Mount Sinai Heart has earned The Joint Commission’s Comprehensive Cardiac Center (CCC) certification, becoming one of only four organizations in the United States—and the only one on the East Coast—to hold the prestigious honor. The award is a symbol of comprehensive excellence in patient care and recognizes compliance with The Joint Commission’s strict national standards.

“Mount Sinai Heart is honored to receive this award from The Joint Commission that recognizes our outstanding center and quality of care,” says Valentin Fuster, MD, PhD, Director of Mount Sinai Heart and Physician-in-Chief of The Mount Sinai Hospital.

The advanced CCC certification has been offered since 2017 by The Joint Commission, the nation’s oldest and largest standards-setting and accrediting body in health care. Only hospitals with a comprehensive service line in cardiology and cardiovascular services are eligible to apply. To earn the two-year certification, Mount Sinai Heart underwent a rigorous two-day onsite survey at The Mount Sinai Hospital in November 2018, in which two reviewers from The Joint Commission evaluated performance in many key areas. Those included: management of heart disease, acute myocardial infarction, percutaneous coronary interventions, coronary artery bypass graft surgery, cardiac valve disease, dysrhythmias, and heart failure; transition of care from the Emergency Department to diagnosis, treatment, and outpatient care.

FAMILIA Trial Teaches Healthy Habits at Early Age

Children will listen. That is the simple premise underlying FAMILIA, a trial developed by Valentin Fuster, MD, PhD, Director of Mount Sinai Heart and Physician-in-Chief of The Mount Sinai Hospital, to promote cardiovascular health among children while reducing their chances of developing risk factors for heart disease.

The “Family-Based Approach in a Minority Community Integrating Systems-Biology for Promotion of Health” (FAMILIA) trial enrolled 600 families in Harlem, including 562 children ages 3 to 5, over the last four years. It has demonstrated that a school-based education intervention is an effective strategy for instilling healthy behaviors among preschoolers, according to an abstract that Dr. Fuster presented in November 2018 at the American Heart Association Scientific Sessions in Chicago.
A computational model of cells that line blood vessels in the human heart, developed at the Icahn School of Medicine at Mount Sinai, has led to the discovery of a gene-activation pathway caused by lipids associated with coronary artery disease. The findings appear in the June 12, 2018, issue of *Nature Communications*.

The new pathway, discovered by researchers in Mount Sinai’s Department of Genetics and Genomic Sciences, and at Goethe University in Frankfurt, Germany, could help identify new directions in research and drug development.

Atherosclerosis is caused by the buildup of a complex mixture of components, commonly referred to as plaque, within the inner lining of arteries. Oxidized phospholipids are abundant in this arterial plaque and are thought to promote atherosclerosis progression. However, the specific cellular processes caused by these lipids on the arterial surface are still not well understood. The cells composing the inner surface of blood vessels, called endothelial cells, are at the forefront of the atherosclerotic process and, therefore, are a major focus of research into coronary artery disease.

“Computational biological models such as the one we used in this study are allowing us to uncover a wealth of knowledge about complex diseases that we never could before,” says Jun Zhu, PhD.

**FOCUS ON HEART HEALTH**

› **FAMILIA Trial Teaches Heart-Healthy Habits**

Dr. Fuster is a pioneer in the study of atherosclerotic disease—the build-up of fats, cholesterol, and other substances in and on artery walls—which is the leading cause of death in the United States. It develops slowly over a lifetime and is often caused by such factors as an unhealthy diet, lack of exercise, and tobacco use. “There is good data showing that part of our behavior as adults develops between ages 5 and 5,” Dr. Fuster says. “If this age is so important, why wouldn’t we use this window of opportunity to teach children to make health a priority for the rest of their lives?”

Funded by a $3.8 million grant from the American Heart Association, FAMILIA is based on successful health interventions that Dr. Fuster developed in Bogota, Colombia, and Spain. Like those programs, FAMILIA is exploring how a child’s behavior, environment, and genetics may lead to heart disease, with the goal of reducing the future risk of obesity, heart attack, stroke, and type 2 diabetes by creating a family-based “culture of health.”

Researchers found that the overall KAH score rose 11.8 percent from the baseline in the intervention group, compared with 5.5 percent in the control group. Based on the children’s responses, their attitudes about staying active and their understanding of the human body and heart were the biggest drivers of the higher KAH scores, researchers said. The team is planning to conduct a long-term follow-up at five and ten years to assess the sustainability of the intervention effects.

FAMILIA also includes a parallel program for the parents and caregivers of children in the trial. Some adults meet in small groups to help each other get healthier through peer support, while others receive individualized lifestyle counseling and a personal activity-monitoring device. Results from that program are expected in late 2019. “What we are finding is a significant benefit in all respects,” Dr. Fuster says of both adults and children in FAMILIA.

“Their knowledge, their attitudes, and their habits are quite positive, and this is very exciting.”
Computational biological models such as the one we used in this study are allowing us to uncover a wealth of knowledge about complex diseases that we never could before.” – Jun Zhu, PhD

Professor of Genetics and Genomic Sciences at the Icahn School of Medicine at Mount Sinai; Head of Data Science at Sema4, a patient-centered predictive health company that is a Mount Sinai venture; and co-senior author of the study. “Endothelial cell response to lipids has been studied extensively over the years, but it was still unknown that MTHFD2 was even functional in these cells.”

The researchers from Mount Sinai and Goethe University predicted and validated in follow-up experiments that the MTHFD2 gene plays a key role in endothelial cell response to oxidized phospholipids. They found that MTHFD2 was also activated in endothelial cells in response to other factors, such as inflammation or a change in amino acid concentration. This underscores the many factors involved in the development of atherosclerosis that must be understood and taken into consideration when approaching disease therapies.

“Our study showed that when the MTHFD2 gene is activated in endothelial cells in response to oxidized lipids, it sends out molecular ‘danger signals’ promoting inflammation and stimulating the atherosclerotic process,” says Ralf Brandes, MD, Director of the Institute for Cardiovascular Physiology and Professor of Physiology at Goethe University. “These findings suggest that MTHFD2 could be a novel target to disrupt development and progression of atherosclerosis.”

While the role of MTHFD2 in the vascular system was unknown before this study, the gene is known to be consistently activated in cancer, making it a promising target for cancer therapies. In clinical trials, MTHFD2 inhibitors are already in use as anticancer therapies. “It’s possible that these therapies could also help prevent coronary artery disease, but more research into the specific role of MTHFD2 in atherosclerosis is needed first, before proposing it as a target for potential therapy,” according to Dr. Zhu.

Mount Sinai Heart Earns a Top Honor (continued from page 1)

According to the World Health Organization, cardiovascular disease is responsible for more than 17 million deaths each year and costs more than $500 billion a year to treat in the United States. To help combat this disease, the Mount Sinai Health System in 2006 established Mount Sinai Heart, with Dr. Fuster as Founding Director. Its multidisciplinary efforts bring together the expertise of the Icahn School of Medicine at Mount Sinai and The Mount Sinai Hospital, which each year cares for more than 65,000 heart patients and is ranked among the top 10 U.S. hospitals for cardiology and heart surgery by U.S. News & World Report.

“The hard work and expertise of our staff at Mount Sinai Heart are reflected in the new CCC certification, and I congratulate them on this top honor,” says David L. Reich, MD, President and Chief Operating Officer of The Mount Sinai Hospital and President of Mount Sinai Queens. “This accomplishment emphasizes and validates our commitment to providing exceptional care to our patients.”

The Joint Commission certification follows another honor for Mount Sinai cardiac care. The Cardiac Intensive Care Unit at The Mount Sinai Hospital has received the gold-level Beacon Award for Excellence from the American Association of Critical Care Nurses. This award honors units that excel in every facet of patient care. Mount Sinai’s is the only coronary intensive care unit in New York State to have this recognition.
Advancing the Study of Dizziness and Imbalance

Joanna C. Jen, MD, PhD, a physician-scientist with a special interest in the genetic and physiological basis of neurological disorders affecting eye movement control, balance, and coordination, recently joined the Icahn School of Medicine at Mount Sinai as Chief of the Division of Neuro-otology and Neurogenetics in the Department of Neurology.

She was named the Dr. Morris B. Bender Professor of Neurology, and Professor of Neurosurgery, and Otolaryngology, and will build upon the groundbreaking work of her predecessors—the late Morris B. Bender, MD, a pioneer in the neurology of the ocular motor system and a former Chair of Neurology at Mount Sinai, and Bernard Cohen, MD. An internationally renowned scientist and clinician, Dr. Cohen considerably advanced understanding of the functions of the vestibular system, helping to discover a mechanism in the brainstem that is an essential part of the neural basis for balance that aligns the body with gravity.

In one research project that began in the 1980s—which was recently documented in the Smithsonian Institution Online Virtual Archives—Dr. Cohen was asked by NASA to test the neuro-optical response of primates when orbiting the Earth in microgravity. The Cosmos Primate Rotator Chair (see inset photo), which was built to specifications provided by Dr. Cohen and a Russian Academy of Medicine scientist, allowed the researchers to study eye movement responses in monkeys in an upright position and at various angles of tilt, before and after spaceflight. They demonstrated for the first time that exposure to microgravity had dramatically altered an essential reflex that is part of normal eye movements, both in humans and monkeys.

The laboratory established by Dr. Cohen also developed the first effective treatment for mal de débarquement syndrome (MdDS), which has since treated more than 400 patients who have sensations of continuous rocking, swaying, and bobbing after cruises on the sea. Dr. Cohen, who served as the inaugural Dr. Morris B. Bender Professor of Neurology and continues his research as Professor Emeritus, recently provided generous funding for the first fellow in neuro-otology and for research on the pathophysiologic mechanisms underlying MdDS.

In her new role, Dr. Jen aims to create a comprehensive multidisciplinary clinical care and research program that spans the population health approach, from front-line evaluation and management of dizziness and imbalance, to precision medicine–based diagnosis and treatment for rare disorders of cerebellar maldevelopment and degeneration.

Wholeness of Life Awards for Compassionate Care

Three Mount Sinai Health System employees received 2018 Wholeness of Life Awards from the HealthCare Chaplaincy Network™ for their commitment to providing compassionate and respectful care to patients. The staff members, all nominated by their colleagues, received their awards in November at the HealthCare Chaplaincy Network’s annual gala at the Lotte New York Palace.

Raymond V. Wedderburn, MD, FACS, Chief of Trauma and Critical Care at Mount Sinai St. Luke’s and Mount Sinai West, and Assistant Professor of Surgery, Icahn School of Medicine at Mount Sinai, was honored for being a gifted teacher and healer whose care for patients integrates mind, body, and spirit. Lindsay Condrat, RN, MSN, ACNP-BC, Associate Director of Nursing, Mount Sinai Heart, was recognized for her personalized and holistic approach, especially in caring for patients who are far from home and families who are going through a difficult time. Junior Corniel, an X-ray technician at Mount Sinai Beth Israel, was honored as an exceptionally empathic worker whose “love for his job and patients alike shines through every day.”

The HealthCare Chaplaincy Network is a global, nonprofit organization that offers spiritual care-related information and resources to hospitals and health care institutions.
Helping Young Athletes With Crohn’s Disease

After being diagnosed with Crohn’s disease at Mount Sinai Kravis Children’s Hospital in 2015, Noah Weber, now 15, reached out to NBA basketball star Larry Nance Jr., who also had been diagnosed with the illness at a young age. Noah, an avid sports fan, became friends with Mr. Nance. Two years later, they formed the nonprofit Athletes vs Crohn’s and Colitis, whose mission is to raise awareness about the condition among adolescents and help young athletes with inflammatory bowel disease (IBD) reach their potential.

On behalf of the organization, Noah and his father, Kaare Weber, MD, Assistant Clinical Professor, Surgery, Icahn School of Medicine at Mount Sinai, recently presented Marla C. Dubinsky, MD, Professor, Pediatrics, and Medicine (Gastroenterology), with a $25,000 check to support research at the Susan and Leonard Feinstein Inflammatory Bowel Disease Clinical Center at Mount Sinai, where she is Co-Director. “Athletes vs Crohn’s and Colitis inspires and gives hope to young people suffering from IBD,” says Dr. Dubinsky.

Physician-Rockers Receive Award

The nonprofit Foundation for Women’s Cancer recently honored Nimesh P. Nagarsheth, MD, Associate Professor, Obstetrics, Gynecology and Reproductive Science, Icahn School of Medicine at Mount Sinai, and six of his colleagues from other institutions for their significant contributions to the field of gynecologic oncology. The physicians belong to the rock band N.E.D. (No Evidence of Disease) and were awarded the Foundation’s 2018 Public Service Award for their inspirational songs that give voice to the many women who have gynecologic cancer. Dr. Nagarsheth has performed as a drummer with the band since its formation in 2008. Since then, N.E.D. has performed 75 concerts, been the subject of a documentary film that has received 230 million views, released 28 original songs, and raised more than $1.5 million for research and public awareness in the field.

Showcasing Spirituality and Health Care Through Art

The inaugural “Spirituality, Health Care, and the Artist” exhibit hosted by the Center for Spirituality and Health at the Icahn School of Medicine at Mount Sinai featured the work of 25 Mount Sinai faculty and staff, many of whom (pictured above) were on hand opening night Thursday, December 6, at the Grady Alexis Gallery in East Harlem. The 17-day exhibit showcased photographs, paintings, small sculptures, poetry, and needlework celebrating the integration of the spirit and health care as seen through the eyes of these Mount Sinai artists.
Free blood pressure, cholesterol, glucose, and body mass index testing; nutrition and diet counseling; heart-healthy cooking demonstrations; and more!

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<tr>
<th>Location</th>
<th>Time</th>
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<tr>
<td>MOUNT SINAI BROOKLYN</td>
<td>11 am - 2 pm</td>
<td>3201 Kings Highway Main Lobby</td>
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<tr>
<td>MOUNT SINAI UNION SQUARE</td>
<td>11 am - 1 pm</td>
<td>10 Union Square East Second Floor, Atrium</td>
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<tr>
<td>THE MOUNT SINAI HOSPITAL</td>
<td>11 am - 2 pm</td>
<td>1468 Madison Avenue Guggenheim Pavilion, Atrium</td>
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<td>MOUNT SINAI ST. LUKE’S</td>
<td>11 am - 2 pm</td>
<td>1111 Amsterdam Avenue Babcock Lobby</td>
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<td>MOUNT SINAI WEST</td>
<td>11 am - 2 pm</td>
<td>1000 10th Avenue Lobby</td>
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<tr>
<td>MOUNT SINAI QUEENS</td>
<td>4 - 6 pm</td>
<td>25-20 30th Avenue Ambulatory Pavilion, Fifth Floor</td>
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**ADDITIONAL EVENTS DURING HEART HEALTH MONTH**

**LECTURE**
Stroke Coordinator Charmaine Brereton, RN, presents “Heart Health and Stroke Risk.”

Monday, February 4
11 am - Noon
Barry and Florence Friedberg JCC
15 Neil Court
Oceanside

**“GO RED” FOR WOMEN LUNCHEON AND EDUCATIONAL WORKSHOP**
Noninvasive Cardiologist Sherry Megalla, MD, and Pilar Stevens-Haynes, MD, Director of Echocardiography and Clinical Cardiologist, present “Healthy Hearts for Women in 2019.”

Wednesday, February 27
Workshop: 9:45 - 10:45 am
Luncheon: Noon
Crest Hollow Country Club
8325 Jericho Turnpike
Woodbury

South Nassau Communities Hospital and Mount Sinai Heart are co-sponsoring this American Heart Association event.
To purchase tickets, go to LongIslandGoRedLuncheon.Heart.org.

**Mount Sinai Transformation Update**
For the most recent updates on Mount Sinai’s downtown transformation, please go to:
http://www.mountsinai.org/locations/downtown

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The Mount Sinai Health System complies with applicable Federal civil rights laws and does not discriminate, exclude, or treat people differently on the basis of race, color, national origin, age, religion, disability, sex, sexual orientation, gender identity, or gender expression.