

CEDARS-SINAI REPORT TO THE COMMUNITY **2014**





CEDARS-SINAI

8700 Beverly Boulevard
Los Angeles, California 90048

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cedars-sinai.edu

OUR MISSION

Cedars-Sinai Health System, a nonprofit, independent healthcare organization, is committed to:

Leadership and excellence in delivering quality healthcare services.

Expanding the horizons of medical knowledge through biomedical research.

Educating and training physicians and other healthcare professionals.

Striving to improve the health status of our community.

Quality patient care is our priority. Providing excellent clinical and service quality, offering compassionate care, and supporting research and medical education are essential to our mission.

This mission is founded in the ethical and cultural precepts of the Judaic tradition, which inspires devotion to the art and science of healing, and to the care we give our patients and staff.



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CEDARS-SINAI BY THE NUMBERS

July 1, 2012 – June 30, 2013

- 886** Licensed beds
(as of November 2013)

- 251,803** Patient days
(approximately 690 per day)

- 630,269** Outpatient visits
(approximately 1,730 per day)

- 49,268** Admissions

- 85,305** Emergency Department visits
(approximately 235 per day)

- 144,357** Patients cared for by
Cedars-Sinai Medical Network

- 1,184** Research projects

- \$43.4 million** Research funding from NIH
and other federal sources

- 500** Medical residents and fellows trained

- \$95 million** Donations

- 218,000** Volunteer hours

- \$652.6 million** Total quantifiable community benefits,
including the unreimbursed cost of
caring for Medicare patients

(Includes traditional charity care for the
uninsured and those with limited means;
the unreimbursed cost of caring for Medi-Cal
patients; research programs; education and
training programs for health professionals;
and hundreds of community service programs
offered at the medical center and in local schools,
homeless shelters and community centers.)

LEADERSHIP MESSAGE

The faster you move, the more important your compass.

Whether you are Magellan in the 1600s, Neil Armstrong in the 1960s, or one of America's top academic medical centers in 2014, navigating a rapidly changing landscape has always required a strong sense of purpose, direction and mission.

For more than a century, Cedars-Sinai has demonstrated the vision and agility to understand and adapt effectively to the continual changes in medicine, science and health. Today, with our nation's healthcare system going through an unprecedented transformation, Cedars-Sinai's longstanding strengths serve as the foundation for our agility and innovation.

While flexibility is crucial during times like this, so is stability. One of our greatest assets as an institution is that we never lose sight of the deeply rooted values — integrity, excellence, innovation and collaboration, among others — that have guided us through turbulent times in the past. The many achievements, initiatives and innovations you'll read about in this report, including the opening of our Advanced Health Sciences Pavilion, reflect these values, and show how much we're able to accomplish because we never stop focusing on our top priority: doing what's best for patients. This guides everything we do — in the hospital at a patient's bedside, in a research laboratory on the brink of a major discovery, in a classroom teaching the physicians and nurses of tomorrow, or in a homeless shelter providing free health screenings for the most vulnerable in our community.

It's part of our nature as a not-for-profit academic medical center to be a leader of change. We challenge the status quo by developing innovative approaches to medicine and science that not only further enhance the quality of the care we provide, but do so in a patient-centered, cost-effective manner. We look toward the future every day by conducting pioneering research to prevent and cure disease, and by educating the next generation of physicians and other healthcare professionals.

While we develop new treatments that improve the lives of patients around the world, we remain deeply committed to strengthening our community. Last year, we contributed \$653 million toward community benefit, including charity care, the unreimbursed cost of caring for Medi-Cal and Medicare patients, hundreds of free community education and medical screening/immunization programs, research programs, and education and training for health professionals.

Cedars-Sinai is fortunate to have strong and diverse support from the community, people from throughout Los Angeles who share our vision and longstanding values. Thank you for helping us to always be ready for new challenges, so that we can play an important role in defining the future of healthcare in our community and across the nation.



Handwritten signature of Lawrence B. Platt in blue ink.

Lawrence B. Platt
Chair, Board of Directors

Handwritten signature of Thomas M. Priselac in blue ink.

Thomas M. Priselac
President and CEO

Patient Care



Cedars-Sinai, the largest nonprofit academic medical center in the western United States, is **known internationally for providing the highest-quality, most advanced patient care**. Approximately 2,100 physicians, 2,800 nurses and thousands of other healthcare professionals and staff share a dedication to continually raising the bar on quality, safety and patient satisfaction. The medical center is a leader in creating innovative approaches to healthcare delivery. Through the institution-wide Cedars-Sinai Medicine initiative, multidisciplinary teams involving more than 300 healthcare professionals research and develop best practices across the continuum of care. Their efforts are bringing the latest knowledge, technology and discoveries to clinical care to improve treatment outcomes for a wide range of diseases and conditions.

With a patient-friendly, innovative design that brings clinical care and translational research together under one roof, **Cedars-Sinai's Advanced Health Sciences Pavilion officially opened in June** at the southwest corner of San Vicente Boulevard and Gracie Allen Drive. The 11-story, 820,000-square-foot healthcare facility houses outpatient clinics and large open lab suites as well as shared office spaces that allow physicians and scientists to collaborate closely in developing new treatments. The Pavilion, which is connected to the main medical center via two pedestrian bridges and includes three underground parking levels, has been awarded LEED Gold certification from the U.S. Green Building Council.

An innovative use of iPads® in the Maxine Dunitz Children's Health Center at Cedars-Sinai enables mothers to bond with their newborns soon after delivery — even when parent and child are hospitalized on different floors. Called BabyTime, the program was launched in the Neonatal Intensive Care Unit to allow moms not yet able to be at their newborn's bedside to see their infant over a secure Internet connection. New moms also can follow their newborn's progress by having direct conversations with the medical team.



Accountable Care Organizations are **charting a new, patient-focused direction in healthcare reform, and Cedars-Sinai is at the forefront of this movement**. The health system has been selected as one of 106 new ACOs in Medicare. The goal is for hospital and physicians to work together closely to improve the quality and appropriateness of patient care while reducing the per-capita cost of medical services.

Cedars-Sinai is **one of the first medical centers in the nation and the first in Los Angeles County to achieve Comprehensive Stroke Center Certification** from The Joint Commission and the American Heart Association/American Stroke Association. The new designation — the highest possible — identifies hospitals that have the equipment, infrastructure, staff and training programs to diagnose and treat the most challenging stroke cases. Comprehensive stroke centers have the latest imaging systems, drug therapy and interventional devices, and lead their communities in research, teaching and community education.



House calls are back. The Cedars-Sinai Medical Group is sending nurse practitioners to patients' homes to help them manage complex, high-risk health issues and ensure a smooth recovery after leaving the hospital. Drawing on support from an extended care team as needed, the nurse practitioners help patients build strength through good nutrition and exercise and educate them on how to take medications safely. They stay in close contact with each patient's primary care physician, providing health assessments electronically after each home visit.

The operating room of the future is being developed by Cedars-Sinai's Department of Surgery in collaboration with the U.S. Department of Defense and other partners to help emergency medical teams respond faster and more effectively to patients with life-threatening injuries. The "OR 360" project draws on expertise from a broad range of specialties — including surgery, psychology and aviation — to make better use of technology and to improve communication among members of surgical teams. A simulation lab is allowing teams to experiment with new operating room configurations and teamwork strategies for civilian and military settings. Team members also are creating a new iPhone® diagnostic tool and examining ways to eliminate disruptions during surgery.

Two next-generation gene sequencing instruments are among the tools that help keep Cedars-Sinai at the forefront of personalized medicine. The instruments make **DNA sequencing faster and less costly than ever before.** The data from the Ion Torrent Personal Genome Machine and the Ion Proton System help researchers and clinicians better understand diseases by seeing what is happening in genes studied in patient specimens, cell lines and other settings.

A comprehensive new team approach is improving the quality of care for frail and vulnerable older adults. As a nationally designated NICHE site (Nurses Improving Care for Health-system Elders), **Cedars-Sinai and its nursing staff have contributed to a reduction in hospital readmissions and lengths of stay through a coordinated effort to evaluate and change the way we provide elder care.** For example, patient care planning huddles have resulted in fewer complications and transfers to the ICU for frail adult patients. We are currently testing a transitional care program in which an advance practice nurse visits older patients at home to help ensure continuity of care after they are discharged.

Cedars-Sinai's 2,800 volunteers make immeasurable contributions to the overall quality of care by lifting patients' spirits and doing tasks that provide nurses and other healthcare team members with more time to spend at the bedside. **They bring POOCH (Pets Offering Ongoing Care and Healing) program dogs to patient rooms, perform music to ease patients' minds, share inspiring stories about their own experiences** with the healing process, assist at information desks — and the list goes on and on. Volunteers even helped more than 100 patients vote via absentee ballot in the 2012 presidential election. Seven volunteers have been recognized for more than 50 years of service to Cedars-Sinai.

Cedars-Sinai is taking a leadership role in establishing Accountable Care Organizations by **forging new coordinated-care partnerships**, including one with the state's largest for-profit health insurer, Anthem Blue Cross. The idea is to better manage the delivery of medical care, a priority of the Affordable Care Act and an underlying tenet of quality healthcare, by improving treatment outcomes while avoiding unnecessary treatments.

Spiritual care is playing an increasingly prominent role at Cedars-Sinai. Among the initiatives this year: The Spiritual Care Department has inaugurated a Clinical Pastoral Education Program to train new chaplains by combining classroom theory with hands-on clinical experience. And a volunteer program has begun offering Jewish "Sabbath kits" — featuring two electric candles, a bottle of grape juice and a small loaf of challah bread — on Fridays for patients who want to observe the Sabbath in their hospital rooms. The department also has started weekly "mindfulness meditation" classes and Friday evening Shabbat On the Go services, both in the medical center's chapel.



It's something every adult should do — the sooner the better. This is the message Cedars-Sinai Medical Group is communicating through **a pilot program to encourage patients to complete an advance healthcare directive**. The Medical Group's Clinical Care Champions are available to guide individuals through the process of completing this form, using a new Cedars-Sinai advance healthcare directive that is available to the public at no cost in both print and online versions (cedars-sinai.edu/directive). The Medical Group also offers advance healthcare planning classes once a month, and encourages patients to discuss their future healthcare preferences with their physicians during routine office visits. This is part of a broader Cedars-Sinai campaign to increase the number of patients who have written down their healthcare wishes and designated someone to speak for them in case they are ever unable to speak for themselves.

Patients undergoing surgeries, transplants or cancer treatment depend on the community to donate lifesaving blood and platelets. **Cedars-Sinai's community blood collection program makes it convenient to donate blood** by regularly sending its bloodmobile to locations throughout the region. In addition to this community outreach, the blood donor facility at the medical center is equipped with e-chairs that enable donors to watch television and movies and access the Internet while they give. In FY 2013, Cedars-Sinai collected 30,466 units of lifesaving blood and blood products.



A program developed by nurses in the Labor and Delivery Department is linked to shorter labor times and fewer cesarean sections for new mothers. The “Rock and Roll” program encourages women in labor to walk around every 30 to 40 minutes or get into one of nine positions designed to move the birthing process along. The activity even helps women who receive epidurals. Since the program was launched, the department has seen a decrease of more than three hours in average labor time and an 8 percent drop in the rate of cesarean sections. About 7,000 babies are born at Cedars-Sinai each year, more than any other place in Los Angeles County.

Cedars-Sinai was named to *U.S. News & World Report's* Honor Roll of **America's Best Hospitals for 2013-14**, with 12 of the medical center's specialties ranked among the finest in the nation. Those specialties were: cancer; cardiology and heart surgery; diabetes and endocrinology; ear, nose and throat; gastroenterology and GI surgery; geriatrics; gynecology; nephrology; neurology and neurosurgery; orthopedics; pulmonology; and urology. Just 3 percent of the nation's hospitals earned a national ranking in a single specialty.

The Cedars-Sinai Heart Institute recently **expanded its Mechanical Circulatory Support Program, and now offers seven types of devices that support weakened hearts** or provide bridges to heart transplants. These devices, including the Total Artificial Heart, can keep patients alive, and their organs functioning properly, as they await a heart transplant.

An innovative form of radiation therapy at Cedars-Sinai **offers high-risk prostate cancer patients a new treatment option that minimizes radiation exposure** to healthy surrounding tissues, thus lowering side effects. This treatment regimen is known as high-dose-rate brachytherapy.

Physicians at the Vera and Paul Guerin Family Congenital Heart Program in the Cedars-Sinai Heart Institute **diagnose and treat children born with heart defects such as hypoplastic left heart syndrome and tetralogy of Fallot, and provide state-of-the-art care for adult patients with congenital heart issues. Program physicians are pioneering catheter-based procedures for the smallest premature infants, including successfully repairing a patent ductus arteriosus — often called a “hole in the heart” — in a premature infant who weighed just 5 pounds, about half the size of the smallest babies who have undergone the procedure elsewhere.**



Seeking to head off medical problems before they arise, Cedars-Sinai **healthcare teams are employing an innovative approach called the Frailty Project** to care for elderly patients at risk for conditions that could hamper their recoveries in the hospital. Physicians, nurses, social workers, pharmacists and others conduct rounds together to provide appropriate monitoring and assistance to patients who may be at greater risk of suffering infections, falls, bedsores and other medical issues. Early results are promising: The project — part of the hospital-wide Cedars-Sinai Medicine initiative to improve clinical processes for a wide range of conditions — has been shown to shorten hospital stays and reduce the number of seniors admitted to intensive care.

To further assist patients who need translation services, the Interpreter Services Department has launched a mobile-device program capable of translating 170 different languages, including sign language. Using a remote medical interpreting program called My Accessible Real Time Trusted Interpreter (MARTTI), **patients and physicians connect through a live interpreter by way of an Internet video connection.** The interpreter not only speaks the patient’s language but, thanks to the video stream, can pick up on nonverbal communication, including sign language. While MARTTI doesn’t replace interpreters in the medical center, it provides patients and staff with a timely alternative when an interpreter isn’t immediately available.

For the fourth year in a row, **Cedars-Sinai Medical Group and Cedars-Sinai Health Associates have been awarded the highest possible designation for quality care** recognized by the California Association of Physician Groups. The two Cedars-Sinai physician groups each received four out of four possible stars in the 2013 Standards of Excellence survey of coordinated patient care, once again achieving “Elite” status. The association noted the two physician groups “have set rigorous goals and standards for themselves that serve as a model for others to follow.”

For the fifth consecutive year, **Cedars-Sinai has been named one of the 100 best places to work in IT by IDG’s *Computerworld* magazine**, a prominent industry publication. Cedars-Sinai IT professionals work in an “open and collaborative environment” where ongoing training and knowledge are the “key focus,” *Computerworld* stated.



Cedars-Sinai’s Heart Transplant Ambassador Program matches patients awaiting heart transplants with volunteers who are heart transplant survivors. Ambassadors meet with patients and their families to guide them through the process, which can be overwhelming and confusing. “It’s one thing hearing information about heart devices and transplants from a doctor, but it’s another when it comes from someone who has already experienced what you are about to go through,” said the husband of a transplant patient. “They [ambassadors] knew the type of moral support we needed because they understood my wife’s condition.”

Southern California pediatricians, pediatric neurologists and parents of children with inherited neurological diseases or nerve-related muscle disorders have a new resource. **Cedars-Sinai’s Pediatric Neurogenetics and Neuromuscular Clinic** provides expert diagnostics, genetic testing and state-of-the-art research and treatment facilities. Symptoms of many disorders of the brain, spinal cord, nerves or muscles overlap, making it difficult for doctors in the community to know which specialty clinic is best for their patients. This clinic relieves that burden because experts from several disciplines evaluate each child; the most appropriate specialist then takes the lead in providing and coordinating ongoing care.

As part of the Cedars-Sinai Medicine initiative, **medical teams are optimizing the length of hospitalizations so that patients remain only as long as necessary by addressing medical issues that can contribute to extended stays.** Physicians and nurses have accomplished this by responding more quickly to signs of infection, better coordinating diagnostic testing and evaluations, engaging in smarter treatment planning from pre-admission to post-discharge, and better educating patients about their care to prevent complications during recovery.

Nearly one in three older adults in the United States suffers a fall each year, representing a significant public health problem. At Cedars-Sinai, where the goal is “zero patient falls,” numerous initiatives have been implemented to ensure patients’ safety. Staff members in one nursing unit **reached a key milestone in June when the unit went more than 400 days without a patient fall.** What was their secret? According to nursing leadership, they held each other accountable for patient care outcomes that included safety, clinical quality and patient satisfaction.

The Experimental Therapeutics Program is **bringing the therapies of tomorrow to patients today by testing potential cancer treatments.** Program staff members, based in the Cedars-Sinai Samuel Oschin Comprehensive Cancer Institute, oversee clinical trials that draw cancer patients from across the country, offering them experimental options after standard treatments have been tried. Researchers evaluate promising drug regimens and search for genetic abnormalities that may be targeted by new therapies tailored to the individual.

For the third year in a row, **more adult heart transplants were performed at Cedars-Sinai than any other medical center in the United States,** according to statistics compiled by the United Network for Organ Sharing, the nonprofit organization that manages the nation’s transplant system. The heart transplant team from the Cedars-Sinai Heart Institute and Comprehensive Transplant Center performed heart transplants on 95 patients in 2012. Since 1988, when the heart transplant program was established, 836 patients have undergone heart transplantation at Cedars-Sinai.

To help patients identify the roles of their caregivers more easily, Cedars-Sinai is issuing new color-coded uniforms to all employees involved in direct patient care, beginning with registered nurses. More than 2,300 RNs are wearing Caribbean blue scrubs — a color selected by the nursing staff. Ultimately, 3,600 healthcare workers will be issued color-coded uniforms as part of Cedars-Sinai’s Visual Identification by Profession (VIP) program, including clinical partners, licensed vocational nurses, respiratory therapists, log technicians, lactation consultants, and occupational, physical and speech therapists.



Cedars-Sinai has a **strong record of successfully managing risks involved in using blood-thinning medications to prevent or treat dangerous blood clots.** Evaluations over the past three years showed zero complications in patients receiving pharmacy-managed, blood-thinning therapy, while nationally the rate of complications was as high as 10 percent. Cedars-Sinai participated in a nationwide initiative led by The Joint Commission, which asked hospitals it accredits to develop a plan to reduce adverse events in patients taking blood thinners.

An Impressive Debut

New Pavilion Wows First Patients at Opening

Hundreds of eager patients and visitors streamed through the doors of the Advanced Health Sciences Pavilion as the world-class, 11-story healthcare facility officially opened on June 18, 2013.

The overall impression of the new facility was summed up in one word by a patient who had flown in for a neurology consult: “Wow.”

“I always feel like it’s a privilege to come to work at Cedars-Sinai, but to come to work in this facility — it’s humbling to the nth degree,” said Patrick Lyden, MD, who is chair of the Department of Neurology and has an office on the sixth level of the Pavilion.

Located at the southwest corner of San Vicente Boulevard and Gracie Allen Drive, the 820,000-square-foot Pavilion is designed with a warm, patient-friendly healthcare environment that features open, comfortable spaces throughout the building. Inside the two-story George W. Schaeffer Lobby on the Plaza Level, amenities include the Pavilion Café, an education center, Imaging, the Anesthesia Pre-Procedure Evaluation Center and an outpatient pharmacy.





The building's upper floors feature outpatient clinics and state-of-the-art research laboratories with large open lab suites and shared office spaces, designed to bring outpatient care and translational research together under one roof. These innovative floor spaces allow physicians and scientists to collaborate closely in developing new procedures and treatments for patients.

"We are at the dawn of a new era in personalized medicine," said Thomas M. Priselac, president and CEO of Cedars-Sinai. "The discoveries that will be made in the Pavilion and in other research labs on our campus will bring new meaning and a powerful complement to the personal care which is such an essential element of our tradition."

This fall, the Pavilion was awarded LEED Gold certification from the U.S. Green Building Council for a variety of environmentally sustainable strategies such as energy use, lighting, water use and material use.

Linking the Pavilion to the medical center is the Sue and Bill Gross Skywalk on the fifth level, where the 50,000-square-foot Sue and Bill Gross Surgery and Procedure Center is located. It features eight general surgical rooms, two interventional radiology rooms and two cardiac cath labs.

The Procedure Center became fully operational early on June 21, 2013, when the first of several surgeries was performed. Oxnard resident Debra Hambleton left the Pavilion with a new right hip — and the honor of being the first patient to undergo surgery there.

"The new building is beautiful, and the pre-op area seems much more spacious than in the medical center, but it's the people here who make it special," Hambleton said as she prepared to be discharged two days after her surgery. "Everyone has been so wonderful and I feel good, although I'm looking forward to sleeping in my own bed!"

Among those making their new home in the Pavilion are the Cedars-Sinai Heart Institute and the Barbra Streisand Women's Heart Center on level three; Neurosciences, including Neurosurgery, and the Advanced Heart Disease Center on level six; and the Regenerative Medicine Institute on level eight.

Ellie Mowbray, RN, (pictured above left) preps patient Debra Hambleton prior to her hip replacement surgery (pictured above right) on the opening day of the AHSP's Procedure Center. Hambleton was the Pavilion's first surgical patient.

Building Facts

Completed ahead of schedule and under budget, the Pavilion required:

- 6,700 tons of steel
- 5,000 tons of rebar
- 2,200 construction workers
- 1.3 million construction hours

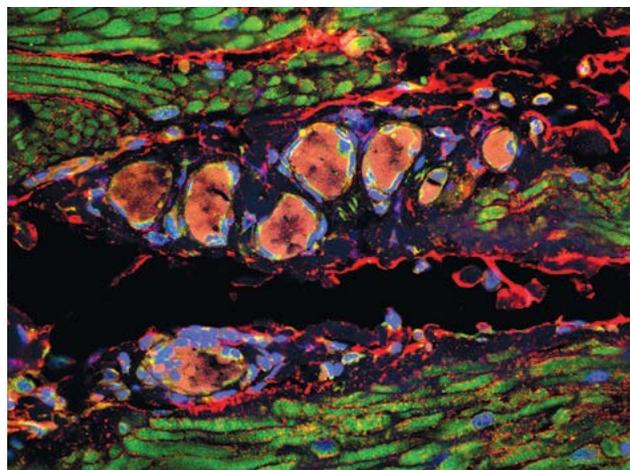
Research



Cedars-Sinai **contributes to the advancement of medicine worldwide through innovative biomedical research that results in dramatic changes in patient care.** For example, cancer scientists are creating methods of tailoring treatment to the specific genetic characteristics of each patient's cancer. In cardiology, physician-scientists are pioneering techniques such as using cardiac stem cells to repair damaged hearts. The medical center is also a leader in developing new treatments for patients with brain tumors and complex neurological conditions. The more than 1,100 studies cover the entire spectrum of disease, and researchers collaborate across disciplines to accelerate progress that will improve patients' lives.

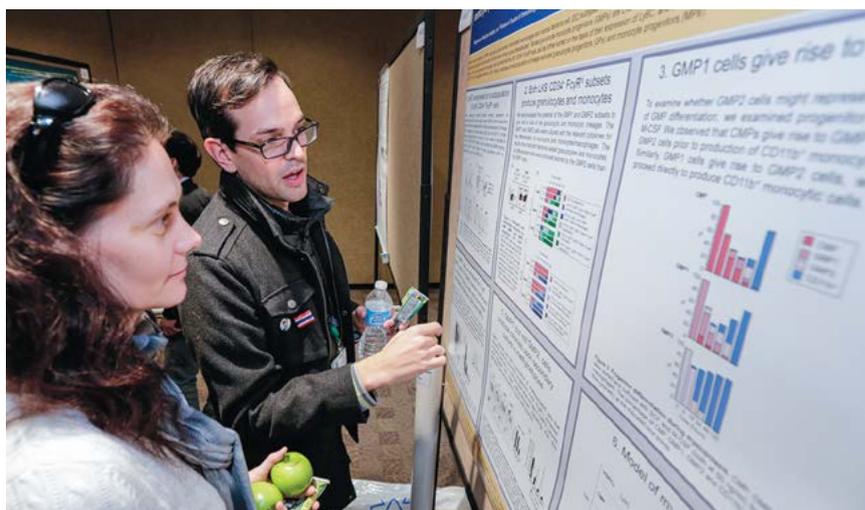
Cedars-Sinai Heart Institute researchers are **delving deeper into their discovery that treating heart attack patients with an infusion of their own cardiac stem cells can help damaged hearts regrow healthy muscle.** With a \$1.3 million grant from the California Institute of Regenerative Medicine, researchers are pursuing a better understanding of the cellular mechanisms at work during muscle regeneration. According to a study published in *The Lancet*, stem-cell therapy reduced scar tissue from heart attacks by an average of 50 percent. This experimental therapy represents the only treatment shown to regenerate healthy heart muscle after a heart attack.

For the first time, a simple blood test may be the best way to determine if a patient is suffering from irritable bowel syndrome (IBS), or another serious gastrointestinal disorder. Researchers at the Gastrointestinal Motility Program and the Motility Laboratory conclusively identified a test for antibodies that form against a particular protein, vinculin (right), found in the bowels of patients, many of whom had suffered acute gastroenteritis. A blood test has the potential to distinguish IBS from inflammatory bowel disease (IBD) and reduce the need for unnecessary testing, expense and years of suffering.



Historically, relatively few women have participated in clinical research and, as a result, the medical science community has often ignored biological differences between men and women. In an effort to close this gap and study risks associated with female cancers, the Cedars-Sinai Samuel Oschin Comprehensive Cancer Institute has **opened Research for Her™, an online registry, to increase the number of women participating in cancer studies.** With the goal of registering at least 2,000 women (with or without a history of breast or gynecologic cancers), researchers will review collected information and identify opportunities to determine who is at greatest risk and improve care. The registry also will help identify individuals who may be eligible to participate in large-scale epidemiological studies, cancer-screening studies, focus groups and clinical therapeutic trials.

The Regenerative Medicine Institute in conjunction with the Women's Guild Lung Institute launched a stem-cell research program focused on lung disease, including pulmonary disease. The program brings together researchers and clinicians to discuss stem-cell therapies in lung disease, provide core services that generate clinically relevant stem-cell populations, and use disease-specific stem cells to explore mechanisms of cell death in human lung disorders. These collaborative efforts provide new therapeutic and surgical interventions for patients suffering from debilitating lung diseases that currently lack effective treatment options.



The fourth annual Research Day, an event that showcased work by Cedars-Sinai scientists, featured posters from more than 120 studies in basic science, clinical and translational research. The studies, conducted by graduate students, postdoctoral scientists and faculty, covered a full spectrum of topics. Research Day provided an opportunity for scientists across the campus to network and share discoveries with one another.

Cedars-Sinai neurologists leading an international multicenter clinical trial on brain cooling after stroke received U.S. Food and Drug Administration approval to expand the study from 50 to 400 patients. The regulatory agency based its decision on a review of initial safety data. The study combines drug therapy to open blocked arteries in the brain with controlled hypothermia to reduce loss of neurological function after stroke.

As participants in a multicenter national team, researchers from the Cedars-Sinai Heart Institute are **helping to develop a noninvasive approach to treatment for heart attack**. Cedars-Sinai researchers found in laboratory animal models that ultrasound and microbubbles — very small bubbles used as contrast agents to make certain tissues and organs easier to visualize in ultrasound images — could be used to dissolve blood clots in the heart.

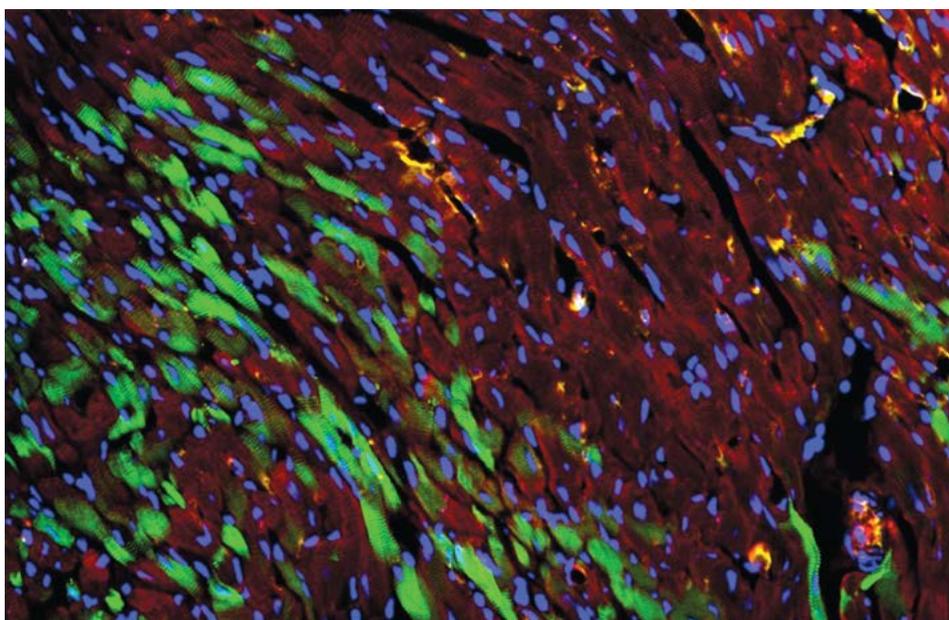
Researchers at the Center for Fertility and Reproductive Medicine are **studying molecular mechanisms that may impact pregnancy outcomes** to determine whether they are related to the use of assisted reproductive technologies, such as in vitro fertilization, or to the underlying infertility. This research, funded by a grant of more than \$2 million from the National Institutes of Health, may lead to the development of new treatments for infertile couples and biomarkers to identify pregnancies at risk.

RESEARCH

Cedars-Sinai Heart Institute researchers found powerful allies in improving the health of African-American men: barbers. Through a 10-month research program, neighborhood barbers offered blood pressure checks, educational materials and physician referrals to their clients – African-American men. This population has the highest death rate from hypertension of any race, ethnic and gender group in the U.S. – three times higher than white men. Analysis from the program found these checks have the potential to save hundreds of lives annually.

Researchers at the Samuel Oschin Comprehensive Cancer Institute have **uncovered the vital role a protein plays in the stroma, the cell-lined area outside a prostate tumor.** This study found that decreased levels of the Cav-1 protein in the stroma indicated tumor progression. These human tumor findings suggest that patients whose prostate tumor is surrounded by a stroma with decreased levels of the Cav-1 protein may have an overall worse prognosis and a higher chance of disease relapse. This early-stage research may provide a future marker that could ultimately aid diagnosis and treatment for patients with prostate cancer.

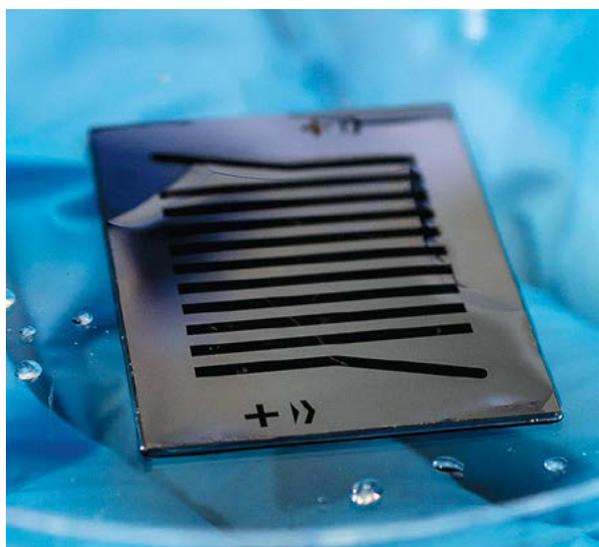
By injecting a single gene, researchers at the Cedars-Sinai Heart Institute have reprogrammed ordinary heart cells to become exact replicas of highly specialized pacemaker cells (right). The effort is a major step forward in the search for a biological therapy to correct erratic and failing heartbeats. Pacemaker cells generate electrical activity that spreads to other heart cells in an orderly pattern to create rhythmic muscle contractions.



The Samuel Oschin Comprehensive Cancer Institute became the **only facility in the western United States offering a Phase III clinical trial of targeted radiation for patients with intestinal carcinoid cancer that has spread beyond the intestine.** Patients with carcinoid cancer require highly specialized medical care. However, these patients have had very few treatment options, and no current therapy exists that is approved by the U.S. Food and Drug Administration. The new therapy being tested uses a radioactive molecule, Lutathera®, which attaches to cancerous cells and irradiates them with modest radiation exposure to the rest of the body.

The Technology Transfer Office plays a crucial role in **accelerating development of some of Cedars-Sinai’s most promising research discoveries** with the goal of bringing them to where they can benefit patients everywhere. The office manages an intellectual property portfolio of more than 200 technologies, seeking collaborators and licenses globally to further develop research findings. The royalty income earned by licensing technology is reinvested into the medical center’s research program to generate a new cycle of discoveries that will eventually join the technology transfer pipeline. Among the innovations now at various stages of development through this pipeline are a brain tumor vaccine, small-molecule cancer drugs and more effective ways to diagnose and treat inflammatory bowel disease.

Scientists have joined forces to **investigate immune responses in Alzheimer’s disease, a progressive and fatal degenerative dementia affecting more than 35 million people worldwide**. The researchers reprogram samples of skin cells derived from Alzheimer’s patients back to an embryonic state known as induced pluripotent stem cells (iPSCs), and then generate new immune cells. These immune cells are studied to discover whether they function abnormally, compared to those derived from individuals without Alzheimer’s.



Circulating tumor cells are cancerous cells that break away from tumors and enter the blood, often leading to the spread of cancer to other parts of the body. For prostate cancer patients, these traveling cells can increase the aggressiveness and severity of the disease. To combat this cancer invasion, a team of scientists in the Samuel Oschin Comprehensive Cancer Institute has enhanced a new device that identifies and “grabs” circulating tumor cells to prevent cancer from spreading. This innovative technology, known as a NanoVelcro Chip device (left), could enable doctors to access and identify cancerous cells in the bloodstream, which would provide the diagnostic information needed to create individually tailored treatments for patients with prostate cancer.

Scientists in the Neurodegenerative Diseases Laboratory and the Regenerative Medicine Institute employ new stem cell technology to **search for cures for Charcot-Marie-Tooth (CMT) disease**, the most common inherited neurological disorder. CMT damages nerves that control muscles. Using induced pluripotent stem cells (iPSCs), which have been stepped back through genetic manipulations to a point where they can be turned into any of the body’s mature cells, researchers seek to determine if personalized stem-cell lines can be generated for patients with this disorder. If so, doctors would be able to remove skin cells from a patient, convert them into iPSCs, genetically correct them, and transplant them back into the patient with the goal of restoring normal nerve function. A \$3 million grant from the California Institute for Regenerative Medicine supports this research.

RESEARCH

A multicenter study led by a Cedars-Sinai scientist in the departments of Biomedical Sciences and Pathology and Laboratory Medicine **significantly advanced understanding of the role the kidney may play in development of hypertension**, or high blood pressure. The study's findings suggested a potential target for future treatments of the disorder, which affects about one in three U.S. adults and contributes to stroke and cardiovascular disease. The study, published in the *Journal of Clinical Investigation*, found that angiotensin II, a peptide produced in the kidneys, played an important role in generating hypertension in mouse models. Researchers concluded that by inhibiting production of the peptide, it might be possible to protect against hypertension.

How do you make a protein stand still? Convert it to a crystal and then chill it to nearly 300 degrees below zero. That's how the new Crystallography Core at Cedars-Sinai helps researchers see inside protein molecules and explore potential drug therapies to target them. The technology involves directing high-energy X-ray beams at crystals to reveal the arrangement of atoms within a molecule. Cedars-Sinai investigators are using crystallography to explore how an adapter protein may influence lymphoma and how the immune system develops its critical T-cells as well as to perform other studies that may lead to new treatments.

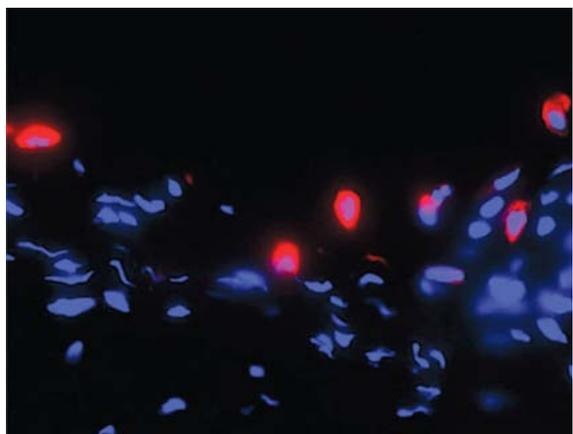


Researchers in the Multiple Sclerosis Program are studying brain changes associated with the disease and underlying causes and potential treatments for depression. With expertise in imaging techniques, the Cedars-Sinai researchers previously found evidence of tissue loss in an area of the brain called the hippocampus, important in memory processes. A grant from the National Multiple Sclerosis Society supports research using advanced MRI technology to assess correlations among shrinkage of subregions of the hippocampus, levels of the stress hormone cortisol in the blood, and the degree of depression.

A Cedars-Sinai Heart Institute study showed **that a drug typically prescribed for erectile dysfunction restored blood flow to oxygen-starved muscles in patients with Becker muscular dystrophy, an inherited disorder that primarily affects the skeletal muscles.** Cialis® reversed the effects of a biochemical chain of events that deprives muscles of nitric oxide in these patients. Nitric oxide normally tells blood vessels to relax during exercise, increasing blood flow and oxygenation. With a single dose, the drug fully restored immediate proper blood flow in eight of nine patients in the study.

Cedars-Sinai nurses are helping to improve quality of care by conducting research on issues they become aware of while caring for patients. **More than 100 studies led by nurses have been completed or are ongoing**, and they often start with a question such as: How can avoidable heart-failure hospitalizations be prevented? Nationwide, why do African-American heart transplant patients tend to have lower survival rates than Caucasian patients? How can hospital-acquired pressure ulcers be eliminated? Cedars-Sinai nurses also are engaged in studies aimed at reducing surgical-site infections, preventing patient falls and improving pain management.

Researchers at the Samuel Oschin Comprehensive Cancer Institute launched a **clinical trial to investigate a cancer-fighting drug, cabozantinib, in men with treatment-resistant, metastatic prostate cancer**. Cabozantinib works by inhibiting molecular signals, stemming the spread of cancer by killing tumor cells while blocking their escape pathways. It has been shown in early clinical trials to have an effect on men with the metastatic form of prostate cancer — both before and after chemotherapy — by reducing pain and improving bone scan results. Cedars-Sinai researchers believe the new clinical trial of the drug offers an opportunity to make important scientific discoveries for treating the severest forms of prostate cancer, the second-leading cause of cancer death among American men and a leading cause of cancer mortality worldwide.



Corneal blindness affects roughly 80 million people worldwide, and traditional treatments and surgical interventions have had little long-term success. With a new vision for stem-cell corneal transplantation, and a \$1.25 million grant from the National Eye Institute, Cedars-Sinai researchers hope to treat previously untreatable corneal blindness. The research involves collecting human eye cells, reprogramming them to a stem-cell state (left) and then using them to create a corneal cell source for transplantation. If successful, this could result in human clinical trials that may lead to improved vision and quality of life.

With obesity and related diseases at epidemic levels, **Cedars-Sinai researchers are seeking genetic clues that might help more people win the battle of the bulge**. The medical center's researchers have participated in the global Genetic Investigation of Anthropometric Traits consortium, which includes more than 400 scientists and makes it possible to study tens of thousands of patients. Studies conducted by the consortium have shown that some 50 genes play a role in the risk of obesity, with each contributing a small piece to an individual's susceptibility to becoming overweight. Determining how many of these altered genes an individual carries might be the key to identifying people who are at high risk of becoming obese — information that can help people make lifestyle choices at an early age to prevent weight gain and manage subsequent health risks.

RESEARCH

Cedars-Sinai's recently established Cardio-Oncology Program in the Barbra Streisand Women's Heart Center at the Cedars-Sinai Heart Institute is dedicated to **identifying and treating patients whose cancer history increases their risk of heart disease**. Cardiology experts with their colleagues from the Samuel Oschin Comprehensive Cancer Institute collaborate in developing a personalized cardiac risk assessment and treatment plan for each individual whose history of cancer raises the risk of cardiovascular disorders. The goal is to alter a patient's risk factors for cardiovascular disease as early as possible with lifestyle changes and, if needed, more careful use of medications.

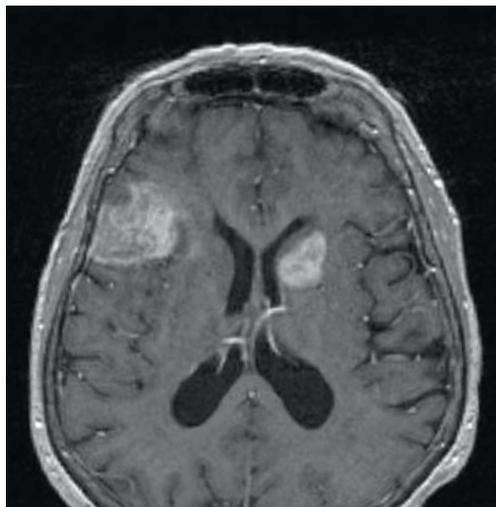
A study by Cedars-Sinai physicians suggests profiling microorganisms in the gut through a breath test may be a way to determine how susceptible a person is to becoming obese. The study found that subjects whose breath had high concentrations of both hydrogen and methane gases were more likely to have a higher body mass index and a higher percentage of body fat. Generally, microorganisms in the stomach help turn food into needed energy, but too many of a particular kind may be one cause of unwanted weight gain.



A groundbreaking, multidisciplinary pilot study on the human immunodeficiency virus, led by Cedars-Sinai scientists, **found that HIV-positive patients manifested significant cardiovascular disease even in the absence of cardiac risk factors**. Researchers hope the findings may contribute to developing an algorithm for cardiovascular screenings based on a patient's years of treatment or HIV-positive status. If cardiac risks are detected, physicians might then prescribe regimens, such as taking an aspirin each day, to help prevent or slow onset of heart disease and prolong the lives of patients infected with HIV.

Maxine Dunitz Neurosurgical Institute researchers offered insights on mechanisms involved in regeneration of insulin-producing cells and provided **evidence that a diabetic patient's own bone marrow could be a source of treatment**. When the researchers modified marrow-derived stem cells to express a gene called VEGF, mouse pancreases were able to generate new pancreas cells that produce insulin.

Cedars-Sinai is home to the Collaborative Alliance for Nursing Outcomes (CALNOC) database, which collects nursing quality data from more than 250 hospitals in six states. **Under the leadership of Cedars-Sinai nurse researchers, the program allows member hospitals to compare their performance with other hospitals** and share strategies to prevent patient falls, pressure ulcers, medication errors and infections.



When aggressive, malignant tumors appear in more than one location in the brain, patient survival tends to be significantly shorter than when the disease starts as a single tumor, even though patients in both groups undergo virtually identical treatments, according to research at the Maxine Dunitz Neurosurgical Institute. Results of small studies conducted before the latest treatment protocols were in place were contradictory, but this newer study supports observations that when glioblastoma multiforme starts with more than one lesion, the disease is particularly challenging to treat and patients often have more adverse outcomes. The study emphasizes that more research is needed to thoroughly understand the biology of these “multifocal” tumors (left) so that a new generation of targeted therapies can be created.

Researchers at the Barbra Streisand Women’s Heart Center at the Cedars-Sinai Heart Institute have found in a Phase II trial that the use of traditional acupuncture can improve heart-rate variability, which may reduce the risk of sudden cardiac death for patients with coronary heart disease. Heart rate variability, which refers to variations in the intervals between heartbeats, is a sign of a healthy cardiovascular system. **The intermediate trial results suggest that acupuncture has an effect on the nerve pathways between the brain and the heart.** Patients with arrhythmias or irregular heart rhythms are often treated with an implantable defibrillator. But some patients are not good candidates for this option because of age, medical condition or personal preference. The study lays the groundwork for a larger outcome-based clinical trial of traditional acupuncture in patients with coronary heart disease.

The Cedars-Sinai Department of Biostatistics and Bioinformatics plays a crucial role in cancer research by helping to develop diagnostic tools and treatment plans tailored to each patient’s genetic makeup and tumor type. **Bioinformatics experts work behind the scenes assisting researchers to determine how individual genes and gene sequences respond to specific therapies.** Their findings provide keys to developing new therapies to fight a broad spectrum of cancers and diseases.

Department of Neurology researchers launched a Phase I clinical trial to study the safety and tolerability of an **experimental immunization to treat Alzheimer’s disease.** The treatment is based on Copaxone® (glatiramer acetate), a drug often prescribed to reduce the frequency of multiple sclerosis relapses. In laboratory mouse models of Alzheimer’s, immune modulation with Copaxone appeared to stimulate key immune cells, reduce harmful inflammation, clear toxic plaques and support the restoration of neurons in a region of the brain responsible for learning and memory. Preclinical studies were conducted by Department of Neurosurgery and Maxine Dunitz Neurosurgical Institute researchers, who developed an experimental optical imaging device – now in multicenter clinical trials – that may provide noninvasive early detection of Alzheimer’s.

RESEARCH

Research uncovering **new genetic links for inflammatory bowel disease (IBD) holds the promise of more effective treatment.** Contributions to an international study by researchers from the Cedars-Sinai F. Widjaja Foundation Inflammatory Bowel and Immunobiology Research Institute are redefining the understanding of the molecular architecture of inflammatory bowel diseases, ulcerative colitis and Crohn's disease. The findings reveal new genetic biomarkers that can help distinguish among the most common IBD disorders, which would enable physicians to identify high-risk patients early and offer the specific therapy most likely to benefit them.

What causes cancer to progress to metastatic disease? This is one of the questions scientists in the Cancer Biology Program at the Samuel Oschin Comprehensive Cancer Institute strive to answer. The program has acquired **state-of-the-art equipment for investigating the chemistry of cancer.** The Thermo Scientific Orbitrap Elite mass spectrometer identifies the chemical makeup of proteins and metabolic products by separating gaseous ions. Using this technology, scientists can study thousands of proteins at a time to assemble a more complete picture of how they interact.

Improving outcomes for women with high-risk pregnancies by enabling them to deliver at hospitals with appropriate resources is the goal of a study led by the Department of Obstetrics and Gynecology. The incidence of maternal death and disease (both pregnancy-related and pre-existing) is on the rise nationally and in California, and an estimated 40 percent of maternal deaths are preventable. This research focuses on identifying settings, services and policies that contribute to improved outcomes, and providing guidance for a regionalized approach to enhancing the quality of obstetrical care.

Legendary physicist Stephen Hawking visited Cedars-Sinai, meeting with scientists who are investigating the use of stem cells to slow the progression of the muscle-wasting disease that has virtually paralyzed him. The scientists showed Hawking how they are harnessing stem cells to prevent neuron degeneration in a range of diseases, including his — amyotrophic lateral sclerosis, or ALS. In his unique way of thanking the medical center for the tour and for focusing research on neurodegenerative diseases, Hawking delivered a lecture to a packed Harvey Morse Auditorium about his fascinating life and his groundbreaking theories on the universe.



Community Outreach



Since Cedars-Sinai's beginning more than a century ago, the medical center and its healthcare professionals have addressed the community's health needs with a special sensitivity to those who are most vulnerable. **In FY 2013 alone, Cedars-Sinai's contribution to community benefit activities totalled \$652.6 million.** This included providing access to essential healthcare for those in greatest need – the uninsured and underinsured – and the unreimbursed cost of care for Medi-Cal and Medicare patients; partnering with community organizations in offering free programs and services that address such health issues as obesity, diabetes and heart disease in schools, senior centers and mobile clinics, among other sites; conducting biomedical research that leads to lifesaving discoveries; and training the next generation of healthcare professionals.

COACH for Kids and Their Families[®], a program of the Cedars-Sinai Maxine Dunitz Children's Health Center, provides no-cost health and social services to disadvantaged children and families. Two COACH mobile medical vans regularly visit schools, homeless shelters and community centers in Downtown/Skid Row, Pico-Union/Central Los Angeles, South Los Angeles, Inglewood, Lennox, Crenshaw/Mid-City and Hollywood/West Hollywood. COACH provided more than 33,000 healthcare services for children in underserved communities in FY 2013.



Seventh- and eighth-graders attending this year's **Brainworks program had a chance to drive and interact with a robotic assistant** just like the one in the Neuroscience Critical Care Unit. They learned that these devices, which enable doctors to see and talk to patients by "remote presence," can record, transmit and display vital signs and other diagnostic and monitoring data. The students participated in many hands-on activities – such as performing simulated brain surgery with 3-D imaging; learning how to suture; and seeing how DNA, tumor and laser experiments are done – while learning from doctors and researchers about the discoveries they are making. Brainworks was started in 1998 by the Department of Neurosurgery to help stimulate interest in science and medicine careers. About 140 students, selected by teachers for their interest and achievement in science, attend each year.

Since 1981, **Cedars-Sinai's Psychological Trauma Center has helped to heal the psychological wounds of children** who have witnessed or experienced gang violence, bullying, domestic abuse, suicide, homelessness, drug abuse, natural disasters and other tragedies. The center works in partnership with school crisis teams in the aftermath of traumatic events and also offers ongoing programs that support young people from elementary through high school, including the Share and Care art therapy program and a substance abuse educational program. Contacts with children, parents and teachers totaled more than 30,000 in FY 2013, with programs in 18 elementary schools, five middle schools and three high schools.

Physicians, nurses, dietitians and other **Cedars-Sinai healthcare professionals offer free health-education lectures at locations across Los Angeles throughout the year** to help prevent health problems. In FY 2013, lectures covered topics including healthy eating, medication safety, and prevention of strokes, falls, and skin and colon cancer. The lectures reached a total of 1,628 community members.



The Healthy Habits program — part of a broad effort to fight obesity and related health problems — is making a difference, according to a recent evaluation. Healthy Habits brings education about the importance of good nutrition and physical activity to elementary- and middle-school students, and parents and teachers in vulnerable communities in Los Angeles' Mid-City and surrounding areas. An evaluation based on parent-teacher surveys found that students in the program demonstrated higher awareness of their food choices and made healthier decisions, parents used skills learned to make healthier choices at home, and teachers incorporated physical activity throughout the day to promote healthier school environments. Cedars-Sinai operates the program in partnership with schools in the Los Angeles Unified School District. In FY 2013, Healthy Habits reached 2,770 students during school and 383 in after-school and summer programs. Workshops were held in 101 classrooms at 15 elementary schools and a middle school.

Screenings to detect health risks and problems early are crucial to improving the community's health, but many people cannot afford tests that can prove lifesaving. Cedars-Sinai helps by **offering free screenings for a number of common conditions at community sites and health fairs**. For example, in FY 2013 the medical center provided hypertension screenings for 3,988 individuals and diabetes tests for 2,788. Healthcare professionals from Cedars-Sinai also provided screenings for breast cancer and prostate cancer, and gave hundreds of free flu and pneumococcal vaccinations.

As a Level I trauma hospital — one of only four in Los Angeles County and the only one not operated by the government — **Cedars-Sinai is a leader in providing the highest level of care for patients with severe, potentially life-threatening or disabling injuries.** The Trauma Center treated more than 1,500 patients during FY 2013, including victims of motor vehicle crashes, falls, knife and gunshot wounds, and sports and recreational accidents. Cedars-Sinai Trauma Program services range from prevention through rehabilitation. The program collaborates with local fire and police stations in conducting injury-prevention educational events throughout the year, and also partners with organizations such as Safe Kids Los Angeles and the Fall Prevention Center of Excellence.

Cedars-Sinai awarded a total of \$3.3 million in grants to organizations dedicated to community health, education and safety for projects that will benefit disadvantaged residents from South Los Angeles to West Hollywood to Venice. Grant recipients include community clinics that provide a healthcare safety net for low-income residents, a university dedicated to educating and training health professionals to improve the community’s health in underserved areas, and first-responder agencies that are using the funds for education and equipment to protect public safety. The grants focus on needs in areas where Cedars-Sinai is engaged in wide-ranging, long-term initiatives to improve community health. For example, they are being used to provide scholarships for future physicians, make infrastructure improvements at community clinics and equip City of Los Angeles fire engines with evacuation stair chairs (right) that make rescues faster and safer.



At West Hollywood’s annual Senior Health Fair, **Cedars-Sinai nurses offered health screenings, information and referrals that could be lifesaving to the elderly.** About 400 people attended the 12th annual fair in May at the Plummer Park Community Center, where 21 nurses provided free screenings for heart disease, diabetes and breast cancer. Among the nurses were six who spoke Russian, a benefit to the large contingent of Russian immigrants who face a language barrier as well as financial obstacles to getting the care they need.

Summer is a time for exploring future career possibilities in the health field for teens who participate in Cedars-Sinai programs that provide work experience and mentoring. The medical center’s **Youth Employment Development program coordinates with the city of Los Angeles’ Hire L.A. youth summer program to employ teens** in office jobs in areas such as the Pediatrics and Emergency departments. Similarly, the Regenerative Medicine Institute’s weeklong teen volunteer program gives students hands-on experience in this field of medical science, and others work closely with research mentors in Cedars-Sinai labs as part of the Teens in Science summer volunteer program.

Cedars-Sinai awarded \$1.6 million in mental health grants to 24 Los Angeles nonprofit organizations that provide direct, community-based services. The two-year grants have enabled these organizations to help a greater number of at-risk individuals and families in underserved areas through free or low-cost mental healthcare, prevention, early intervention and treatment. In the first year, Cedars-Sinai funded quality mental health services for more than 5,400 individuals, primarily in Central, South and Mid-City Los Angeles.

The **Youth Employment Development (YED) program provides mentoring and hospital work experience to junior and senior Fairfax High School students** who receive high school credits and a paycheck for working in departments around the medical center. A recent program evaluation showed YED helped build confidence and prepared students to pursue higher education and careers. Nearly all YED graduates complete high school and go on to college, and more than two-thirds pursue a health-related field of study. Many choose careers in healthcare — and some eventually return to Cedars-Sinai in roles such as nurse, research assistant and physical therapy aide. More than 500 students have participated in the program since it began in 1993.



Cedars-Sinai donates kitchen space and staff time to prepare food distributed locally through Meals on Wheels, which provides about 60 meals a day for seniors and others who are unable to shop or cook for themselves. Most of those who receive the low-cost meals are seniors living alone on modest, fixed incomes. Each weekday morning, staff members from Cedars-Sinai's Food Services unit prepare the nutritious meals — one hot and one cold for each person, with special meals to honor preferences such as kosher or vegetarian. The meals are then delivered by volunteers who take time to make sure seniors are safe and to share some conversation to brighten their day.

With the goal of improving quality of life during treatment and beyond, Cedars-Sinai offers a wide variety of **free support groups that give patients and family members an opportunity to share information and offer each other understanding and reassurance.** There are a number of groups for cancer survivors and their families, as well as groups for patients with conditions such as brain tumors, heart disease and diabetes — even one for young adults coping with the effects of a stroke.

Cedars-Sinai **medical residents provide health services at free and community clinics around Los Angeles as part of their training,** caring for underserved residents while gaining experience treating a wide variety of diseases. During FY 2013, they helped strengthen the city's healthcare safety net by logging more than 8,200 patient visits at a variety of sites, including the Saban Community Clinic, Clínica Oscar Romero and the Venice Family Clinic.

More than 3,500 people attended Jewish Wisdom and Wellness Week, a series of lectures, classes, musical performances and art exhibits focusing on a broad stream of Jewish thought and practice. The events, held in April 2013 at sites around Los Angeles, were co-hosted by Cedars-Sinai and the Kalsman Institute on Judaism and Health of Hebrew Union College-Jewish Institute of Religion, in collaboration with 60 community partners. Subjects were as diverse as the influence of Jewish tradition on end-of-life decisions, yoga as a healing art, and the Jewish perspective on organ transplantation.

Seventeen seniors from Long Beach Polytechnic High School who have been mentored by Cedars-Sinai scientists participated in a poster presentation on their research. The students were enrolled in a course offered in conjunction with Cedars-Sinai and the UCLA Clinical and Translational Science Institute. Funded by the National Institutes of Health, the course encourages young, aspiring scientists to consider pursuing medical research. Since its inception in 2000, the course has been completed by 166 students.

For many of the 9,000 people who attended the Telemundo Health and Wellness Expo at the Los Angeles Convention Center in March, it was the only time during the year they would see a doctor or nurse, or go through a simple test that could detect a health problem early. They received free health services from a team of about 360 Cedars-Sinai physicians, nurses, dietitians, pharmacists, educators and others during the annual event. The Cedars-Sinai team offered flu shots and childhood immunizations; total cholesterol, diabetes and blood pressure screenings; breast-health information; arthritis screenings; and counseling for everyone whose test results fell outside normal ranges.



Help is just a text away for troubled teens. The TEEN LINE peer-counseling hotline based at Cedars-Sinai receives more than 15,000 mobile opt-ins a year to gain access to its text-messaging program. In addition, TEEN LINE receives about 3,400 emails and nearly 6,000 phone calls a year – plus 140,000 visits to its website. Regardless of how teens connect, they have the opportunity to share their problems with a peer who is trained to listen and help. Since 1980, TEEN LINE has provided support for teens struggling with issues including abuse, drugs and alcohol, depression, homelessness, gangs, suicide and pregnancy.

Education



Cedars-Sinai's **dedication to educating future generations of healthcare professionals** encompasses everything from highly competitive medical residency and fellowship programs to a biomedical science PhD program, advanced training for nurses and educational opportunities for allied health professionals. The medical center trains about 500 medical residents and fellows in 80 specialty and subspecialty areas. They gain experience in research as well as clinical care. Cedars-Sinai's Graduate Program in Biomedical Sciences and Translational Medicine focuses on translating scientific discoveries into new treatments and cures. A variety of programs encourages nurses to enhance their skills through continuing education and specialized training, and allied health education includes training for clinical laboratory scientists.

Cedars-Sinai marked its transition to a degree-granting institution in June by awarding doctorates to seven students in its Graduate Program in Biomedical Sciences and Translational Medicine. More than 140 faculty members in academic regalia, along with Cedars-Sinai's top leaders, joined graduates, family members and friends at a festive inaugural commencement in Harvey Morse Auditorium. The graduate program, founded in 2007, focuses on transforming laboratory discoveries into therapies, treatments and cures that directly benefit patients. To earn their doctorates, the program's students completed several laboratory rotations, observed patient care and engaged in structured workshops and seminars before preparing and defending their research dissertations.



The Geri and Richard Brawerman Nursing Institute at Cedars-Sinai offers **extensive educational programs that help make the medical center's 2,800 nurses among the most highly trained in the nation.** More than 75 percent of Cedars-Sinai's direct-care nurses have a specialty certification, while 86 percent have earned a bachelor's or master's degree in nursing. The Brawerman Institute offers specialty internships in fields including critical care, oncology, neonatal care and obstetrics. In addition to providing extensive opportunities for experienced nurses to continue their education, Cedars-Sinai helps train 100 to 125 new nursing-school graduates through a 12-month residency program.

The Cedars-Sinai **Medical Staff Leadership Development Program is designed to train and motivate future medical staff leaders.** Participants attend a series of evening lectures and join an off-site weekend retreat as part of the curriculum. Physicians are nominated by department chairs and members of the Medical Executive Committee. The physicians also create and complete their own performance improvement projects, which impact their patients and practice, allowing hands-on use of the tools and concepts introduced in the program.

Cedars-Sinai is one of just a handful of hospitals across the country with a **program for doctors who have left the field of medicine and want to return**. Many of these doctors are women who left to raise children and are ready to resume their medical careers, while others have spent time working in research or business. The Physician Re-Entry Program is an academically rigorous opportunity for returning doctors to work with experienced senior physicians in their field so they can update their skills in order to qualify for hospital privileges. The program also addresses a critical need as the nation faces a physician shortage.

Research training is an ongoing process that continues beyond PhD/MD graduation through the Postdoctoral Scientist Program. **Roughly 100 post-doctoral participants conduct research at Cedars-Sinai** and receive advanced training from a faculty mentor for up to five years to prepare them for their next career step. The Cedars-Sinai Postdoc Society also encourages collaboration among junior researchers who gather once a month to present their work and network with other postdocs. Among areas of research being explored by postdocs are the relationship between sleep restriction and diabetes, the use of induced pluripotent stem cells (iPSCs) to study Huntington's disease, and the design of nanoparticles that can deliver drugs to kill breast cancer cells.



What happens in the 10,000-square-foot Women's Guild Simulation Center for Advanced Clinical Skills in the new Advanced Health Sciences Pavilion could save lives in the future. In two operating rooms, a labor and delivery room, an intensive care unit, trauma bays and other replicas of patient care areas, physicians-in-training, nurses and other healthcare professionals have the opportunity to learn by doing as they go through training exercises using lifelike computerized medical mannequins. Various scenarios can be programmed into computers to produce certain physical responses in the mannequins, giving trainees experience with acting quickly and appropriately when something goes wrong. It's all about preparing them to provide the safest, highest-quality care.

The Samuel Oschin Comprehensive Cancer Institute has **established a Complex Surgical Oncology Fellowship program**, joining an elite group of 16 U.S. hospitals that have received accreditation for this type of training from the Accreditation Council for Graduate Medical Education, a premier evaluator of physician education programs. Fellows will participate in the treatment of surgical oncology patients and coordinate care with multidisciplinary specialists, with guidance and support from the Complex Surgical Oncology Program team. The fellowship involves two years of hands-on surgical oncology training and clinical and translational research.

Leading scientists and clinicians from across the United States gathered for the second Cedars-Sinai Regenerative Medicine Scientific Symposium, which focused on regenerative approaches to diabetes and diseases of the eye. The symposia series is devoted to a developing field that aims to restore function in diseased or aged tissues by revitalizing existing cells and transplanting new cells. Among the more promising areas for this approach is treating macular degeneration, a progressive deterioration of eye tissue that causes a gradual loss of the central field of vision.

The strength of the Pauletta and Denzel Washington Family Gifted Scholars Program in Neuroscience award is evidenced as a former recipient returns five years later as a medical resident. Lindsey Ross, MD, (in white coat) the 2008 recipient of the award, recently started her second year in the Neurological Surgery Residency Program. The scholarship program began in 2004, funded by the Department of Neurosurgery, to provide research experience for promising students. Recipients are expected to submit a research paper or abstract to a national neuroscience, cancer or neurosurgery meeting.



Building leadership skills, increasing diversity, and supporting academic and professional success are among the goals of Cedars-Sinai's new Office of Faculty Development. The office helps faculty take advantage of national educational opportunities such as the Early Career Women Faculty Professional Development Seminar offered by the Association of American Medical Colleges. A Cedars-Sinai assistant professor of surgery was one of 128 women chosen to participate in the seminar. The office also is planning a speaker series and other educational events to support the professional development of faculty.

Three researchers at Cedars-Sinai were awarded UCLA Clinical and Translational Science Institute Scholar Seed Grants, which are funded by the National Center for Advancing Translational Sciences at the National Institutes of Health. Recipients of the three grants, which support training in translational research, are studying breast cancer, hypertension, and the effects of chemotherapy and radiation on the intestinal area.

The Clinical Scholars Program trains the next generation of clinical scientists to pursue discoveries that can be translated into lifesaving treatments. The two-year program provides training and mentoring for aspiring clinical scientists while they participate in leading-edge research projects. **The fifth graduating class of nine clinical scholars included, for the first time, a board-certified nurse practitioner.** She is investigating the role genetics may play in the lower survival rates of African-Americans versus Caucasian patients after heart transplants.

Philanthropy



Donors to Cedars-Sinai help foster excellence in clinical care and revolutionary scientific achievement. Dedicated to increasing wellness and sustaining vibrant communities, their generous support is a critical investment in the future.

As resolute champions of medical science who believe deeply in the capacity of research to change lives, Vera and Paul Guerin are among Cedars-Sinai's most effective and visionary allies. This year, they inspired the Cedars-Sinai family with a transformational \$10 million gift establishing the Vera and Paul Guerin Family Congenital Heart Program. An additional \$10 million donation will endow academic chairs in pulmonary medicine and pediatric neurosurgery and support the new Advanced Health Sciences Pavilion.

The Guerin Family Congenital Heart Program — co-directed by Evan Zahn, MD, an internationally recognized authority on minimally invasive techniques for structural heart repairs, and Alistair Phillips, MD, a leader in developing collaborations between heart surgeons and cardiologists using “hybrid” procedures — will enable Cedars-Sinai to set a new standard in research and clinical care focused on children and adults with structural heart disease. The gift deepens a remarkable legacy of philanthropy at Cedars-Sinai. Vera is vice chair and chair-elect of the Cedars-Sinai Board of Directors as well as a longtime board member and former president of Women’s Guild; Paul is a member of the Cedars-Sinai Board of Governors and has served on its executive committee. Cedars-Sinai President and CEO Thomas M. Priselac said the Guerins’ latest gift will help ensure that “Cedars-Sinai will discover new treatments that extend vulnerable babies’ life spans well into healthy adulthood.” Arthur J. Ochoa, senior vice president for Community Relations and Development, noted that the Guerins’ generosity not only changes lives — it also sets an important example: “As they carry on their family commitment to repairing the world, Vera and Paul are inspiring others through their support of groundbreaking patient care and medical research.”

Expanding the boundaries of medical possibility is the driving force behind “What A Pair!” — an annual benefit advancing Cedars-Sinai’s breast cancer research and education programs at the Samuel Oschin Comprehensive Cancer Institute. Inspired by a desire to support her sister and mother, both of whom faced breast cancer, the benefit’s co-founder Jo Levi DiSante enlisted two friends — Jody Price and Ruth Stalford — to help her produce a celebration of musical theater that would generate contributions for the fight against this insidious disease.

“My mother was 34 years old when she was first diagnosed with breast cancer. I was 5,” DiSante said. “Nineteen years later, my sister received the same diagnosis. She was 25. I decided to do something meaningful to honor their fighting spirits.” DiSante launched “What A Pair!” in 2002 and has engaged some of Broadway’s top talent to raise funds for breast cancer relief. In 2012, the event joined forces with Cedars-Sinai to make significant inroads toward pinpointing strategies for the prevention, diagnosis, risk assessment and treatment of breast cancer.

For Sue and Bill Gross, wise philanthropy shares a common trait with smart business: To succeed, both must be based on sound investments. Their \$20 million gift to the Advanced Health Sciences Pavilion met that criterion as it will strengthen the health of diverse communities around Los Angeles and across the globe.

Supporting Cedars-Sinai felt natural to Bill, co-founder of PIMCO, the world's largest mutual fund, and Sue, president of the Gross Family Foundation. "We believe in making a difference," Bill said. "It's deeply gratifying to be part of something that will help so many people." For Sue, it was exciting to consider how leveraging their contribution could achieve improvements in healthcare on an unprecedented scale. "What makes me feel best is when I think about the multiplier effect a donation can have. A Cedars-Sinai doctor might teach a technique that ends up saving lives in Ecuador or changing lives right here in L.A.," she said. Their gift makes those kinds of connections possible.

The 50,000-square-foot Sue and Bill Gross Surgery and Procedure Center — an integral part of the Pavilion — will welcome clinicians and patients from all over the world, advancing the kind of quality research, teaching and education for which Cedars-Sinai is renowned. "The Pavilion will be a place that harmonizes all of those resources," Sue said. "We wanted to be a part of it."

After a lifetime in manufacturing, Edward Gaiser knows the signs of a job done right — a skill that led him to support Cedars-Sinai. When a biopsy revealed early-stage esophageal cancer in fall 2009, Gaiser turned to Cedars-Sinai for help. He was not disappointed. "I initially saw Dr. [Andrew] Ippoliti, who referred me to Dr. [Clark] Fuller," he said. "What impressed me was their responsiveness. They went after the cancer aggressively and didn't waste any time."

The treatment was successful and Gaiser was thrilled. He and his wife, Eileen, resolved to show their gratitude with repeated gifts to Cedars-Sinai through the Circle of Friends program, honoring Fuller for his skill and support. "The hospital was run extremely efficiently, and I was treated so well," he said. "Its quality care is really exceptional."

Women's Guild inspires innovation. For more than half a century, this prolific group of visionary women has been instrumental in shaping medical and scientific progress at Cedars-Sinai. The tradition flourished this year with a resounding achievement in high-impact philanthropy: the completion, two years early, of a \$20 million pledge to create the Women's Guild Lung Institute. Through their dedication and drive, Women's Guild members have empowered physicians and scientists at Cedars-Sinai in their fight against pulmonary illness, from advancing research of genetic patterns in lung cancer to doubling the institute's capacity to perform lung transplants. Women's Guild generosity also has enabled the recruitment of elite faculty who rank among the world's pre-eminent lung specialists. "Women's Guild's support has been vital to Cedars-Sinai's development of a world-class clinical care program for patients with lung disease," said Paul Noble, MD, the institute's director. "I believe this collaboration will be equally critical to our future. Working together, we can harness the resources to pioneer discovery and accelerate drug development, making a tangible difference in countless patients' lives."

Linda Hosford’s sunny outlook is more than the result of a lifetime spent in Southern California – it is also a reflection of the healing she experienced at Cedars-Sinai. With spirits buoyed by an expert team of caregivers, she found the resilience to combat life-threatening illness and the inspiration to be profoundly grateful for her care.

Linda’s care was pivotal in her journey to better health. After discovering a pelvic mass in 2008, she underwent surgery at a San Fernando Valley-area hospital. Unfortunately, the procedure only marked the beginning of her ordeal. “I kept getting infections and blood clots, and I ended up being in the hospital for 23 days,” she recalled. A chance referral led her to consult Edward Wolin, MD, at Cedars-Sinai – a renowned expert in treating rare carcinoid and neuroendocrine tumors. He identified her illness and helped get it under control. “As far as I’m concerned, Dr. Wolin is a saint,” Hosford said. “He’s the smartest person I’ve ever met, and he’s dedicated and caring. I have him to thank for keeping me alive.” When she later developed a related heart condition, Cedars-Sinai came through again. “I had two valves replaced by Dr. [Alfredo] Trento, who is just marvelous,” she said.

Hosford was so grateful that she made Cedars-Sinai the beneficiary of her estate with a planned gift. “I am only of modest means, but when my time comes, I want whatever I have to go to a good cause,” she said. “I can’t think of a better one than cancer research – or a better place than Cedars-Sinai.”

MILESTONE GIFTS TO CEDARS-SINAI

(July 1, 2012 - June 30, 2013)

Sue and Bill Gross

Vera and Paul Guerin

Irene Pollin

Margie & Robert E. Petersen
Foundation

Lee S. Kapelovitz

Brindell and Milton Gottlieb

Fashion Industries Guild

Estate of Valerie M. and
Richard B. Aronsohn, MD

PHASE ONE Foundation

The Arthur Blech Family

Betty and Joe Weider

Cedars-Sinai is also grateful
for the generosity of those
individuals and families who
chose to remain anonymous.

CHANGING LIVES

Visit cedars-sinai.edu/giving to learn
how you can partner with Cedars-Sinai
to improve patients’ lives.

FINANCIAL SNAPSHOT

July 1, 2012 - June 30, 2013

KEY STATISTICS

Admissions	49,268
Patient days	251,803
Emergency visits	85,305
Outpatient visits	630,269
Licensed beds (as of November 2013)	886
Employees (FTEs)	10,243
Physicians on medical staff	2,124
Volunteers	2,797

INCOME AND EXPENSES

Revenues from patient care and other sources	\$ 2,746,100,000
Expenses	<u>2,363,629,000</u>
Operating income	382,471,000
Investment income	<u>94,734,000</u>
Net income to reinvest in Cedars-Sinai's mission	<u>\$ 477,205,000</u>

USES OF NET INCOME

Long-term debt to be repaid	\$ 1,123,697,000
Capital expenditures for facilities, renovation, technology and other	\$ 326,451,000
This year's payment on long-term debt	\$ 42,680,000

COMMUNITY BENEFIT CONTRIBUTION

Unreimbursed cost of direct medical care for the poor and underserved (Excludes the unreimbursed cost of caring for Medicare patients)	\$ 130,111,000
Charity care (\$45,664,000)	
Unreimbursed cost of caring for Medi-Cal patients (\$84,447,000)	
Unreimbursed cost of direct medical care for Medicare patients	\$ 296,476,000
Unreimbursed cost to care for patients under specialty government programs (Including veterans, Los Angeles Police Department officers and others)	\$ 6,739,000
Community benefit programs, and education and training for physicians and other health professionals (Includes hundreds of free community education and medical screening/immunization programs offered at the medical center, in local schools, homeless shelters and community centers)	\$ 92,799,000
Research programs (Includes translational and clinical research and studies on healthcare delivery)	<u>\$ 126,481,000</u>
Total quantifiable community benefits, including the unreimbursed cost of caring for Medicare patients	\$ 652,606,000

[Reported in IRS Form 990, Schedule H.]

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CEDARS-SINAI

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cedars-sinai.edu

OUR MISSION

Cedars-Sinai Health System, a nonprofit, independent healthcare organization, is committed to:

Leadership and excellence in delivering quality healthcare services.

Expanding the horizons of medical knowledge through biomedical research.

Educating and training physicians and other healthcare professionals.

Striving to improve the health status of our community.

Quality patient care is our priority. Providing excellent clinical and service quality, offering compassionate care, and supporting research and medical education are essential to our mission.

This mission is founded in the ethical and cultural precepts of the Judaic tradition, which inspires devotion to the art and science of healing, and to the care we give our patients and staff.

