ENDO2025 SAN FRANCISCO, CALIFORNIA, JULY 12 – 15, 2025

MARCH 2025 THE LEADING MAGAZINE FOR ENDOCRINOLOGISTS

Endocrine news

focus on OBESITY 2025

Endocrine News looks at recent research and upcoming **ENDO 2025** sessions that take aim at the worldwide obesity epidemic.

WEIGHING IN:

Will obesity treatments be more effective and accessible by 2030? An **ENDO 2025** session will discuss the future of researching and managing this formidable condition.

KIDS ON THE MOVE:

2025 Endocrine Society Laureate Ilene Fennoy, MD, MPH, discusses the potential of GLP-1s and other options for combatting childhood obesity.

HARSH REALITIES:

Fatima Cody Stanford, MD, discusses her **ENDO 2025** session that addresses treating obesity across a patient's lifespan from diets and drugs to the impact of changing policies.

ZOOMING IN:

How telemedicine is creating an equitable future for diabetes care.

THE PATH OF KAHN:

2025 Laureate Barbara Kahn, MD, talks about her career journey and more.

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MARCH 2025

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ENDO 2025 Provides Vast Opportunities for Attendees to Learn and Network

The Endocrine Society offers many things to our thousands of members: continuing education, clinical guidelines, scientific statements, advocacy campaigns, networking groups, career development, awards recognition, and leadership opportunities, to name a few.

But the Society's biggest and most visible offering by far is **ENDO!**

This year's **ENDO 2025** in San Francisco, Calif., July 12– 15, promises to continue the impressive level of programming and excitement that we've come to expect over the years.

But how is this program built?

As your president, I'm fortunate to have the inside view on this year's meeting. I've also had firsthand experience serving as a member of the Annual Meeting Steering Committee (AMSC) on previous **ENDOs** and also having been the overall chair of **ENDO 2018** in Chicago, Ill.

I know what it takes to put on this premier meeting. To do so is an incredibly rewarding experience, but it is also a *huge* amount of work by the member volunteers working with the wonderful Society staff over countless hours, tirelessly designing and delivering a program of such excellence, one that is attended by top endocrine clinicians and researchers from around the world.

The planning for **ENDO 2025** started back in 2023! The AMSC then had an in-person planning meeting in the summer of 2024. The tasks include identifying and inviting speakers, reviewing and selecting abstracts, and evaluating all **ENDO** educational components for scientific integrity, effectiveness, and quality, orchestrated by countless further virtual meetings and email exchanges to refine and polish the eventual jewel that is **ENDO 2025**!

That's why I want to give a huge shoutout to the more than 50 volunteer members of this year's AMSC, led by the truly remarkable team of chairs: **Niki Karavitaki, MSc, PhD, FRCP,** overall chair; **Barbara Gisella Carranza Leon, MD, AMSC,** clinical practice chair; **Monica M. Laronda, PhD,** basic science chair; and **Robin Patrick Peeters, MD, PhD,** clinical science chair. Together with the society staff they have done the most fabulous job, as you will see when you come to **ENDO 2025**.

I'd like to share a few of the highlights of what attendees can expect this summer.

ENDO 2025 Educational Offerings

The heart of **ENDO** is its educational programming. This year features more than 200 sessions tailored into multiple pathways.

Using the program planner, attendees can easily find sessions that suit their specific interests and needs. Sessions are conveniently divided into 12 topical pathways, including adipose tissue, appetite and obesity; adrenal; thyroid biology and cancer; and "tumor biology."

The bone and mineral metabolism pathway alone offers 16 sessions, including "Managing Calcium Disorders in Pregnancy," "Exposing Sex Differences in Bone and Mineral Disorders," and "Applying Cutting-Edge Approaches to Skeletal Diseases."

ENDO also categorizes its offerings by science type. Attendees can find sessions that suit their specific interest, whether it is basic, basic and translational, bench to bedside, clinical, clinical and translational, or translational. Our basic science experts on the AMSC are working to update our ever-popular basic science pathways to best suit the educational needs of our bench researchers.

The meeting once again will feature its popular Meet the Professor (MTP) and Meet the Scientist (MTS) sessions. Among the 42 MTP offerings are fascinating sessions on: "Treatment of Obesity in Patients with Complex Comorbidities," "Therapeutic Use Exemption in Elite Sport: The Endocrinologist as the Expert for Hormonal Drugs," and "Unhappy Hypothyroid Patient."

The MTS offerings include equally interesting sessions on "Serendipitous Discoveries of Sex Differences in Research," "Unraveling the Limits and Power of Animal Models of Metabolic Disease," and "Integration of Multiplex Imaging and Big Data to Inform Biological Processes."

Plenaries: Addressing the Big Topics

ENDO does a great job of curating these programs by topics. But it's always a pleasure to come together as a whole at the main stage for our plenaries. These grand sessions allow us a chance to celebrate the winners of our prestigious Laureate Awards and to focus on some of the biggest issues of our day.

ENDO's three plenaries this year are "Genomics in Health Care" on July 12, "Women's Reproductive Health: Aging and Environment" on July 13, and "Innovative Approaches in Obesity Care: From Molecules to Society" on July 14.

We are fortunate to have some of the world's leading experts to discuss topics that have such a profound effect on health around the world. These plenaries are unmissable events!

Following each plenary session, attendees are invited to join a discussion with presenters in the **ENDO**Expo hall. This is a new feature for **ENDO 2025** that we're very excited about. These post-plenary discussions offer a unique opportunity for attendees to delve deeper into the topic and engage in a lively exchange of ideas with the experts.

Career Fairs, ENDOExpo, Networking, and More!

In addition to these rich educational offerings, **ENDO** offers members many other activities.

Attendees who are looking to advance in their careers can take advantage of our Career Fair located directly outside of the **ENDOExpo** main entrance on Sunday afternoon.

The **ENDOExpo** hall, of course, is home to our many industry partners who provide the products and services needed to run our field. Here, you will find Science and Innovation Theaters where you can learn about the latest therapies and technologies.

In addition, the **ENDOExpo** is home to thousands of scientific abstracts that have been submitted for presentation. I'm always amazed at the breadth and depth of research on hand each year. I still remember the first time I saw the Poster Hall as a young fellow and was so taken by the friendly buzz of discussions that were taking place amongst the thousands of posters.

And I would be remiss if I didn't ask you to stop by the Endocrine Society booth, located at the heart of the **ENDOExpo**. Here, you can learn everything about our organization and meet the wonderful Society staff who work so diligently to serve the needs of our members.

Also, don't forget to pick up some amazing Society gifts from the **ENDO** Store!

Networking is also a huge part of **ENDO**. The **ENDOExpo** is the site of our fabulous Opening Reception on July 12. This is a highlight of the meeting where we can catch up with old friends and make new ones!

As part of the meeting's focus on networking, **ENDO 2025** also will host several other receptions, and I also encourage new attendees and **ENDO** veterans to sign up for our **ENDO** Buddy program to match and navigate the meeting together.

Runners are encouraged to lace up their shoes on July 13 for our 5K Fun Run/Walk. This is a great way for attendees to start the day with fresh air, great company, and San Francisco's beautiful scenery.

Finally, I'd like to give a hearty thank you to our generous sponsors who continue to support **ENDO** and the mission of the Society.

All this only scratches the surface of what **ENDO 2025** has to offer. It's a multifaceted meeting that has no peer in the endocrine space anywhere in the world. **ENDO 2025** is the place to be! I look forward to seeing you in San Francisco! EN

John Newell-Price, MD, PhD, FRCP
President, Endocrine Society

A Progress Report: Obesity Treatment and Research 2025

Recently, I was watching a couple of movies from the 1970s; one was a drama filmed in New York City and the other was a documentary filmed in California. There were plenty of random shots of people in streets as well as crowds at various events throughout both. However, one thing about both movies that I found so visually striking — aside from the classic cars of the time, the fashions, and, of course, the hairstyles — was the fact that everyone was so utterly thin. Not emaciated, just not heavy, and certainly not overweight.

It is certainly a stark contrast to what we see today in random crowd shots, or even what we see when we're out in public; it's blatantly obvious that there is indeed an obesity epidemic, and it seems to only be getting worse. This month, we are taking a look at this issue, which is also one of the Endocrine Society's top priorities, with an official stated goal of reducing "the prevalence of obesity through improved clinical care and support for obesity research funding." The Endocrine Society also has two Scientific Statements on this topic: "The Science of Obesity Management" and "Obesity Pathogenesis," as well as a pair of Clinical Practice Guidelines, and a variety of other resources accessible at our website (**www.endocrine.org/topics/obesity**).

On page 24, we're featuring a major **ENDO 2025** symposia addressing obesity in **"Weighing In: Making Obesity Treatment More Effective and Accessible by 2030."** Kelly Horvath spoke to speakers and co-chairs of this session who discuss the future of treating this omnipresent and formidable condition. This 90-minute session is remarkably timely considering that obesity rates reached almost 42% of U.S. adults in 2020. And although the scourge of obesity has felt daunting for several years, new pharmaceuticals have created modest gains against this burgeoning enemy. Lifestyle modifications are still a driving force in conquering this malady, according to session co-chair Marcelo Correia, MD, MSc, PhD, clinical assistant professor of internal medicine-endocrinology and metabolism at the University of Iowa, in Iowa City. "One thing we can never put on the back burner between now and 2030 is lifestyle modifications," he says. "This aligns with my interest in dietary interventions, which goes far beyond this or that diet. It has to do with behavior, how people can live their lives, adding more physical activity, and adding more mental and spiritual elements to bring not only health but well-being." Mark your calendars now for Sunday, July 13, 2025 from 4:30 p.m. to 6 p.m.

MARCH 2025

Endocrine news

THE LEADING MAGAZINE FOR ENDOCRINOLOGISTS

Endocrine News informs and engages the global endocrine community by delivering timely, accurate, and trusted content covering the practice, research, and profession of endocrinology.

The mission of the Endocrine Society is to advance excellence in endocrinology and promote its essential and integrative role in scientific discovery, medical practice, and human health.

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In **"Kids on the Move"** on page 14, Colleen Williams speaks with the Endocrine Society's 2025 Outstanding Leadership in Endocrinology Laureate Award winner, Ilene Fennoy, MD, to discuss her work on protecting future generations from obesity. Of course, pharmaceutical solutions are currently at the top of everyone's list for keeping obesity at bay; Fennoy also discusses the importance of solid, long-term solutions to curtail this epidemic from educational programs in school to help kids eat better to simply getting more movement in their lives every day. As a pediatric endocrinologist, this is one of Fennoy's greatest passions. "One of the main reasons I entered the field of pediatric endocrinology was to learn more about the medical risks associated with size at birth, partially because of my desire to help African Americans, who are more likely to be small for gestational age," she says. "I have always been interested in growth and became increasingly interested in childhood obesity and how we can manage it and try and prevent the progression to type 2 diabetes."

On page 20, Senior Editor Derek Bagley speaks to Fatima Cody Stanford, MD, MPH, MPA, MBA, who has an interesting "back story" in her career of addressing obesity. In **"Harsh Realities,"** she talks about her youth growing up working in her parents' food pantry they run out of their local Atlanta church and how that has impacted her career, which has led to her presenting the **ENDO 2025** plenary session in San Francisco in July entitled, "Changing the Game of Obesity Care Across Lifespan: Policies, Diets, and Drug Innovation." Her talk will offer attendees a comprehensive overview of obesity care's evolving landscape from addressing disparities in diets to challenging the status quo, which, as of late, has been somewhat fluid. One of the changes Stanford will discuss is the reliance on body mass index (BMI) as an accurate measure of obesity. "Our goal is also not to define someone by just one number and recognize that one number for one person is not the same for everyone," she says of the BMI measurement. "If you look at someone, let's say who weighs 150 pounds; that is one height versus another height [but with the same BMI]. They make it look very, very different. I think that this BMI number, which we've become fixated on, has led us astray from really looking at disease and how it shows up in an individual."

As you can see, *Endocrine News* and the Endocrine Society are both focused on doing our part to conquer the worldwide epidemic of obesity. Feel free to reach out to me if you have any future story ideas on obesity-related topics or other topics that would be of interest to our readers. You can reach me at: **mnewman@endocrine.org**. EN

— **Mark A. Newman**, Executive Editor, *Endocrine News*

MEMBERS in the NEWS

Donald McDonnell, PhD, Receives Endocrine Society's 2025 Baxter Prize

Donald McDonnell, PhD

Donald McDonnell, PhD, has been awarded the Endocrine Society's John D. Baxter Prize for Entrepreneurship for discovering hormone therapies for treating breast and prostate cancer, the Society announced today.

The John D. Baxter Prize for Entrepreneurship was established to recognize the extraordinary achievement of bringing an idea, product, service, or process to market. This work ultimately elevates the field of endocrinology and positively impacts the health of patients.

McDonnell is a professor at Duke University School of Medicine in Durham, N.C., where his lab does translational research to help treat and cure breast and prostate cancers.

He is being awarded the Society's Baxter Prize for his research on the molecular basis of the nuclear receptor (NR) action and his involvement in the discovery and development of drugs for use in the treatment of breast and prostate cancers as well as other conditions dependent on steroid hormones.

"Dr. McDonnell is a world-leading scientist, innovator, and entrepreneur in the field of endocrinology and a richly deserving winner of the Society's Baxter Prize. He has played a major role in developing endocrine therapies for breast and prostate cancers and has a special ability to move his discoveries from the lab to the clinic," says Endocrine Society President John Newell-Price, MD, PhD, FRCP. "I look forward to seeing future translational research from his lab as his team strives to discover new therapeutics, whilst also repurposing existing drugs to treat or prevent endocrine cancers."

Leveraging findings from fundamental research into estrogen action in breast cancer, McDonnell developed a mechanism-based drug discovery platform that he used to identify bazedoxifene, lasofoxifene, etacstil, and elacestrant as treatments for metastatic breast cancer. Elacestrant received approval from the U.S. Food and Drug Administration (FDA) in 2023 and lasofoxifene is in Phase III clinical trials in the ELAINE studies.

His work has also led to the discovery of novel treatments for prostate cancer, and a start-up company that he cofounded, Adara Therapeutics, is currently developing these drugs.

"I'm honored to be the recipient of the Society's 2025 Baxter Award and look forward to celebrating with all of my colleagues at **ENDO 2025**. I knew John Baxter very well, and he and I had the same love of translational research," McDonnell says. "I plan to leverage this prize to continue my work in the field to find better treatments for endocrine cancers."

McDonnell will receive the Baxter Prize at the Society's annual meeting **ENDO 2025**, which will take place July 12 – 15, in San Francisco, Calif. The $50,000 prize is awarded biennially to recognize scientists or healthcare practitioners who have demonstrated entrepreneurship by leveraging endocrine research to improve patient care.

The Baxter Prize was established in memory of Endocrine Society Past President John D. Baxter, MD, who was a world-renowned scientist known for being the first to clone the human growth hormone gene. During his career, he made many fundamental medical discoveries and translated them into clinical therapies that had far-reaching implications in the fields of biotechnology and genetic engineering, benefiting the health and welfare of patients worldwide. He passed away in 2011. The Baxter family endowed the prize in his memory.

Teresa Woodruff, PhD

Teresa Woodruff, PhD, Honored by SWHR

The Society for Women's Health Research (SWHR) will honor Endocrine Society Past-President Teresa Woodruff, PhD, with a Women's Health Visionary Award for her contributions to women's health research in endocrinology, ovarian biology, and reproductive science during its 35th Annual Awards Gala.

Woodruff is also being honored for her leadership surrounding the sex as a biological variable policy within the National Institutes of Health (NIH) and integration of women's health research across the NIH. Woodruff is a MSU Research Foundation Professor and president emerita of Michigan State University, and past president of the Endocrine Society. She is responsible for many discoveries, three of which have changed our understanding of fundamental reproductive processes and others that led to a new field of medicine.

Woodruff and her collaborators discovered the remarkable "zinc spark," which allows an assessment of egg quality in a non-invasive way; she was the first to mature ovarian follicles leading to live births of mice outside the body and fertilizable human eggs; she used this technology to develop pathways for cancer patients receiving life-preserving but fertility-threatening treatments to have a family, a field of medicine known as oncofertility. Additionally, she created the first three-dimensional (3D) printed ovarian "bioprosthetic," which produced the first live birth from a printed organ; cloned the inhibin and activin subunits and defined the molecular basis of negative feedback in the reproductive system; and reconstructed an ovarian cycle outside the body in a system now known as EVATAR/Lattice.

"Oncofertility is a discipline born of the unmet needs of women that profoundly changed the landscape for all," Woodruff tells *Endocrine News*. "The vision to see all of us is what this award celebrates, and I am profoundly grateful for the work to be recognized."

Woodruff championed the inclusion of sex as a biological variable in federal grants and in the process, created new areas of education in the reproductive sciences. She was awarded the Presidential Award for Mentoring in Science, Technology, and Math by President Barack Obama and the National Medal of Science by President Joe Biden. Woodruff is a fellow of the American Academy of Arts and Sciences, National Academy of Medicine, National Academy of Inventors, and the Guggenheim Foundation.

SWHR supporters will gather in person for the 2025 Annual Awards Gala to celebrate the achievements of Woodruff as well as other women's health leaders. The event will be held on April 30, 2025, at the Willard InterContinental in Washington, D.C., with a reception beginning at 6:00 p.m. ET and dinner following at 7:00 p.m. ET. EN

MEMBERS in the NEWS

“SWHR supporters will gather in person for the 2025 Annual Awards Gala to celebrate the achievements of Woodruff as well as other women's health leaders. The event will be held on April 30, 2025, at the Willard InterContinental in Washington, D.C., with a reception beginning at 6:00 p.m. ET and dinner following at 7:00 p.m. ET.”

Latest Cholesterol-Lowering Treatment Shows Promise

> **Unfortunately, despite the use of statins and ezetimibe, the vast majority of patients with homozygous familial hypercholesterolemia still have markedly elevated LDL-cholesterol. Therefore, these patients have the highest unmet medical need for additional LDL-cholesterol lowering therapies.**

A third generation of the latest cholesterol-lowering medication — PCSK9-inhibitors — will soon be available for patients with homozygous familial hypercholesterolemia (HoFH), according to a January 24 article in *The Lancet Diabetes & Endocrinology*. Affecting approximately 30,000 individuals worldwide, HoFH is a rare but serious genetic disorder in which patients have markedly elevated levels (>10 mmol/L or 400mg/dL) of low-density lipoprotein (LDL-cholesterol), known colloquially as "bad cholesterol."

If untreated, HoFH patients face fatty deposits in their skin and tendons, aortic valve disease, and premature atherosclerotic cardiovascular disease as early as in their first decade of life. Traditional treatment for HoFH entails statins and ezetimibe (Zetia), the former inhibits synthesis of cholesterol by the liver and the latter blocks the absorption of dietary cholesterol from the small intestine.

"Unfortunately, despite the use of statins and ezetimibe, the vast majority of patients with homozygous familial hypercholesterolemia still have markedly elevated LDL-cholesterol," the authors write. "Therefore, these patients have the highest unmet medical need for additional LDL-cholesterol lowering therapies."

Enter PCSK9 or proprotein convertase subtilisin/kexin type 9, a protein that binds to LDL receptors in the liver and prevents their recycling, thus reducing the liver's ability to remove LDL-cholesterol from the blood. These protein inhibitors effectively lower LDL-cholesterol, are well tolerated, but require injections and are expensive. A decade ago, studies using monoclonal antibodies to inhibit this protein showed significant LDL-cholesterol reduction of approximately 30% in HoFH patients of mostly European ancestry. Subsequent trials in diverse populations of children and adults with HoFH using these monoclonal antibodies, or the short interfering RNA inclisiran (which inhibits liver PCSK9 synthesis) showed minimal overall reductions in LDL-cholesterol and a significant number (50% or more) of non-responders.

Lerodalcibep (LIB003) is a novel small recombinant fusion protein composed of adnectin (derivative of an extracellular matrix protein, fibronectin, known for its "stickiness" and its roles in cell adhesion and migration) and the blood protein albumin. This engineered protein is meticulously crafted to bind and inhibit circulating PCSK9. Separate studies in heterozygous FH patients and in patients at high cardiovascular risk saw lerodalcibep reduce LDL-cholesterol by 65% and 63%, respectively.

In this current study, called the LIBerate-HoFH Phase 3 trial, the safety and efficacy of lerodalcibep is compared to the monoclonal antibody evolocumab in a diverse population of 66 HoFH patients, including patients from Türkiye and India as well as pediatric patients. All patients in this study underwent genotyping to confirm a genetic diagnosis of HoFH. They were then randomly assigned to receive monthly subcutaneous injections of either lerodalcibep 300 mg or evolocumab 420 mg for 24 weeks. Subsequently, an eight-week washout period was implemented prior to the crossover of treatments. Both PCSK9 inhibitors lowered LDL-cholesterol modestly, by approximately 10%, but 20% of the patients had a 30% or greater reduction in LDL-cholesterol, suggesting that lerodalcibep may be appropriate for some HoFH patients. Lerodalcibep is now seeking approval from the U.S. Food and Drug Administration and the European Medicines Agency. — *Jackie Oberst*

Health Challenges in Males with Classic Adrenal Hyperplasia

Males diagnosed with classic congenital hyperplasia (CAH) due to 21-hydroxylase deficiency require lifelong treatment, with adolescence the most challenging treatment period, notes a review article in the January 21 issue of *The Journal of Clinical Endocrinology & Metabolism* and a supplement sponsored by Neurocrine Biosciences, Inc., an American biopharmaceutical company that develops treatments for neurological and endocrine-related disorders.

To replace the low cortisol and suppress high levels of adrenocorticotropic hormone and adrenal androgens, CAH patients need continual treatment with glucocorticoids (GCs). Over- and undertreatment also within one day is common. Without proper monitoring of GC doses, adolescent male patients can face long-term consequences, such as reduced final height and reproductive health, development of benign testicular adrenal rest tumors (TARTs), poor bone health, and the trifecta known as metabolic disease (heart disease, stroke, and type 2 diabetes).

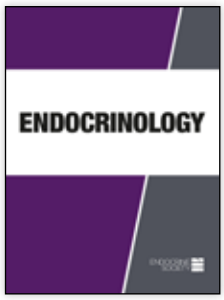
To help counteract these issues Hedi L. Claahsen-van der Grinten, the study coauthor and pediatrician and professor at Radboud University Medical Center, tells *Endocrine News* that "careful monitoring by a specialized team improves long-term outcomes."

Over half of male patients moving over from pediatric- to adult-oriented care tend to fall through the cracks and stop adherence to their medications. They are often also not well instructed on how to manage salt loss while playing sports as well as how drugs and alcohol can lead to vomiting, dehydration, and possible adrenal crisis. The risk of subfertility/infertility already begins during childhood and adolescence, especially in males with poor hormonal control, who often have reduced sperm counts, small testes, and TARTs. CAH males are also at heightened risk for low bone mineral density, osteoporosis, and bone fractures as well as obesity, insulin resistance, and hypertension. Epidemiological studies have shown that males with CAH have a higher incidence of psychiatric disorders, suicidality, alcohol misuse, and a lowered quality of life (e.g., fewer biological children, increased social relationship problems, more frequent use of sick leave, and disability) compared to controls.

A customized approach is recommended by the article authors. "Each patient's treatment regimen should be tailored to their clinical status and individual goals at the time, which may be to improve treatment adherence, achieve paternity, prevent osteoporosis, reduce obesity, and/or improve cardiovascular health," they write, adding that "the transition from pediatric-centered to adult-oriented care should be a gradual process involving both patients and their parents/caregivers, beginning between 11 and 13 years of age and extending until the patient establishes regular follow-up with a multidisciplinary team of adult healthcare professionals."

The Endocrine Society recommends treatment of children with 10 to 15 mg/m^2/day hydrocortisone in three divided doses, notes the authors, adding that administration times for the highest dosage is highly debated, with some opting for the morning and others in the evening. These guidelines also suggest treatment with 0.05 to 0.2 mg/day fludrocortisone in one to two divided doses in growing children, with regular monitoring of blood pressure, heart rate, and blood renin to avoid over- and undertreatment with mineralocorticoids. For growth and pubertal development, GC doses are monitored several times a day via 17-hydroxyprogeserone (17-OHP) and androstenedione in serum or saliva. — *Jackie Oberst*

> **"Each patient's treatment regimen should be tailored to their clinical status and individual goals at the time, which may be to improve treatment adherence, achieve paternity, prevent osteoporosis, reduce obesity, and/or improve cardiovascular health."**



> This should enable the rational design of next-generation pharmacotherapies to meet the diverse clinical needs of people living with obesity and to aid preventative efforts to reverse the prevalence of the global obesity epidemic.

GLP-1 and Eating Control: New Neurobiology Insights

Glucagon-like peptide-1 receptor agonists (GLP-1RAs) have revolutionized weight loss management, and researchers are now exploring how these medications can further transform obesity care and offer new possibilities for long-term weight management, according to a recent review article published in *Endocrinology*.

Authors Lauren A. Jones and Daniel I. Brierley, PhD, both of the Centre for Cardiovascular and Metabolic Neuroscience, University College London, write that obesity has reached epidemic dimensions — more than one billion people now live with obesity, with rates doubling in men, tripling in women, and quadrupling in children over the past 30 years.

Originally a drug used to treat type 2 diabetes, semaglutide (Wegovy) received approval for weight loss and management by the U.S. Food and Drug Administration in 2021 and the European Medicines Agency the following year. Other GLP-1-based drugs, such as tirzepatide (Mounjaro/Zepbound), followed suit in 2023 (Europe and U.S.). Yet, while it is known that these drugs reduce weight primarily by decreasing food consumption, via activation of the GLP-1 receptor on neuronal cells, the exact sites of action and the neural circuits involved, as well as other issues remain in question.

"Here, we provide a targeted synthesis of what we consider some of the most important recent developments in the fast-moving field of GLP-1 neurobiology, specifically relevant to obesity," Jones and Brierley write. "In particular, we highlight studies which have advanced our understanding of how GLP-1 signaling modulates eating, and we identify what we consider important open questions and future challenges to be addressed surrounding GLP-1-based AOMs to aid the prevention and/or treatment of obesity."

The authors describe gut-brain pathways and sites of action of endogenous and exogenous GLP-1 signaling that are involved in the control of eating and body weight. In this context, they highlight the particular importance of brain areas including the brainstem (area postrema, nucleus tractus solitarus, locus coeruleus), hypothalamus (arcuate nucleus, dorsomedial nuclei), and lateral septum.

Identifying which neural populations specifically mediate the beneficial effects of GLP-1RAs is of vital importance. "[C]rucial questions for rationally designed pharmacological strategies for tuning GLP-1RA action in the brainstem include: What specific GLP-1R subpopulations, and non-GLP-1R-expressing neurons within the same local circuitry, are actually recruited by these drugs; and are these apparently functionally dissociable subpopulations which mediate nausea vs satiation/satiety differentially druggable?" Jones and Brierley write.

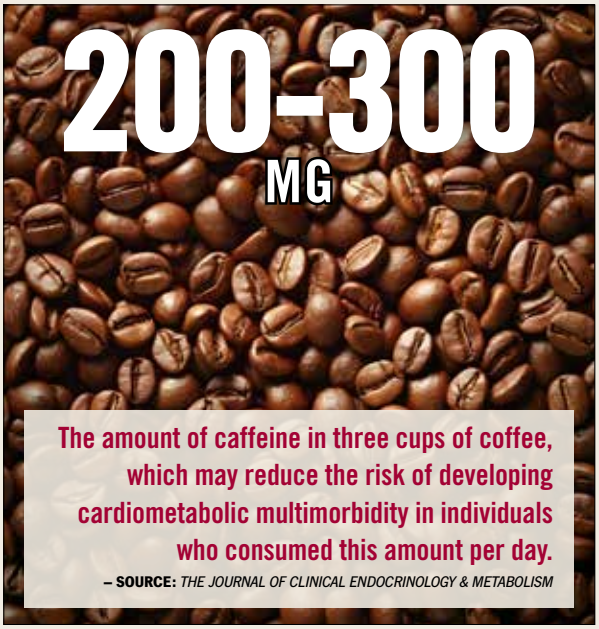
Furthermore, the authors address the issue of drug cessation and weight regain; once patients stop these drugs, more than half regain much of the weight they loss. The authors point to studies that using lower doses instead of the cold-turkey approach might be more beneficial.

Lastly, Jones and Brierley point out that for a third of people living with overweight or obesity, current GLP-1RAs may not provide meaningful weight loss, emphasizing the fact that obesity is a heterogenic disease.

"The increasingly sophisticated genetic and molecular tools now available should provide the specificity required to dissociate and selectively target the neural circuits recruited by GLP-1RA AOMs for their therapeutic and adverse effects," the authors write in their conclusion. "This should enable the rational design of next-generation pharmacotherapies to meet the diverse clinical needs of people living with obesity and to aid preventative efforts to reverse the prevalence of the global obesity epidemic." — *Jackie Oberst* EN

> The attitudes among healthcare providers toward chronic conditions like diabetes and hypertension have paralleled how easily we can now treat them. Because it's easier to treat these conditions with medications, and now that we know so much about their biology, this has affected how healthcare providers think of these conditions. **Etiologically, these and many other conditions are similar to obesity — highly heritable, modulated by the environment — and this has helped reduce bias."**

Satya Dash, MD, PhD, FRCPC, associate professor, University of Toronto; senior scientist, Toronto General Hospital Research Institute (TGHRI), Toronto, Ontario, Canada, in **"Weighing In,"** on page 24.



The amount of caffeine in three cups of coffee, which may reduce the risk of developing cardiometabolic multimorbidity in individuals who consumed this amount per day.

– **SOURCE:** *THE JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM*

The amount of children and adolescents with obesity who have components of metabolic syndrome.

– **SOURCE:** *PEDIATRIC OBESITY*

>40%

More than 40% of postdoctoral researchers leave academia, according to a study of some 45,500 researchers' careers.

– **SOURCE:** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES*

$0.19

The price per unit of insulin in mid-2024, the lowest average recorded in a decade.

— **SOURCE:** GOODRX

Patients with major depressive disorder (MDD) have a twice as high risk of developing diabetes compared to the general population. — **SOURCE:** *TRANSLATIONAL PSYCHIATRY*

ENDO 2025

We hope to see you at **ENDO 2025**, taking place July 12 – 15, 2025, in **San Francisco, Calif.** With more than 7,000 attendees, nearly 2,000 abstracts, and more than 200 other sessions, **ENDO** is the top global meeting on endocrinology research and clinical care. **ENDO** provides

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https://www.endocrine.org/meetings-and-events/endo-2025

Clinical Endocrinology 2025

Live Streaming
March 26 – 30, 2025

For 50 years, the endocrinology faculty from Harvard Medical School and Massachusetts General Hospital have offered the CME course Clinical Endocrinology — the acclaimed annual update of current endocrine diagnostic and management strategies. If you provide care to patients with endocrine disorders, this course will be invaluable to your medical decision making and patient care.

https://endocrinology.hmscme.com/

Lab Manager Leadership Summit

Denver, Colorado
April 29 – May 1, 2025

The program's expert speakers will provide you with the tools you need to reach higher levels of engagement and efficiency among your lab teams. Topics will include dealing with burnout, incorporating automation into your lab, lab operations, effective communication, and much more. An interactive Q&A will follow each session. Attendees will also be able to participate in hands-on workshops and roundtable discussions where they will receive focused advice and learn from real-life examples of leadership success. This event will also feature a special track focused on lab safety, as well as a track geared toward those who work in the clinical lab.

https://www.labmanager.com/lab-manager-leadership-summit-30946

PES 2025 Annual Meeting

National Harbor, Maryland
May 15 – 18, 2025

The Pediatric Endocrine Society's (PES's) Annual Meeting brings together a diverse international community of over 1,000 clinicians, researchers, and trainees to share the excitement of new ideas, establish new friendships, and learn the latest insights covering the wide scope of this diverse field.

https://pedsendo.org/

AAES 2025 Annual Meeting

Milwaukee, Wisconsin
May 17 – 19, 2025

American Association of Endocrine Surgeons (AAES) 2025 Annual Meeting attendees can look forward to dynamic speakers, presentations of innovative research, opportunities to connect with colleagues, and informative panel discussions. The AAES Annual Meeting is dedicated to the advancement of the science and art of endocrine surgery through exchange of knowledge and fostering collaboration. The upcoming 2025 event promises to deliver innovative programming that will enrich attendees' clinical practices, provide networking opportunities, and facilitate scholarly pursuits. We cordially invite you to join us in Milwaukee for this exciting event. It will be an excellent opportunity to dive into new topics, share expertise, and connect with peers who share similar interests.

https://www.endocrinesurgery.org/2025-annual-meeting

ADA 85th Scientific Sessions

Chicago, Illinois
June 20 – 23, 2025

The American Diabetes Association's (ADA's) Scientific Sessions offers researchers and healthcare professionals the unique opportunity to share ideas and learn about the significant advances and breakthroughs in diabetes. Participants will receive exclusive access to more than 190 sessions and 2,000 original research presentations, take part in provocative and engaging exchanges with leading diabetes experts, expand their professional networks, and so much more.

https://www.acla.com/

INTERNATIONAL **ITINERARY**

SfE BES 2025

Harrogate, United Kingdom
March 10 – 12, 2025

SfE BES is the annual conference of the Society for Endocrinology, bringing together the best of basic science, translational research, clinical investigation, and clinical practice over a three-day program.

https://www.endocrinology.org/events/sfe-bes-conference/sfe-bes-2025/

ATTD 2025

Amsterdam, The Netherlands
March 19 – 22, 2025

ATTD is the ultimate meeting to discover the latest worldwide research, devices, and developments in the diabetes field. Join the community of experts, clinicians, researchers, and industry professionals to stay up to date with the latest advancements in our field. Together, we can continue driving revolutionary changes and making a positive impact on those battling diabetes.

https://attd.kenes.com/

Joint Congress of ESPE and ESE 2025

Copenhagen, Denmark
May 10 – 13, 2025

The first ever joint congress between the European Society for Paediatric Endocrinology (ESPE) and the European Society of Endocrinology (ESE) is titled "Connecting Endocrinology Across the Life Course" and will bring together pediatric and adult endocrine specialists from across Europe and the rest of the world to meet, collaborate, and celebrate endocrinology. This event provides a unique opportunity for learning new perspectives and enabling scientific exchanges, coupled with extensive networking opportunities to help our international endocrine community grow and flourish.

https://espe-ese-congress2025.org/

Adipose Biology Conference

Montreal, Quebec, Canada
August 19 – 20, 2025

The Adipose Biology Conference is a dynamic platform that unites scientists at all career stages, fostering collaboration, knowledge exchange, and mentorship to propel groundbreaking advancements in mechanisms of adipose tissue biology.

https://www.adiposebiology.com/

Leading pediatric endocrinologist and recipient of the Endocrine Society's 2025 Outstanding Leadership in Endocrinology Laureate Award, Ilene Fennoy, MD, MPH, talks with Endocrine News *about the potential of GLP-1s and long-term solutions for childhood obesity. She says a good place to start is creating more programs in schools to help kids eat better and incorporate more movement into their daily lives.*

KIDS *on the* MOVE

Protecting Future Generations from Obesity

BY COLLEEN WILLIAMS

Ilene Fennoy, MD, MPH, has always been passionate about improving the health of children. Between treating patients, directing several programs at Columbia University, and balancing her work with different medical associations, she is a prime example of an outstanding leader in pediatric endocrinology who goes above and beyond for both her patients and her community.

"One of the main reasons I entered the field of pediatric endocrinology was to learn more about the medical risks associated with size at birth, partially because of my desire to help African Americans, who are more likely to be small for gestational age," Fennoy says. "I have always been interested in growth and became increasingly interested in childhood obesity and how we can manage it and try and prevent the progression to type 2 diabetes."

Fennoy has been a pediatric endocrinologist and a professor at Columbia University in New York for over 20 years where she directs key programs focused on obesity and related cardiovascular morbidity, with a particular emphasis on care for underserved populations.

She recently won the Society's Laureate Award for Outstanding Leadership in Endocrinology for being a pioneer, innovator, and leader in the field of pediatric obesity and in the realm of diversity, equity, and inclusion.

Childhood obesity affects almost 20% of children in the United States. A new generation of anti-obesity medications have the potential to change the treatment landscape for children and teens with obesity, but their safety has come into question. Access to care and lack of long-term studies on their efficacy also remain a major roadblock.

"We still have a lot of unknown areas, and these are relatively new medications, so we do not have the data of long-term effects, meaning we should be cautious with them," Fennoy says. "It's great that we now have something that really works, but I don't expect these medications to work for everyone, which is clear from the adult data, so we need to figure out when is the optimal time to intervene."

"Nevertheless, we are seeing more children with severe obesity who have comorbid conditions for whom medication or

Ilene Fennoy, MD, MPH

“There are a number of studies on the benefits of educating youth on nutrition and exercise including improvements in cardio fitness and preventing weight gain. The most economical way of providing education about nutrition to a large number of children is in schools.”

— ILENE FENNOY, MD, MPH, PROFESSOR OF PEDIATRICS, COLUMBIA UNIVERSITY'S VALEGOS COLLEGE OF PHYSICIANS & SURGEONS, NEW YORK, N.Y.

surgery is important because they're getting complications that are going to keep them from functioning optimally in life," she adds.

Access to Care

There are GLP-1s that have been approved by the U.S. Food and Drug Administration (FDA) for adolescents with obesity who are 12 years or older, but insurance rarely covers them making it difficult for patients to access. Medicare and Medicaid do not pay for weight-loss medications unless you have certain comorbidities like diabetes or major cardiovascular events, which are not as common in the pediatric age group. These medications can cost up to $1,000 per month, making access for those without insurance coverage nearly impossible. The drugs are more likely to be covered and prescribed in patients with type 2 diabetes as they were originally designed for diabetes care and were secondarily found to have a profound effect on weight.

Another roadblock to access to care is the lack of long-term data. Fennoy believes more doctors will prescribe weight-loss medications to children and teens as we continue to see the long-term benefits. Fennoy explains that lifestyle interventions can take about 26 visits over the course of a year to be successful, which is hard for families and practitioners to fit into their schedules. Furthermore, they rarely result in the type of weight loss that families and children with severe obesity are looking for or that can be achieved with these new weight-loss medications.

Type 2 Diabetes and Childhood Obesity

According to the Centers for Disease Control and Prevention (CDC), an estimated 193,000 children younger than 20 years old have been diagnosed with type 1 or type 2 diabetes. Type 2 diabetes most often develops in people 45 or older, but more and more children are developing it. It is very common for people with obesity to develop type 2 diabetes.

The lack of certified nutritionists to help educate children and young people about a proper diet is one of the many factors that has contributed to the rise in pediatric obesity.

Even though weight-loss medications are available, physical activity is the preferred means to reduce obesity in children.

Kids who get type 2 diabetes have a more rapidly progressive disorder than adults, resulting in long-term complications in their 20s and 30s, compared to adults who get it at age 45 and do not start seeing long-term complications until their 60s and 70s.

"This is really scary because you're going to have a young population that can't work because of loss of limbs, blindness, and heart disease due to diabetes secondary to obesity. Yet, we can't treat them until they get to be diabetic in many states," Fennoy says.

When Bariatric Surgery Comes into Play

There is increasing data to show bariatric or weight-loss surgery is very effective in adolescents with severe obesity as it can prevent secondary complications from obesity and help with weight loss. Severe obesity in children is defined as a body mass index (BMI) at or above the 99th percentile for their age and gender. In the United States, about 6% of children and adolescents ages 2 – 9 have severe obesity.

"Research shows people with severe obesity have not been very successful at losing more than 10% – 15% of their body weight from diet and exercise alone," Fennoy says.

"Losing only 10% to 15% of one's body weight only makes a dent for teens who are, for example, over 300 pounds with a BMI over 40. They're only losing about 30 pounds, and their emotional and psychological well-being continues to suffer in addition to their physical health. It makes it very difficult for these children to interact with others and get them to be successful with lifestyle changes alone, so bariatric surgery is a great option," she adds.

Interventions in Schools

The CDC recommends children and teens ages 6 – 7 should get at least 60 minutes of physical activity every day, but only 20% to 28% of children meet this recommendation. Even though many schools have started incorporating more physical activity into kids' daily routine, there are still many schools that are not educating children on nutrition or providing enough opportunities for exercise.

"There are a number of studies on the benefits of educating youth on nutrition and exercise including improvements in cardio fitness and preventing weight gain," Fennoy explains. "The most economical way of providing education about nutrition to a large number of children is in schools."

Workforce Challenges

Forty percent of people in the United States have obesity, and there are not enough doctors and nutritionists to meet their

ENDO2025

Obesity Management at ENDO 2025

Fennoy is the co-chair of a symposium addressing obesity at **ENDO 2025** in San Francisco, Calif., entitled "Obesity Management Across the Lifespan: Special Considerations."

Taking place on **Tuesday July 15, 2025, from 10:45 a.m. to 12:15 p.m.**, this symposium aims to describe the importance of early identification and intervention in pediatric obesity, outline effective strategies for prevention and management, and apply evidence-based approaches to promote lifelong healthy behaviors in children and adolescents.

For more information, or to register, go to: **https://www.endocrine.org/meetings-and-events/endo-2025**.

> **One of the main reasons I entered the field of pediatric endocrinology was to learn more about the medical risks associated with size at birth, partially because of my desire to help African Americans, who are more likely to be small for gestational age.** I have always been interested in growth and became increasingly interested in childhood obesity and how we can manage it and try and prevent the progression to type 2 diabetes."
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Ilene Fennoy, MD, MPH, (right) confers with Alicia Diaz-Thomas, MD, after the symposium on health disparities at ENDO 2023 in Chicago. Such disparities are another factor that plays a role in the growing number of pediatric obesity cases.

treatment needs. Plus, many practices do not have access to appropriate nutrition services, and insurance rarely covers these services.

"We don't have the money to fund all the nutritionists we need, so we are trying to push more diet and exercise education or obesity treatment lifestyle education into primary care," Fennoy says. "We need baseline general knowledge in the community about living a healthy lifestyle and greater access to nutritionists in the outpatient setting."

Leading the Change

Fennoy and other pediatric endocrinologists play an important role in leading the change to make treatment for childhood obesity more accessible and creating more programs to improve the quality of life for more children living with obesity.

Fennoy is a member of the Endocrine Society's Pediatric Obesity Guidelines Committee and has collaborated with the Endocrine Society's Commitment to Diversity, Equity, and Inclusion (CoDI). She is also a co-chair of the Pediatric Endocrine Society's Equity, Diversity, and Inclusion (EDI) Task Force.

She believes the first step to improving the health and well-being of children is incorporating more nutritional education and physical activity in schools. Even though there is a new generation of medications approved and available to treat childhood obesity, it is up to insurance companies to start covering them so more patients can afford their medication. Only then can we even hope to see the tide of the childhood obesity epidemic start to ebb. EN

– WILLIAMS IS THE ENDOCRINE SOCIETY'S ASSOCIATE DIRECTOR OF COMMUNICATIONS AND MEDIA RELATIONS AND HAS WRITTEN OFTEN ABOUT THE SOCIETY'S EVENTS AND PROGRAMS ON THE PAGES OF *ENDOCRINE NEWS* AND ELSEWHERE.

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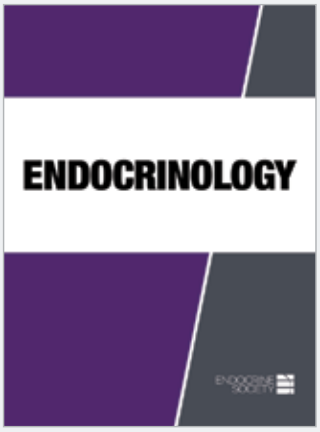

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ENDOCRINE SOCIETY

HARSH *realities*

How treating obesity across the lifespan continues to evolve

BY DEREK BAGLEY

Fatima Cody Stanford, MD, MPH, MPA, MBA, takes the lessons she learned growing up in Atlanta, Ga., serving her community and applies them to her work treating obesity. In July, she'll give the plenary presentation at **ENDO 2025**, "Changing the Game of Obesity Care Across Lifespan: Policies, Diets, and Drug Innovation," offering attendees a comprehensive overview of the evolving landscape of obesity care, from addressing disparities in diets to challenging the status quo.

Fatima Cody Stanford's parents run a food pantry out of their local Atlanta church every Thursday, something they've done for the past 30 years. The pantry serves fresh fruits and vegetables to all who come — foods that are often organic, often high quality.

Stanford, MD, MPH, MPA, MBA, associate professor of medicine and pediatrics at Harvard Medical School and an obesity medicine physician at Massachusetts General Hospital, helped run the pantry when she lived in Atlanta and now funds it. She says the food quality has improved over the last three decades, with donations evolving from Entenmann's cakes to bok choy and kale. On the surface, that evolution seems like a good thing, but, as Stanford tells *Endocrine News*, it exposes the harsh reality of food and housing insecurity.

Stanford says that people who rely on the food pantry may live in a shelter or hotel room where there is nowhere to prepare, much less store, fresh fruits and vegetables. Some have never seen corn on the cob before. And so the fresh fruits and vegetables end up in the church parking lot, and the people in these living situations turn to the necessity of ultra-processed foods.

"The quality of this has improved over the years as people have become more focused on improving the health in communities," Stanford says. "The access and quality in areas that have low socioeconomic have improved, but that doesn't mean that what the people desire in those areas has changed."

Stanford will give the plenary presentation, "Changing the Game of Obesity Care Across Lifespan: Policies, Diets, and Drug Innovation," at **ENDO 2025** in San Francisco, Calif., this July. Part of her talk will focus on this disparity in obesity regarding processed and ultra-processed foods while acknowledging that these types of foods have their place. People rely on them, and healthier processed and ultra-processed foods do exist. "You can villainize even things that may be healthier for you that are also grouped into foods that we might consider bad for you," Stanford says.

Not All Processed Foods Are Created Equal

Stanford served as one of the members of federal government's Dietary Guidelines Advisory Committee (DGAC), which published their guidance last December. Stanford says this is the first time the guidelines focused on equity, especially as equity relates to obesity and ultra-processed foods. "We reported that we did not draw any major conclusions, which people may be frustrated with, but we had to go based upon what was represented in the literature," she says. "What does the data tell us? Not what we believe in our hearts and souls and minds."

"I'll talk about that," Stanford continues. "When we go home and look in our refrigerators, our pantries, and our cupboards, we're looking for clean diets that are minimally processed.

Fatima Cody Stanford, MD, MPH, MPA, MBA

> When we go home and look in our refrigerators, our pantries, and cupboards, we're looking for clean diets that are minimally processed. **However, we have to recognize that when we're talking about processing, anything like preparation, freezing your foods, all of these things go into this idea of processing."**
>
> — FATIMA CODY STANFORD, MD, MPH, MPA, MBA, ASSOCIATE PROFESSOR OF MEDICINE AND PEDIATRICS, HARVARD MEDICAL SCHOOL; OBESITY MEDICINE PHYSICIAN, MASSACHUSETTS GENERAL HOSPITAL, BOSTON, MASS.

However, we have to recognize that when we're talking about processing, anything like preparation, freezing your foods, all of these things go into this idea of processing."

Most people think of fast food served in cellophane wrappers when they think of ultra-processed foods, and while they're not wrong, there is some nuance involved, differences and distinctions. A berry smoothie is ultra-processed, after all. Patients with obesity seeking treatment for it just want to know what they can eat. "That's what they're going to ask me at the front lines, and they're going to not ask just me, that they're going to ask their doctors," Stanford says. "When we draw big conclusions for the population, we have to recognize that this will potentially affect groups that are food insecure and who may need a cereal, a protein shake, or other things that may not necessarily be unhealthy."

An Obesity Drug Innovation Boom

And while there's this discussion on what constitutes a "correct" diet, drug innovation for obesity is exploding. GLP-1RAs are continuously hailed as a breakthrough. Stanford says she will walk **ENDO** attendees through the history of medication for obesity, starting in 1933 when 2,4-dinitrophenol (DNP) was introduced to treat obesity and then banned five years later because of severe and even fatal side effects.

"I'm going to take us through approval to the withdrawal, approval to withdrawal, all the way through semaglutide," Stanford says, "and then I'll go to tirzepatide, and then I'll show a slide from a study I just published in *E-Clinical Medicine* about drugs we think could possibly be coming out in the future."

Stanford sees these drugs as helping patients with obesity and the physicians who treat them. Primary care physicians now have another tool that allows them to stand on the front line treating these patients. As it stands, one hundred million have obesity and there simply aren't enough endocrinologists, much less fellowship trained experts in obesity to care for them. Stanford says her clinic has 5,000 people on its waiting list. "There aren't enough people to accommodate the volume of individuals that need to be seen," she says. "I think that that's a major concern."

"I want to take the chronology [of obesity medication innovation] and see where we're going, and I think that I have some great slides that'll capture that, taking it from 1933 to now, and then see where we're going as we look at what's in the pipeline," she continues.

Goodbye, BMI?

The first word after the colon in Stanford's presentation title is "Policies," and, at the time of this writing at least, that word comes with a side of tumult.

Pictured at a health disparities symposium at ENDO 2023 in Chicago, Ill., (l to r) Estelle Everett, MD, MHS; Stanford; Clare Lee, MD; Alicia Diaz-Thomas, MD, MPH; Sherita Golden, MD; and Megan Haymart, MD.

Before the idea of freezing certain federal funds was floated, Stanford had a grant for 29 scholars, with the goal of helping to shape the careers of people who have historically been left out of the research ecosystem, particularly when looking at a disease like obesity or nutrition-related disorders, which disproportionately impact communities that have been marginalized.

Stanford was also part of the *Lancet* Commission that released its complete overhaul of obesity and its definitions in January. The international group comprising experts from low-, middle-, and high-income countries agreed on, shifting the focus away from Body Mass Index (BMI) as a measure of obesity.

"Our goal is not to define someone by just one number and recognize that one number for one person is not the same for everyone," she says. "If you look at someone, let's say who weighs 150 pounds; that is one height versus another [but with the same BMI]. They make it look very, very different. I think that this BMI number, which we've become fixated on, has led us astray from looking at disease and how it shows up in individuals."

While this group of experts can offer guidance, Stanford laments the lack of policies the United States has adopted to address obesity. There was the Treat and Reduce Obesity Act (TROA), a bipartisan bill that still languishes on the House floor. Now there are rumblings of cutting Medicare, and Stanford has patients saying they're deferring retirement so they can stay on their employer-provided insurance and on their medications to treat their obesity.

Stanford turns back to her roots at the food pantry, thankful that she gets to see the impact her parents have on her community firsthand — all doing their part to improve the health of their neighbors. "It's exciting to be entrenched in it mentally and financially," she says. "I'm thankful that they're able to do the work. They have the food pantry and the clothing bank all tied together. That's always been my thing to be with the people. It's about walking the walk. And I will remain committed to that work no matter how well-known or whatever I get in the field." EN

ENDO2025

Changing the Game of Obesity Care Across Lifespan: Policies, Diets, and Drug Innovation

July 14, 2025, 8:00 a.m. – 9:15 a.m.

This plenary presentation will delve into the transformative landscape of obesity care, emphasizing the integration of innovative policies, dietary strategies, and pharmacological advancements. We will explore how these elements collectively reshape treatment paradigms across different life stages, from childhood through adulthood.

By examining recent policy initiatives, we will highlight their impact on public health frameworks and access to care. Furthermore, we will discuss the latest dietary interventions that align with personalized medicine approaches, promoting sustainable lifestyle changes.

The session will also cover cutting-edge drug innovations that offer new hope for effective weight management. Attendees will gain insights into how these evolving strategies can be implemented in clinical practice to improve patient outcomes and reduce the burden of obesity. This comprehensive overview aims to equip healthcare professionals with the knowledge to advocate for and implement holistic, evidence-based approaches in obesity care.

– BAGLEY IS THE SENIOR EDITOR OF *ENDOCRINE NEWS*. HE WROTE ABOUT "EXOGENOUS OPIOIDS AND THE HUMAN ENDOCRINE SYSTEM: AN ENDOCRINE SOCIETY SCIENTIFIC STATEMENT" IN THE FEBRUARY ISSUE.

weighing IN

Making Obesity Treatment More Effective and Accessible by 2030

BY KELLY HORVATH

PHOTO: Mohammed_Al_Ali/Shutterstock.com

This July, the year's biggest event in endocrinology happens in San Francisco, Calif. Although every **ENDO** is exceptional, **ENDO 2025** holds special importance. With advances in science happening at possibly the fastest rate in history, this meeting is endocrinologists' one-stop shop for keeping up with progress and understanding how it will shape the future of endocrinology, an otherwise daunting task.

One session in particular, "Future Developments and Challenges in Obesity Treatment: Where Will We Stand at **ENDO 2030**?" happening on Sunday, July 13, addresses this dual challenge head on, as the title suggests.

Satya Dash, MD, PhD, FRCPC, of the University of Toronto and senior scientist at the Toronto General Hospital Research Institute (TGHRI), both in Ontario, Canada, will present a talk on "Bariatric Surgery: Will it have a role in 2030 and Beyond?," and Diana Lucia Alba, MD, of the University Of California, San Francisco, will present "How Can We Overcome Socioeconomic Contributors of Obesity?." This session is co-chaired by Sam Pabich, MD, MPH, of the University of Wisconsin in Madison and clinician at the Madison U.S. Department of Veterans Affairs Hospital, and by Marcelo Correia, MD, MSc, PhD, clinical assistant professor of internal medicine-endocrinology and metabolism at the University of Iowa, in Iowa City.

Their 90-minute session focusing on obesity is timely to say the least. As obesity rates skyrocketed in the last few decades of the 20th century, the associated morbidity and mortality led to the public health crisis we now live with. According to data from the National Health and Nutrition Examination Survey (NHANES), obesity rates reached an estimated 41.9% of adults in the United States by 2020 — fortunately, that rate may have been the peak. The most recent NHANES data reveal that the rate did not change significantly from 2020 to 2023, even decreasing slightly to 40.3%, the first such reversal in almost 50 years. Some of this decline can be attributed to recent advances in treatment.

We may well be on the brink of what might be considered a revolution in obesity healthcare. For decades, obesity felt unconquerable. Now, with the emergence of new treatments and more treatment options, we're making modest gains against the enemy. The session at **ENDO 2025** aims to make sure we get this revolutionary opportunity right, including by considering the interplay of factors that led to the obesity epidemic. Despite the promise that the next five years hold in terms of treatment,

Endocrine News speaks to the participants of the **ENDO 2025** symposium "Future Developments and Challenges in Obesity Treatment: Where Will We Stand at **ENDO 2030**?" who discuss the future of treating this formidable condition.

there is no magic bullet. Any transformation in the field we can make will be complex and multifaceted, as the four participants in the obesity session make clear.

Future Role of Surgery

The "elephant in the room" is obesity pharmacotherapy. The newest to be approved by the U.S. Food and Drug Administration are the GLP-1 receptor agonists originally indicated to treat type 2 diabetes. These drugs are helping millions of people with obesity lose weight and achieve better health. Based on their success, do they stand to supplant other obesity treatments?

Not at all, says Dash. In his talk on bariatric surgery, he plans to show how the role of surgery is evolving but not diminishing, as part of a shift toward a multimodal approach. This approach should resemble how other complex, chronic conditions are managed, such as diabetes and hypertension, with multiple treatment options that can be used alone or in combination, guided by individual patient factors and responses.

"It's always good to have options for effective treatment like pharmacotherapy and bariatric surgery," he explains. "Frequently, we tend to think of treatment as one or the other, but in my practice, many patients end up needing both. Different people have different circumstances that determine which one is better for them, and this can vary from patient to patient and from time to time."

Food labeling plays a significant role in helping people make better choices in restaurants or at the grocery store.

Dash says that even before specifics of treatment should be addressed, we should back up to consider two questions. The first is, why do we need these types of treatment for obesity? He explains: "This is a highly heritable disease, and it's a lifelong condition. Many people will have had success at some point with a dietary strategy or lifestyle change, but, statistically, it's very difficult to control weight with lifestyle factors alone. When weight is lost, adaptive changes occur in the body. For example, leptin decreases, so the brain signals the need to eat more and replenish that level. Decreases in leptin also lead to reduced energy expenditure."

The second question is, how much weight loss is needed to see improvements in health? "For most people, losing 5% to 10% of their starting weight can improve sleep apnea, insulin sensitivity, blood glucose control, and blood pressure," Dash says. "A 10% to 15% reduction can potentially start to reverse certain recently diagnosed conditions like type 2 diabetes. What we don't know, because we haven't had the tools, is how much additional benefit comes with weight loss beyond 20% to 25% — do you accrue additional health benefits?"

The answers to these questions will help guide treatment decisions in conjunction with how the patient responds to a given therapy. For example, the GLP-1 inhibitor tirzepatide induces an average weight loss of 21% of starting weight in people without type 2 diabetes, but some people lose less than 10% and some do not respond at all. For people with type 2 diabetes, the average weight loss is about 15%. Bariatric surgery induces weight loss of about 25% to 30%, depending on the procedure, with some data suggesting that this percentage is slightly less in the setting of type 2 diabetes.

"Because of this heterogeneity in response to pharmacotherapy," Dash says, "having another treatment that's potentially more efficacious and more affordable is good. Some people will have gastrointestinal side effects with the medications, and they are very expensive in the United States. Many people end up having to stop them for these reasons."

Then, too, back to the second question; some of the newer medications, like albiglutide, may have weight-independent benefits, especially for cardiovascular health (including major cardiovascular events [MACEs]), potentially meaning that people can achieve better health status even without

SAM PABICH, MD, MPH

ASSISTANT PROFESSOR, UNIVERSITY OF WISCONSIN; CLINICIAN, MADISON U.S. DEPARTMENT OF VETERANS AFFAIRS HOSPITAL, MADISON, WISCONSIN

"For so long, my mission in obesity medicine has been to get the world to appreciate obesity as a disease and to prevent and treat it with evidence-based strategies the way we do with any other disease. Finally, we've seen a significant acceleration in this movement. In facilitating this session, I want to probe the presenters about how obesity medicine is going to change and adapt now that the world is starting to see it the same way that we have for years."

losing weight. Publication of these data is pending, but semaglutide showed similar results in the SELECT trial from 2023. Dash says, "There's evidence this mechanism works through central nervous system pathways, which then have downstream effects on the body to reduce inflammation, particularly in blood vessels."

Looking ahead to 2030, Dash can imagine what the field of obesity will look like — "guided by pertinent facts."

In addition to the variation in response to medication already mentioned, these facts include that many people who are eligible for surgery change their minds about having an invasive, irreversible procedure. This is true even in Canada, where Dash practices and where the cost of bariatric surgery is covered by insurance, unlike in the United States. Another consideration is that some people regain the weight they lost from surgery because of endocrine system adaptations.

All of these factors will demand an algorithmic approach to treatment. Says Dash: "We'll discuss health goals with the patient and try medication first. If they get to where they need to be, we continue. If they can't tolerate it or don't get where they need to be, we can switch classes or use combinations. For the subsection of people who may not get to where they need to be, surgery will still be an option. If they've already had surgery, we may reintroduce medications. They're just as effective in people who've had surgery as in those who haven't."

He also hopes that increased messaging about the effectiveness of surgery will sway some otherwise hesitant patients who could see major cardiovascular and renal health benefits among other areas of improvement. In addition, counseling on dietary changes, mental health support, behavioral changes, and lifestyle changes should still have a role.

Other changes transforming the landscape include less stigma regarding obesity. "The attitudes among healthcare providers toward chronic conditions like diabetes and hypertension have paralleled how easily we can now treat them. Because it's easier to treat these conditions with medications, and now that we know so much about their biology, this has affected how healthcare providers think of these conditions. Etiologically, these and many other conditions are similar to obesity — highly heritable, modulated by the environment — and this has helped reduce bias," Dash says. In addition to clinicians becoming more open to prescribing pharmacotherapy (as well as more pharmaceutical options becoming available, as happened with diabetes and hypertension), continuing therapy even after certain end points are reached may become more widespread, if data bear out the potential accrual of other health benefits (e.g., cardiovascular and renal).

With all of these exciting, if still hypothetical, developments to look forward to, Dash offers a tempering word of advice: "There's a lot of misinformation around now, reducing complex topics into simple answers. The challenge going forward for public health in all domains will be fighting this potential for misinformation. You can have the best treatments available, but across chronic disease

SATYA DASH, MD, PHD, FRCPC

ASSOCIATE PROFESSOR, UNIVERSITY OF TORONTO; SENIOR SCIENTIST, TORONTO GENERAL HOSPITAL RESEARCH INSTITUTE (TGHRI), TORONTO, ONTARIO, CANADA

"It's always good to have options for effective treatment like pharmacotherapy and bariatric surgery. Frequently, we tend to think of treatment as one or the other, but in my practice, many patients end up needing both. Different people have different circumstances that determine which one is better for them, and this can vary from patient to patient and from time to time."

spectra, the big challenge isn't lack of effective treatment, it's that many people aren't taking the treatments or are hesitant because of misinformation. That will be another big factor to counter in coming years."

Addressing Socioeconomic Contributors to Obesity

Even as the field of obesity makes positive strides toward the more personalized, multifaceted approach to treatment Dash describes, Alba emphasizes the complementary need to address the socioeconomic aspect. "There are many things we need to tackle, like structural inequities. We have to promote equal access to resources, find out how we can support each patient, but also have community-level health improvements," she says.

In her talk on the socioeconomic contributors to obesity, Alba plans to promote the community aspect very strongly. "I'll touch on promoting physical activity and improving access to healthy foods since there's a lot of great research we can review, but I will focus more on fostering community engagement, thinking about grassroots initiatives and what we do in our clinics," she explains. "I'm deeply committed to addressing health disparities with a focus on vulnerable populations. My clinical work at a safety-net hospital has allowed me to witness firsthand the impact of socioeconomic contributors to obesity and other metabolic diseases."

This work has helped shape her perspective on this topic: "It's easy to tell someone they need to eat better and exercise, and here are some medications to help, but when it comes to the type of population I see here, it's not that simple." Some of the barriers to eating better and being more physically active — even just taking a walk — include living in unsafe neighborhoods, lack of access to a park, very limited free time due to work and childcare demands, and lack of access to healthy foods. Often the employment options open to her patients do not include paid time off, so even keeping healthcare appointments can present a hardship. Getting transportation to and from can likewise be a barrier. "As clinicians or researchers, we don't always think about what's required for our patients to comply and do everything we want them to do," she says.

Alba sees "culturally tailored approaches" as a way forward. "We need programs tailored to specific populations instead of putting everyone in the same category," she says. "One thing I want to highlight is getting communities involved in designing solutions that actually work for them and are more likely to succeed." At her hospital, for example, despite offering patient education and resources in multiple languages, this does not cover every population in the area. She points to the large Mayan population her hospital serves, whose native languages include Mam and Yucatec Maya. Although they might speak Spanish as a second language, they do not necessarily understand complex medical directions presented in Spanish.

Education is part of the community component, and local clinics and hospitals can often help set up programs at the local level. Alba points to examples like diabetes-prevention programs that provide low-cost gym memberships or free community fitness classes that are proven effective.

Another missing piece is representation, often due to costs and logistics. "I want to emphasize our need to continue research for these particular populations. It's not only research on socioeconomic factors that drive obesity that will help us understand the most effective interventions, but it's also making sure we have these vulnerable populations in our research projects and studies," Alba says. "It's harder to enroll participants who have to take time from work or might not have transportation to come to research visits. It also gets more expensive to enroll these participants because you have to translate everything to their language." Although her institution focuses on hiring research coordinators who either speak the language or look like the participants, making connection easier, she says these aspects are not always considered in the design of research projects elsewhere. "This has long been near and dear to my heart," she says. "I'm a physician-scientist, and my research since my fellowship days focuses on transcriptional pathways that regulate adipose tissue function. I study high-risk populations — people at high risk of developing obesity, type 2 diabetes, or metabolic complications. Hispanic, Latino, and Chinese American groups, for example, don't need to gain much weight to develop these conditions."

Finally, Alba sees government policy playing a crucial role in obesity treatment and mitigating challenges. One policy in particular she hopes to see implemented is clearer food labeling, an initiative that has had positive impacts in Latin American countries recently, with Brazil famously leading the charge. This and efforts to regulate "junk food" can help consumers make better choices at the grocery store, she explains.

Even with all her powerful suggestions for improving the obesity landscape for vulnerable populations over the next five years, Alba remains a realist. "I tell my patients, 'We have more resources now, we understand more about the biology,

While exercise is an important component to staying healthy, gym memberships can often be prohibitively expensive. Some communities are offering low-cost gym memberships as part of a diabetes prevention program.

AT A GLANCE

- **Obesity medications will become first-line treatment, supported by an array of treatment options, including surgery, used as alternatives to or in combination with medication and guided by individual patient factors and responses; overall, this represents a move toward treating obesity more like other chronic conditions.**
- **Despite advances in treating obesity, structural inequities and barriers to treatment must be addressed, particularly for vulnerable populations; future treatment approaches need to be more culturally tailored, and community engaged.**
- **In the next five years (and beyond), we must work to balance all the exciting new treatments with prevention efforts, while also increasing accessibility for all patients; true progress will require innovation across all aspects of obesity treatment, including in lifestyle modifications.**

DIANA LUCIA ALBA, MD

ASSISTANT PROFESSOR OF MEDICINE, DIVISION OF ENDOCRINOLOGY, UNIVERSITY OF CALIFORNIA, SAN FRANCISCO, SAN FRANCISCO, CALIFORNIA

"I'm a physician-scientist, and my research since my fellowship days focuses on transcriptional pathways that regulate adipose tissue function. I study high-risk populations — people at high risk of developing obesity, type 2 diabetes, or metabolic complications. Hispanic, Latino, and Chinese American groups, for example, don't need to gain much weight to develop these conditions."

we know that what you're doing to lose weight might not be what you need to do to keep that weight off, and we know that your brain is fighting really hard to take you back to the previous weight.' Switching to that idea of obesity as a chronic condition with chronic inflammation and complications helps us and our patients understand that this is something they're going to have to deal with for a long time."

Perspectives from the Co-Chairs

Although they are not presenting a talk, facilitators Pabich and Correia are equally inspired by and passionate about the topic of future developments and challenges in obesity treatment — and therefore excited and honored to be co-chairing the session.

Pabich says she has been involved in advancing obesity medicine in her home state of Wisconsin and helping educate clinicians to feel comfortable treating obesity as a disease. This includes giving lectures and education seminars on using obesity pharmaceuticals and lifestyle-based obesity medicine therapies as well as when and when not to refer people for bariatric surgery procedures.

"For so long, my mission in obesity medicine has been to get the world to appreciate obesity as a disease and to prevent and treat it with evidence-based strategies the way we do with any other disease," Pabich explains. "Finally, we've seen a significant acceleration in this movement. In facilitating this session, I want to probe the presenters about how obesity medicine is going to change and adapt now that the world is starting to see it the same way that we have for years."

Pabich also has experience with all of the FDA-approved medications, old and new. "GLP-1s and GLP-1/GIP-1s are the newest players in the field," she says, "and they're also the most effective and therefore the most exciting." Because endocrinologists have been using these medications for almost 20 years with diabetes, Pabich says, "we have

Proper nutrition education can be a significant component of maintaining a healthy lifestyle.

this benefit compared to a lot of other specialists of feeling extremely comfortable with them, knowing how they work, and knowing how to help our patients navigate the side effects. We should be really ready to help patients get access to these medicines and help other clinicians feel that same comfort that we've developed over time."

A future date she anticipates will be very significant will likely come in the early 2030s, when the more potent GLP-1s will start to go off-patent and hopefully become more affordable (it's also possible that lower prices can be negotiated before then). Because the current off-label (i.e., for obesity) price tag is often more than $1,000 a month, these medications are out of financial reach for many. So, when those prices come down, says Pabich, "that's when we're going to see significant changes in population health because of more widespread ability to get these medications affordably."

Like Dash and Alba, Pabich also shares a word of caution: "What I really hope is that this unfortunate problem that now has a good treatment doesn't just make people rely on the treatment. I hope it allows people to focus on prevention of these issues so that maybe the next generation won't be dependent on these medications. We have made huge strides in treatment, but we haven't made big strides in prevention of obesity."

Correia offers another complementary yet unique perspective: the need for balanced innovation across multiple treatment approaches. Correia practices weight management at the University of Iowa Weight Management Clinic. He is also a practitioner at the MOVE! Weight Management program at the Iowa City VA Medical Center, where he has easier access to incretin-receptor agonists. He also researches dietary approaches to managing metabolic-associated fatty liver disease (MAFLD) and metabolic dysfunction–associated steatohepatitis (MASH). "I'm confident that with effort from the community, including pharmaceutical companies running important clinical trials now focusing more on comorbidities associated with obesity like cardiovascular disease and MAFLD, these medicines will have an impact on these conditions as well," he says.

Even so, Correia echoes the other session participants about the limitations of incretin-receptor agonists, citing accessibility and variable responses among others. Like Dash, he sees bariatric surgery's importance growing as a treatment option when medications are not adequate. The flip side is that bariatric surgery in the United States is expensive so not affordable to everyone.

Limitations notwithstanding, Correia is hopeful about what the next five years may bring. "The pipeline of new compounds to tackle obesity and its complications is unprecedented," he says.

ENDO2025

Future Developments and Challenges in Obesity Treatment: Where Will We Stand at ENDO 2030?

July 13, 2025, 4:30 p.m. - 6:00 p.m.

This symposium will explore the cutting-edge advancements and emerging challenges in obesity treatment as we look toward 2030. Topics will include innovative therapies, the evolving role of bariatric surgery, and the integration of precision medicine and novel pharmacological approaches in combating obesity.

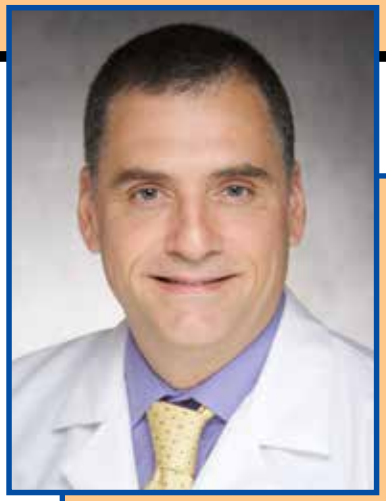
Chairs: Samantha Katherine Pabich, MD, MPH, University of Wisconsin, Madison, Wis.; and Marcelo Correia, MD, PhD, University of Iowa, Iowa City, Iowa

Bariatric Surgery: Will It Have A Role in 2030 and Beyond? — Satya Dash, MD, PhD, FRCPC, University of Toronto, Toronto, ON, Canada

How Can We Overcome Socioeconomic Contributors of Obesity? — Diana Lucia Alba, MD, University Of California, San Francisco, San Francisco, Calif.

Future Perspectives in the Medical Treatment of Obesity — Ivania Maritza Rizo, MD, Boston Medical Center, Newton, Mass.

Learning objectives: Identify and evaluate the latest advancements in obesity treatment, including emerging pharmacotherapies and surgical innovations; describe socioeconomic determinants of obesity and explain how to overcome them; and describe future perspectives in the medical management of obesity.



MARCELO CORREIA, MD, MSC, PHD

CLINICAL ASSISTANT PROFESSOR OF INTERNAL MEDICINE-ENDOCRINOLOGY AND METABOLISM, UNIVERSITY OF IOWA, IOWA CITY, IOWA

"One thing we can never put on the back burner between now and 2030 is lifestyle modifications. This aligns with my interest in dietary interventions, which goes far beyond this or that diet. It has to do with behavior, how people can live their lives, adding more physical activity, and adding more mental and spiritual elements to bring not only health but well-being."

"We're really living in a revolutionary time with medicines that have multiple benefits. The pipeline is very promising: In five years, we'll have novelties with small molecules, which might impact affordability because the production processes are probably much less complicated."

Correia is hopeful, but with caveats, just like his fellow session participants. "One thing we can never put on the back burner between now and 2030 is lifestyle modifications," he says. "This aligns with my interest in dietary interventions, which goes far beyond this or that diet. It has to do with behavior, how people can live their lives, adding more physical activity, and adding more mental and spiritual elements to bring not only health but well-being." This is not to be confused with the outdated approach to lifestyle changes and obesity — diet and exercise alone are not enough to tackle the chronic, lifelong nature of obesity. Instead, Correia feels more research in lifestyle modifications and integrative approaches is needed. In other words, he hopes to see the same energy devoted to innovating procedures and developing drugs directed to innovating new lifestyle change approaches. In his words: "We need to include innovation in lifestyle that aims at promoting health more than anything."

And what of the processed and junk food special interest groups lobbying to potentially hamper such efforts? Correia says the industry will adapt, just as it has done in other domains, like energy. "It is, after all, in their long-term interest to be part of this conversation and hopefully the solutions. We need partnerships with the food industry, not constant fighting," he says.

Also like his fellow participants, Correia is glad to see much wider acceptance of the classification of obesity as a disease (i.e., arising from biologic factors), referring to a recent *Lancet Diabetes & Endocrinology* publication. "My interpretation is that they're now making distinctions similar to diabetes and pre-diabetes, so now we have 'pre-clinical obesity' and obesity," Correia says. "They're characterizing these conditions not only by dysfunction of certain organs but by functional aspects of obesity as a disease, such as problems with incontinence and self-care, things that need to be addressed. I think this definition will raise even more awareness of how this problem affects people's lives."

It so happens that Correia was an investigator in the SELECT trial Dash mentioned. He says: "Interestingly, this was one of the very few studies that didn't implement lifestyle modifications; it was just about the medicine. The results were incredible, especially considering these patients were being treated with statins and had high cardiovascular risk to begin with. I can't imagine what the results would have been if they had added exercise, also known to have an impact on cardiovascular health."

"We have some idea of what can be done to help these people, but the solutions, especially those associated with lifestyle changes, aren't fully developed yet," Correia says. He mentions nutritional and physical activity genetics as possibly allowing more personalization of interventions by predicting responses to dietary interventions based on genetic traits. "But my impression is that we need more advances. Again, we need the same type of innovation we see in bariatric surgery techniques and the pharmaceutical pipeline." EN

– HORVATH IS A FREELANCE WRITER BASED IN BALTIMORE, MD. IN THE JANUARY ISSUE, SHE WROTE ABOUT THE MEDICAL STUDENTS WHO CREATED VARIOUS OUTREACH PROGRAMS IN THEIR LOCAL COMMUNITIES IN RURAL NEW HAMPSHIRE.

ENDOCRINE SOCIETY PRESENTS

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ENDOCRINE SOCIETY

Recipient of the Endocrine Society's 2025 Roy O. Greep Award for Outstanding Research, Barbara Kahn, MD, discovered very early on that pursuing basic science could be just as rewarding as treating patients with chronic illnesses. She tells *Endocrine News* about her career journey, why she relishes working with so many enthusiastic junior scientists, and the role the Endocrine Society has played in her career journey.

The Path of KAHN

BY GLENDA FAUNTLEROY SHAW

Q&A with Barbara Kahn, MD, recipient of the 2025 Roy O. Greep Award for Outstanding Research

A day in the lab: Kahn says "biomedical research holds endless opportunities for discoveries that could result in breakthroughs in the diagnosis and/or treatment of endocrine and metabolic diseases." She instills this philosophy in the younger colleagues in her lab.

Barbara Kahn, MD, initially pursued medical school to understand how the human body works and to help patients with chronic illnesses. During her general medicine fellowship, her cross-over study on blood glucose and urine glucose monitoring led to invitations from U.K. researchers to tour their research institutes — a pivotal experience that revealed basic research as an alternate path to her goal of helping people with chronic illnesses live long, gratifying lives.

Her continued groundbreaking contributions earned Kahn a place among the Endocrine Society's 13 distinguished leaders in endocrinology, as a recipient of the

Barbara Kahn, MD

prestigious 2025 Laureate Award. She was honored with the Roy O. Greep Award for Outstanding Research, recognizing her exceptional contributions to the field.

Kahn is the George Richards Minot Professor of Medicine at Harvard Medical School and the vice chair for research strategy in the Department of Medicine at the Beth Israel Deaconess Medical Center. Kahn earned her medical degree at Stanford University Medical School, a master's in health sciences from University of California, Berkely, and completed her internship and residency in internal medicine at the University of California Davis Medical Center. Her training continued with an endocrine fellowship at the National Institutes of Health. Kahn has received numerous awards and honors including the Banting Medal from the American Diabetes Association, and she is an elected member of the National Academy of Sciences, the National Academy of Medicine, and the American Academy of Arts and Sciences.

Kahn's pioneering research established a critical role for the GLUT4 glucose transporter in adipocytes in regulating systemic insulin sensitivity and type 2 diabetes risk. She performed early investigations of GLUT4 regulation in humans with obesity and diabetes. These, with observations in novel genetic mouse models created in her lab, led to her discovery that GLUT4 down-regulation in adipocytes can cause type 2 diabetes.

Endocrine News caught up with Kahn to learn more about her path to becoming a pioneering researcher and what she enjoys most about training the country's next generation of endocrinology researchers, as well as her concerns about the diminishing pipeline of physician-scientists.

Endocrine News: What did hearing the news of the recognition for Outstanding Research mean to you?

Barbara Kahn: Hearing the news was very exciting and gratifying. This recognition is for all the postdoctoral fellows and students who have worked in my lab over nearly four decades. I am thrilled that their work and ideas are being celebrated in this way.

> "It is very exciting to work with young people who have new ideas and approaches. It is rewarding to help trainees find their unique paths to scientific discovery and build their skills and confidence. **I encourage trainees to think big and develop rigorous approaches to answer questions that will have a significant impact to advance the field."**
>
> — BARBARA KAHN, MD, GEORGE RICHARDS MINOT PROFESSOR OF MEDICINE, HARVARD MEDICAL SCHOOL; VICE CHAIR, RESEARCH STRATEGY, DEPARTMENT OF MEDICINE, BETH ISRAEL DEACONESS MEDICAL CENTER, BOSTON, MASS.

"The Endocrine Society was at the frontier of developing programs to promote successful careers for women and trainees and junior faculty who are underrepresented in medicine. **Some of these mentoring programs have been very successful. I feel gratified to be a part of an organization that has been successful in this way."**

— BARBARA KAHN, MD, GEORGE RICHARDS MINOT PROFESSOR OF MEDICINE, HARVARD MEDICAL SCHOOL; VICE CHAIR, RESEARCH STRATEGY, DEPARTMENT OF MEDICINE, BETH ISRAEL DEACONESS MEDICAL CENTER, BOSTON, MASS.

Barbara Kahn at her induction into the National Academy of Sciences, where she signed the book originally signed by Abraham Lincoln when he founded the National Academy of Sciences

***EN:* Your work in helping to shape the fields of diabetes and metabolism is well recognized. How did you find yourself delving into this type of research?**

Kahn: I went to medical school to understand how the human body works and to help people with chronic illnesses live long, productive, and gratifying lives. I did not plan to do research. But during residency, I found there were shortcomings in the treatment of many diseases, often because we did not understand the etiology or pathophysiology. When I was a general medicine fellow, I designed and carried out a research project to determine the physiological and psychological effects of home blood glucose monitoring in people with diabetes. This was because urine monitoring, which was the standard of care in the early 1980s, was inconvenient and not very accurate. But blood glucose monitoring was not being used at all in the U.S. There were just a few small, uncontrolled studies emerging from the U.K.

My study was a cross-over study of urine glucose monitoring and blood glucose monitoring in patients with type 2 diabetes. Everyone who participated in my study improved their glucose control on both urine and blood glucose monitoring. That reflected the "study effect," meaning that participating in a clinical study and receiving the attention and input of the medical professionals, can lead to improvement in glucose control. The lack of superiority of blood glucose

monitoring in that early study led me to contact investigators in the U.K. who had published the small, uncontrolled studies of glucose monitoring. These investigators invited me to visit their research institutes. As I toured the research laboratories, I realized the great potential of basic science research to make breakthroughs in diabetes treatment. That led me to the National Institutes of Health (NIH) where I sought to learn how to perform basic science research to figure out how insulin really works at the cellular level. I thought that if we really knew how insulin works at a very basic level, we could design better treatments to overcome insulin resistance and prevent or improve treatment for type 2 diabetes.

***EN:* Your lab website reveals a very diverse team of assistant professors, post-doc fellows, and research assistants. What is the most rewarding part of leading the country's next generation of endocrinology researchers?**

Kahn: It is very exciting to work with young people who have new ideas and approaches. It is rewarding to help trainees find their unique paths to scientific discovery and build their skills and confidence. I encourage trainees to think big and develop rigorous approaches to answer questions that will have a significant impact to advance the field. I am concerned, however, that fewer fellows entering our endocrine fellowship training program are interested in research and that overall, the pipeline of physician-scientists is diminishing. While not nearly as lucrative as clinical practice, biomedical research holds endless opportunities for discoveries that could result in breakthroughs in the diagnosis and/or treatment of endocrine and metabolic diseases.

***EN:* You and your fellow Laureate winners will be honored at ENDO 2025 taking place in San Francisco in July. How has the Endocrine Society supported your professional career?**

Kahn: I have belonged to the Endocrine Society since I was a junior faculty member. It has been a terrific place to network with colleagues who are experts in clinical endocrinology and in basic science research. The respect for, and cultivation of, excellence in both aspects creates a special synergy which I and other colleagues benefit from. I remember lively and very informative debates when I was an associate editor of *Endocrine Reviews* since the editorial board members wanted the articles to reflect the latest state-of-the-art advances in endocrine research and the implications for clinical care. Also, the Endocrine Society was at the frontier of developing programs to promote successful careers for women and trainees and junior faculty who are underrepresented in medicine. Some of these mentoring programs have been very successful. I feel gratified to be a part of an organization that has been successful in this way.

***EN:* Lastly, when you are not in the lab, where is your favorite place to find work-life balance and why?**

Kahn: I very much enjoy being in nature, especially hiking. I find various types of exercise to provide a kind of "meditation through movement" that relieves stress and promotes focus and creativity. EN

In Honor of Roy O. Greep, PhD

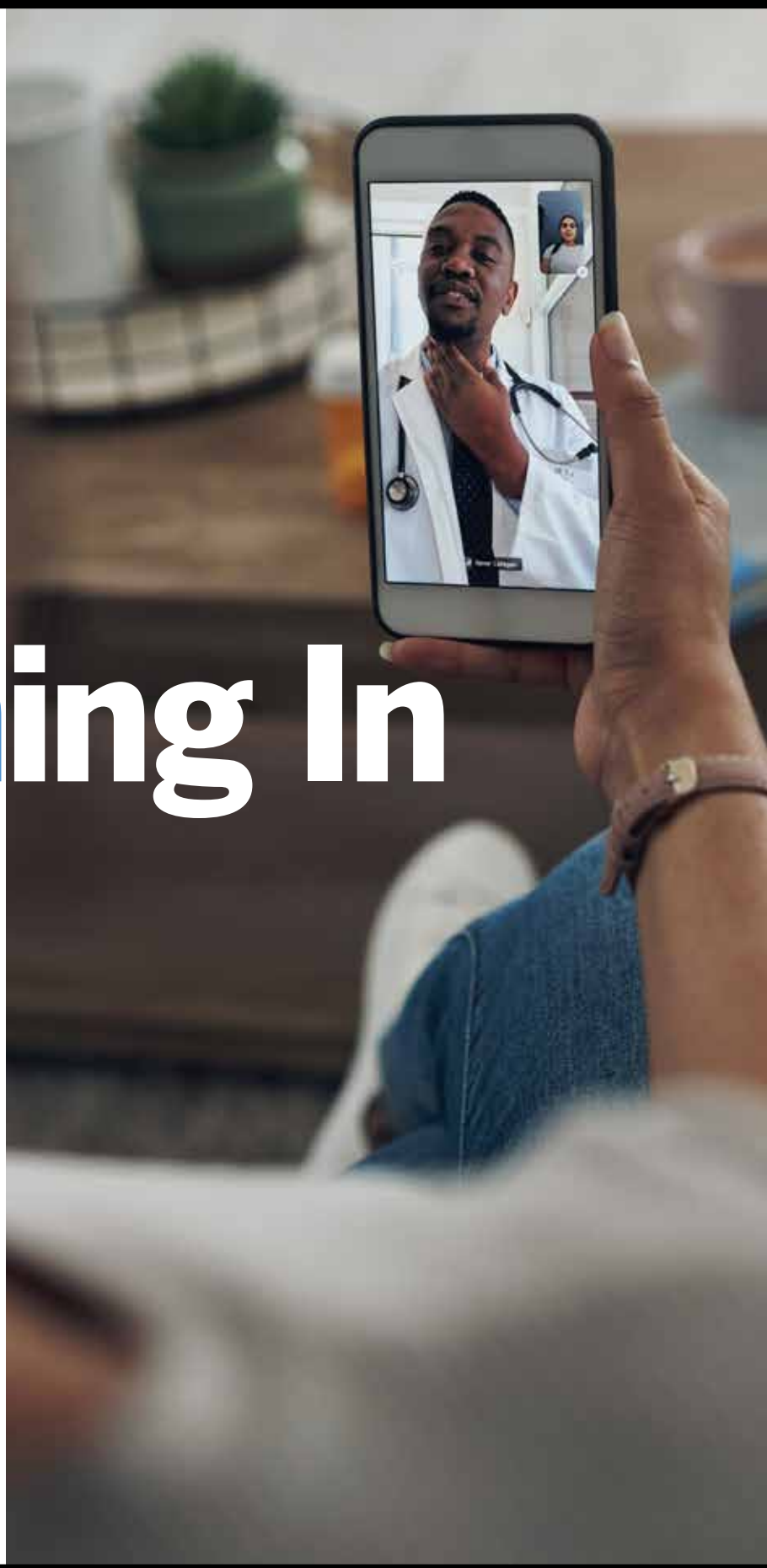
The Endocrine Society honors Roy Orval Greep, PhD, (1905 – 1997), a Harvard University endocrinologist and scholar renowned for his seminal observations related to reproduction. Greep spent most of his career at Harvard, teaching anatomy, dental science, and endocrinology and histology, and serving as dean of the Graduate School of Dental Health. He was editor-in-chief of *Endocrinology* and edited two widely used textbooks on endocrinology and histology. Greep served as the 45th president of the Endocrine Society from 1965 to 1966.

– SHAW IS A FREELANCE WRITER BASED IN CARMEL, IND. SHE IS A REGULAR CONTRIBUTOR TO *ENDOCRINE NEWS* AND WRITES THE MONTHLY LABORATORY NOTES COLUMN.

BY DEREK BAGLEY

How telemedicine is creating an equitable future for diabetes care

Zooming In



Margaret Zupa, MD

Margaret Zupa, MD, discusses how telemedicine has become a lifeline for patients dealing with diabetes and assorted comorbidities who might not have an endocrinologist nearby. Telemedicine not only connects clinicians and patients, but it also fosters cooperation among specialties.

Diabetes technology continues to improve year after year, which is good news for patients living with the disease, as well as the physicians who care for them. Processes streamlined, new products in different stages of development, and improved clinical outcomes. For the most part.

There remain disparities in the uptake of diabetes technology, particularly among underresourced populations, but researchers and clinicians have been working diligently across the country, studying different ways to address these disparities and knock down barriers patients might face when accessing or trying to access the care they need.

"These approaches include engaging community health workers and delivering culturally tailored diabetes self-management education, reducing cost barriers to these tools, involving the patient's wider community including family members, school nurses, and peer supporters; and developing tools to help patients use their data to make the best diabetes self-management decisions for themselves," says Margaret Zupa, MD, assistant professor of medicine at the University of Pittsburgh School of Medicine in Pittsburgh, Penn. "This is what most excites me about the future of diabetes care."

And we're getting glimpses of that future. Here, we'll take a look at one of the innovations helping to promote access and equity to patients with diabetes, a systemic one that's been shown to improve outcomes by opening up communication among patients and their team of health providers.

An Upside from the Pandemic

Since the COVID-19 pandemic, telemedicine has grown throughout the country, and its implementation has been a boon for patients with type 2 diabetes and cardiovascular disease living in rural areas or lower socioeconomic neighborhoods, according to a study Zupa presented at **ENDO 2024** in Boston, Mass.

Of course, telemedicine had its growing pains throughout 2020: technical difficulties, legislative hurdles, deciding who was going to pay for what. But

> “After widespread use of telemedicine, travel distance to endocrinology clinic, race, and neighborhood socioeconomic status had less impact on endocrinology care access compared to the pre-telemedicine period, **while younger age had a stronger relationship with receipt of this care.”**
>
> — MARGARET ZUPA, MD, ASSISTANT PROFESSOR OF MEDICINE, UNIVERSITY OF PITTSBURGH SCHOOL OF MEDICINE, PITTSBURGH, PENN.

as the pandemic became evident that it was here to stay, healthcare professionals, institutions, even legislators and insurance companies saw telemedicine’s value beyond its original concept of trying to connect patients who live in remote areas with their physicians.

Zupa says that while most adults with type 2 diabetes receive care in the primary care setting, adults who have both type 2 diabetes and cardiovascular disease are at high risk for diabetes-related complications and may therefore benefit from receiving specialty care for diabetes by an endocrinologist. But access to this care is limited by both a shortage of endocrinologists, especially in rural areas, as well as other barriers — lack of transportation, including long driving distance, not having a car, or lack of public transit options; mobility challenges; and conflicting responsibilities such as work or caregiving — that patients face to come into a clinic to see a specialist.

Zupa treats an elderly patient who uses telemedicine to avoid having to drive and then park at her clinic in a busy urban area, while another of her patients uses her lunch break at work to see Zupa virtually, which would not be feasible if the patient had to travel to the clinic.

Enhancing Endocrinologist Access

Another barrier is the shortage of endocrinologists in the United States, especially in rural areas. Zupa says that telemedicine has the potential to facilitate access to endocrinology care for patients who live very far from the closest endocrinologist. Telemedicine may be a more efficient form of care, she says, especially when used to foster partnerships between endocrinologists and primary care providers.

“Telemedicine can help patients overcome many of these barriers and may therefore enhance access to endocrinology care for these patients,” Zupa says. “However, there are also concerns that rural, underserved, or older populations may have less uptake of telemedicine due to limited broadband internet, less technological literacy, and other issues. So, since many endocrinology providers continue to use telemedicine to provide care, it is important to understand how it impacts how patients access this care.”

For their **ENDO 2024** study, Zupa and her co-authors analyzed electronic medical records for 9,546 adults who had type 2 diabetes and cardiovascular disease and were seen between January 2018 and June 2022 in a single large integrated health system. The study compared two periods: pre-telemedicine (January 1, 2018 to March 15, 2020) and post-telemedicine (March 16, 2020 to June 30, 2022).

In total, 1,725 patients received endocrinology care during the study period. The study found that before telemedicine, patients more likely to receive endocrinology care were those who lived a shorter distance to an endocrinology clinic, in more walkable neighborhoods with higher neighborhood socioeconomic status, than those who were younger, non-White, with more comorbidities.

"After widespread use of telemedicine, travel distance to endocrinology clinic, race, and neighborhood socioeconomic status had less impact on endocrinology care access compared to the pre-telemedicine period, while younger age had a stronger relationship with receipt of this care," Zupa says. "The findings suggest telemedicine can help make access to endocrinology care more equitable for patients who face barriers to in-person care, such as those living in rural areas or neighborhoods with low socioeconomic status."

Along with Zupa and several thousand endocrine clinicians, the Endocrine Society is also a strong supporter of telehealth. The Society has long advocated for coverage of telehealth and successfully advocated during the COVID-19 pandemic for certain Medicare waivers that expanded access. The Endocrine Society continues to call on Congress to expand telehealth. EN

– BAGLEY IS THE SENIOR EDITOR OF *ENDOCRINE NEWS*. IN THE OCTOBER ISSUE, HE WROTE ABOUT THE POTENTIAL VIABILITY OF A MALE CONTRACEPTION GEL.

Endocrine Society Advocates for Extension of Medicare Telehealth Waivers

In September, Endocrine Society members focused on the issue during a Hill Day when members from across the country traveled to Capitol Hill to advocate for an extension of Medicare telehealth waivers, which are set to expire on March 31, 2025, unless Congress passes legislation to extend them. At the end of last year, there was a bipartisan agreement for a telehealth extension, but the deal fell apart at the last minute.

More recently, congressional offices have told the Endocrine Society that a telehealth extension is still being worked out, although it is not clear what the legislative vehicle would be.

Endocrine Society Advocates for Researchers

The Trump administration has issued many executive actions, which could severely affect funding for biomedical research. In January, several executive orders (EOs) and a subsequent memorandum from the Office of Management and Budget (OMB) effectively froze communication, travel, and grantmaking across the Department of Health and Human Services, including at the National Institutes of Health (NIH). In February, the NIH announced a new policy to cap indirect costs for grants at 15%, substantially below current levels for many institutions. Additionally, the administration laid off over a thousand NIH employees as part of an effort to drastically reduce the number of federal employees across the government and its health-related agencies.

These actions prompted immediate responses from the Endocrine Society and others in the biomedical research community, resulting in reactions from Congress and court orders delaying implementation of several administration actions, including the cap on indirect costs. As this issue of *Endocrine News* went to press, the NIH resumed several grant-funding activities that were initially delayed. Of particular importance to our member scientists, grant review panels and closed sessions of the NIH Advisory Councils, which are required to evaluate and approve funding decisions, are permitted to meet and conduct their work. Additionally, intramural scientists at the NIH are able to make purchases and continue work on projects that began prior to January 20, 2025, including travel for the purposes of working on research projects. However, some restrictions on external communications and travel, e.g., to scientific conferences, remain in effect. The NIH also issued an internal memo acknowledging that continuing to freeze funds appropriated by Congress for research violated a court order and directing the NIH to comply with the temporary restraining order issued by courts to ensure that grantmaking continues at the NIH.

We view the proposed cap on indirect costs as well as the firing of personnel at the NIH as having potentially devastating effects for endocrine science. While we are pleased that the courts have acted to prevent these harmful actions from taking place, we remain concerned about the outlook for research. The Endocrine Society is closely monitoring agency activities, the legal process, and compliance by the administration.

We will continue to advocate for our members, the NIH, and endocrine science. We are working with bipartisan members of Congress to protect research funding. We encourage our U.S.-based researcher members to join our campaigns at **endocrine.org/advocacy/take-action** and share your stories of how proposed cuts will impact your research with us at **advocacy@endocrine.org** so that we can educate Congress about the challenges facing the research community.

“We view the proposed cap on indirect costs as well as the firing of personnel at the NIH as having potentially devastating effects for endocrine science.”

A Message About Cuts to Research Funding

We currently are experiencing sweeping policy changes to biomedical research funding in the United States that are impacting the work of our U.S. members and will have rippling effects for all our members and research collaborations around the world. In the past three weeks, we have seen multiple U.S. presidential actions attempting to cut federal funding for the National Institutes of Health (NIH) and other research funding agencies. Most recently, the NIH set a 15% cap on payments for indirect costs that was to go into effect in February. [Editor's Note: On February 10, a U.S. District Court in Boston issued a temporary restraining order on the cap that has been extended indefinitely as this issue of *Endocrine News* went to press.] This is a substantial reduction in such payments for nearly all research institutions and would cause major harm to institution budgets, jeopardize medical research, result in layoffs, suspension of clinical trials, and disruption of ongoing research and laboratory programs.

The Endocrine Society is working with policymakers and the broader research community to protect research funding. As of today, three legal challenges have been filed related to the indirect cost notice, and a judge has already blocked these cuts to all institutions. In addition to these legal challenges, we are working with a coalition of medical and research organizations, academic institutions, and hospitals to oppose cuts to research.

We remain concerned, however, that there will be additional attempts to cut NIH research and strongly encourage our U.S. members who receive NIH funding to share your stories with your congressional delegation. Members of Congress need to understand how cuts will hurt their constituents, slow progress on cures, limit access to care, and impact their local economy.

Please take a moment to join our online campaign (see link below) or send an example of how a cut to your research budget would prevent important biomedical research discoveries from being made or delay progress toward new or improved medical interventions to **advocacy@endocrine.org**, so we can de-identify it and share with congressional offices for you. If members of Congress do not receive this information, we cannot expect them to understand or help us.

We know this is a stressful time for our members. We will continue to keep you apprised of developments and work to protect your funding. Your Society stands with you in your efforts to stay strong and resilient. Together, we will oppose threats to research and advance endocrine science.

John Newell-Price, MD, PhD, FRCP,
President, Endocrine Society

Resource Links:

- **https://www.endocrine.org/advocacy/take-action/home-district-visit-guide**
- **https://secure.everyaction.com/ye1k_DY850aALMp9Wwxrmw2**
- **https://www.endocrine.org/advocacy/take-action/effective-endocrine-advocacy**

Society Members Meet EU Commission to Advocate for Better EDC Policies

On March 4 and 5, Endocrine Society members Ana Soto, MD, Anne-Simone Parent, MD, PhD; and Angel Nadal, PhD, met with policymakers at the European Commission and European Parliament to share the latest science demonstrating harmful effects of endocrine-disrupting chemicals (EDCs) on human health. Our visits were conducted in collaboration with the European Society for Endocrinology (ESE), joining our global and European perspectives to illustrate the broad scientific consensus for action on these chemicals.

We had the unique opportunity to meet with several high-level officials with diverse portfolios, including Jessika Roswall, the new European Commissioner for Environment, Water Resilience, and a Competitive Circular Economy, and representatives from the Directorate General for the Internal Market, Industry, Entrepreneurship, and SMEs (small and medium enterprises). The visits came at a critical time, as the Commission is beginning work on their new five-year mandate, which began on December 1, 2024.

During the meetings, we urged officials to make progress on several policy areas following from the previous Commission's work. These include restrictions on the use of EDCs in consumer products, a general ban on per- and polyfluoroalkyl substances (PFAS), and an update to the EU law on chemicals (REACH) with the adoption of more sensitive testing methods and stronger information requirements for EDCs, and also a "generic" approach to EDCs to prevent regrettable substitutions.

We look forward to continuing to engage with EU policymakers on these and other issues to minimize exposure to EDCs.

Take Action

U.S. Funding for the Federal Government Expires March 14

Funding for the U.S. federal government is set to expire March 14 unless Congress takes action.

The Endocrine Society is advocating that Congress protect funding for the NIH. Please visit the Society's website at **www.endocrine.org/take-action** to see how you can join our efforts to educate Congress about the value of endocrine research and the need to protect it.

Society Publishes Updated Guidance Document on G2211 Complex Care Code

On January 1, 2025, the Centers for Medicare and Medicaid Services (CMS) finalized the implementation of HCPCS code G2211 to recognize the additional resource costs associated with providing care for single or multiple, complex, or serious conditions.

This code can be used by endocrinologists to pay for complex care services delivered by a provider with an ongoing relationship with the patient. Please visit the Society's website at **endocrine.org/** to see our tip sheet on the G2211 complex care code for members who utilize this code at their practice. The tip sheet includes general guidelines, documentation guidelines, and clinical examples for endocrinologists who are billing this code. EN

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