Institute (NHLBI) Strategic Vision Refresh.

December 15, 2023

Using novel approaches for addressing health disparities and tackling their biological underpinnings in heart, lung, blood, and sleep diseases and conditions.

In our review of the NHLBI Strategic Vision we noted an explicit focus on sex/gender-based differences in HLBS systems, as well as sex/gender influences on resilience or susceptibility to disease. While we appreciate the importance of understanding the role of sex and gender in health and disease generally, we urge NHLBI to explicitly highlight research involving transgender/nonbinary populations in objective three to ensure that the Strategic Vision includes these disadvantaged populations in biomedical research. Studies are needed that assess the long-term risks and benefits of testosterone replacement therapy in men and transgender men, and estrogen/progesterone replacement therapy in women and transgender women. Moreover, studying the effects of hormone replacement therapy in general on cardiovascular health and mortality could have broad benefits, including for transgender populations, if appropriately inclusive by design. Lastly, the long-term risks and benefits of hormone suppressive treatments (including but not limited to GnRH analogs, aromatase inhibitors, 5-alpha reductase inhibitors, and surgical removal of reproductive glands) also requires proper study, particularly in transgendered individuals but also in patients with breast, prostate, and other sex steroid-responsive malignancies.

Supporting women's health through the lifespan.

We welcome NHLBI's focus on supporting women's health throughout the lifespan. We encourage NHLBI to support studies that focus on the menopausal transition, including research aimed at developing data to better inform decisions related to the timing and duration of hormone replacement therapy. Considering unmet patient needs, NHLBI should support studies aimed at delivering new FDA-approved drugs for treating hot flashes and women's libido.

Furthering the science on the importance of lifestyle behaviors.

During the COVID-19 pandemic, an accelerated transition to a digital work environment and increasing exposure to electronic devices may be expected to have a significant impact on circadian hormones, with consequences that are not fully understood for human biology and disease. We suggest that NHLBI support additional research on how device exposure impacts hormone biology and how adoption of new digital technologies and



changing use patterns at work and at home may influence sleep quality and effects on diseases within the NHLBI mission.

The relevance of the 8 objectives for the NHLBI Strategic Vision, and any critical questions or challenges that are not already incorporated in the NHLBI Strategic Vision.

We are encouraged by NHLBI's interest in mitochondrial involvement in lung diseases and sleep disorders per NOT-HL-22-003; however, there are additional research domains within NHLBI's mission that are influenced by mitochondrial function. For example, mitochondrial diseases impact cardiovascular and liver biology, and we expect that partnerships between researchers who study these organs and systems would also benefit from collaborations with mitochondrial biologists. We urge NHLBI to expand research on mitochondrial biology, taking into account new models and approaches pursued by researchers who have developed programs in response to NOT-HL-22-003.