City of Hope®

RESEARCH · TREATMENT · CURES

IT STARTS WITH HOPE

Jim Murphy
Esophageal cancer survivor

2014 ANNUAL REPORT

HOPE MAKES

BREAKTHROUGHS INNOVATIONS FUTURES

POSSIBLE

On the facing page: Homa Sadat, breast cancer survivor
Read her inpsiring story on page 14.

On the cover: Jim Murphy, esophageal cancer survivor
Jim Murphy wasn't going to let esophageal cancer change his active lifestyle. "Cancer's not a death sentence. It's a disease," he said. With encouragement from his doctors at City of Hope, he continued his biking and ski patrol duties throughout his treatment.

At City of Hope, compassionate care works hand-in-glove with groundbreaking scientific research to save lives. The result has been some of the most important biomedical breakthroughs of the last 100 years — and surely of the next 100.

Our mission is to transform scientific research into new drugs and treatments that will improve as many lives as possible — as soon as possible.

More than 100 years ago, City of Hope started with hope — and little more. Today, we are recognized worldwide as one of the top cancer centers in the U.S. and one of the few designated a comprehensive cancer center by the National Cancer Institute — the highest level of distinction.

The story of how we got here is fascinating. But it's where we are going that is truly astonishing.

City of Hope's advances in molecular biology and genetics are transforming the prevention, detection and treatment of cancer. By bringing together top experts in laboratory research, clinical research and population-based research, we can speed scientific discoveries and treatments directly to patients with cancer and other life-threatening illnesses.

We call it "bench to bedside science." Our patients call it miraculous.

In this 2014 report, you'll see the work of fiercely committed teams at the forefront of medicine. We are transforming scientific discoveries into innovative treatments, cancer patients into cancer survivors and hope into cures.

Robert W. Stone
President and Chief Executive Officer

OUR WORK STARTED WITH OUR MISSION AND HAS CHANGED THE LIVES OF PATIENTS AROUND THE WORLD.

Kommah McDowell: Breast cancer survivor
For four months, I underwent chemotherapy, which left me bedridden. I had several surgeries and weeks of radiation therapy. Fortunately, I had wonderful doctors orchestrating my treatment process. With God's guidance, my medical team was awesome and words cannot express how grateful my family and I are for my second chance at life.

CARE AT THE FOREFRONT OF CURE

BONE MARROW TRANSPLANTS
NEURAL STEM CELLS
ISLET CELLS
IMMUNOTHERAPY

At City of Hope, scientists' bold discoveries lead to novel therapeutics for cancer, diabetes, HIV/AIDS and other diseases, saving millions of lives worldwide.

BREAKTHROUGHS
CLINICAL TRIALS
RESEARCH
MANUFACTURING
CANCER DRUGS
DIABETES TREATMENTS

45

One of only 45 National Cancer Institute-designated comprehensive cancer centers

300

Conducted more than 300 clinical trials in 2014, enrolling nearly 5,000 patients

29

Approximately 250 patents to date, with 29 novel therapeutic approaches in our pipeline.

12K

Performed more than 12,000 bone marrow and stem cell transplants, with survival rates that are unparalleled

72.9

Awarded more than $72.9 million in research grants in the 2014 fiscal year

INSTITUTIONAL DISTINCTIONS

A uniquely collaborative environment makes it easy for laboratory and clinical researchers at City of Hope to more quickly translate breakthroughs into therapies.

City of Hope has three on-site manufacturing facilities that enable investigators to create promising new therapies without the high cost and delays encountered by other research centers. These capabilities save years of development time and ensure that we can rapidly and efficiently translate discoveries into beneficial treatments.

We are a national leader in islet cell transplantation, which has the potential to reverse type 1 diabetes. In addition, we provide islet cells for research at other institutions throughout the U.S.

City of Hope was awarded more than $72.9 million in research grants and received approximately $249.8 million in revenues from patented technologies in the 2014 fiscal year.

POINTS OF DISTINCTION

City of Hope is an independent biomedical research institution committed to researching, treating and preventing cancer, with an equal commitment to curing and preventing diabetes and other life-threatening diseases.

A RECORD OF INNOVATION

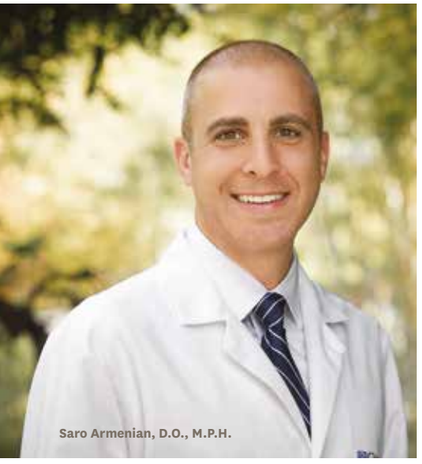
Numerous breakthrough cancer drugs, including Herceptin, Rituxan and Avastin, are based on technology pioneered by City of Hope and are saving lives worldwide.

Millions of people with diabetes benefit from synthetic human insulin, developed through research conducted at City of Hope.

City of Hope was a pioneer in bone marrow and stem cell transplants — and our program is now one of the largest, most successful programs of its kind in the world.

City of Hope was one of the first cancer centers in the country to adopt robotic prostate surgery in 2003. Since then, our surgeons have performed more than 10,000 robotic procedures for prostate, kidney, colon, liver, bladder, gynecologic, oral and other cancers.

At any given time, we have almost 30 active investigational new drug applications. These numbers are exceptionally large for an organization of our size, reflecting our commitment to innovation and speeding treatments to patients.



Saro Armenian, D.O., M.P.H.

Associate Professor; Director, Childhood Cancer Survivorship Clinic

John C. Williams, Ph.D.

Associate Professor, Molecular Medicine; Director, X-ray Crystallography Core Facility

Tijana Jovanovic-Talisman, Ph.D.

Assistant Professor, Molecular Medicine

Saro Armenian, D.O., M.P.H., and his research team are identifying screening tests to catch early signs of heart failure in childhood cancer survivors.

"We want to reach beyond the excellent job we've done in increasing survival for childhood cancers and address the long-term risks. My team and I will continue investigating how to minimize this risk, so that childhood cancer survivors can lead healthy, productive lives well into adulthood."

Cancer-treating drugs called anthracyclines are associated with left ventricular dysfunction in childhood cancer survivors, which may lead to congestive heart failure. It's one of the greatest challenges we face.

In a recent study of 150 patients, we found that the thickness and stress on the wall of the left ventricle is an indicator of damage to the heart. We also found that certain blood markers are common among those at highest risk of heart failure.

Using a combination of advanced echocardiographic techniques and testing for certain blood biomarkers, my team found a potential means of early detection that could lead to targeted interventions for childhood cancer survivors at highest risk of heart failure.

THE SCIENCE BEHIND HOPE

John C. Williams, Ph.D., and his team discovered what he calls a meditope, a kind of "trailer hitch" that allows medicines to be attached to antibodies. Once "loaded," antibodies can deliver cancer-fighting drugs right to the site of a tumor.

"Our discovery has the potential to dramatically change oncology, radiology and other disciplines."

We crystallized the antibodies, which let us map and analyze the molecular structure of the antibodies. Then we made electron density maps, refined them and transformed them into 3-D models. That's when we saw something no one had seen before: a hole in the antibody, with a unique peptide. The perfect "trailer hitch."

At last, we'd found a place where we could attach a cancer drug. And because the peptide can easily link to drug molecules and "hitch" them to antibodies, the use for meditopes goes beyond cancer.

Tijana Jovanovic-Talisman, Ph.D., is advancing her research using super-resolution microscopy. This sophisticated imaging method lets her see and quantify proteins on the cell membrane and inside cells, to better understand protein signaling in normal cells and in cells affected by disease.

"My research brings together biology, chemistry and physics to provide a quantitative description of protein interactions. Super-resolution imaging techniques can be used to investigate biological processes that are critical to the progression of cancer and other human diseases."

City of Hope researchers have made crucial strides against women's cancers during the past year. For example, Jovanovic-Talisman is studying the tumor marker nucleoporin 88, which is over-expressed in solid tumors, including breast and ovarian cancers. She is currently designing models of the biological processes that occur in cancer and healthy cells in order to further understand how cancer develops and to test drugs against it.

Director, Multiple Myeloma Program;
Director, Bernard and Judy Briskin Myeloma Center;
Associate Director, Medical Education & Training Program

Amrita Krishnan, M.D., seeks to battle multiple myeloma — one of the least understood cancers — and make gains in one of the most rapidly changing areas in cancer research.

"We see reasons for optimism. One recent study here showed that a new drug combination given after transplantation seemed to knock out cancer cells more deeply in many patients. We hope that will ultimately translate into better survival."

Multiple myeloma develops when plasma cells turn cancerous. So far, no single treatment seems to get rid of the cancerous cells completely. But a series of new treatments could potentially help many multiple myeloma patients keep their cancer at bay for years.

We are testing many new drugs with novel mechanisms of action to target the plasma cell. This includes monoclonal antibodies and immunotherapy with T cells.

Director and Professor, Division of Nursing
Research and Education

Betty Ferrell, Ph.D., R.N., was inducted into the International Nurse Researcher Hall of Fame by the Honor Society of Nursing, Sigma Theta Tau International (STTI).

"Palliative care is an essential component of health care as well as a human right. I am honored to be recognized by STTI, and appreciate the opportunity to share this research, which I hope will assist nurses worldwide to improve their daily practice and help them improve quality of life for their patients."

The International Nurse Researcher Hall of Fame Award recognizes nurse researchers who have achieved national or international recognition and whose work has improved the nursing profession and the patients it serves.

Ferrell is a pioneer in the field of palliative care nursing, which strives to improve quality of life by managing pain, symptoms and psychological and spiritual concerns associated with illness. She is currently the principal investigator of a five-year project funded by the National Cancer Institute to investigate quality of life and palliative care for lung cancer patients from the start of treatment.

Director of Value Based Analytics; Director of Clinical Quality, Alpha Clinic for Cell Therapy and Innovation; Associate Clinical Professor, Department of Hematology & Hematopoietic Cell Transplantation

A new study led by City of Hope's **Joseph Alvarnas, M.D.,** may change perceptions about HIV-positive people and stem cell therapy. HIV-positive people are 70 times more likely to be diagnosed with lymphoma than uninfected people. But because they are immunocompromised, they've been considered ineligible for autologous stem cell transplants, in which patients are infused with their own stem cells.

"Excluding patients from stem cell transplants simply on the basis of HIV infection alone is no longer justified. Patients with well-controlled HIV should be offered transplant as a standard of care."

Patients received autologous stem cell transplants with a high-dose preparative regimen of chemotherapy. Our study found the transplants to be effective, tolerable and not overly toxic for patients with HIV-associated lymphoma.

What makes the current clinical trial so useful is we offered something previously done only in centers with very specific expertise and showed it could be extended to multiple centers — even those that did not specialize in HIV.

HOMA SADAT

Triple-negative breast cancer survivor

Homa Sadat was 27 when she found a lump in her breast. She couldn't have cancer, her family doctor said. She was too young. Six months later, a shooting pain prompted her to insist on a biopsy that found triple-negative breast cancer — the hardest to treat, because it doesn't respond to current targeted therapies.

At City of Hope, Sadat volunteered for a phase II clinical trial that combined carboplatin and a novel nanoparticle drug called nab-paclitaxel. The plan: 16 weeks of chemotherapy before having surgery to address her cancer.

"You deserve a doctor you feel confident in and who you believe is invested in your care. That's why I chose Dr. Somlo and City of Hope."

But halfway through the chemotherapy regimen, a surprise: "I went in for an ultrasound-guided biopsy, and they said, 'There's nothing to biopsy!' They couldn't find the tumor."

She continued treatment for another eight weeks, then underwent surgery at City of Hope to remove breast tissue that initially had contained the breast tumor, as well as several lymph nodes. No cancer cells were found in the tissues removed: Sadat's cancer had gone into complete remission.

PHASE II CLINICAL TRIAL
NAB-PACLITAXEL CARBOPLATIN
NEW NANOPARTICLE DRUG

Professor, Department of Medical Oncology & Therapeutics Research

TINA WANG

Mantle cell lymphoma survivor

At 22, Tina Wang's biggest concern was mid-terms. Then the college senior learned she had Stage 4 lymphoma.

"I'd been short of breath, coughing, unable to lie down for three months," Wang said. "A pulmonary doctor thought I might have TB, so I was put on TB medication. One month later, they discovered it was diffuse large b cell lymphoma.

"I was shocked. I have no family history of any type of cancer, so I wondered if I'd been misdiagnosed. Then I told myself, 'My only task right now is to follow all the necessary treatments — other things can wait until I finish."

"The environment at City of Hope is really great. Other than the IV stands, it did not seem that I was in the hospital."

Associate professor in the Department of Hematology & Hematopoietic Cell Transplantation

Two cycles of treatment at her local hospital failed to destroy all of her cancer cells. So Wang turned to City of Hope. Here, Wang underwent an autologous stem cell transplant and participated in a T cell therapy clinical trial. The plan: alter the DNA of her own T cells to carry "instructions" for them to grow special receptors that could target — and eliminate — Wang's type of cancer.

"During the transplant, I was uncomfortable," Wang recalled. "But the environment at City of Hope is really great. Dr. Popplewell and staff always came in with a smile and responded to my requests quickly. And I really appreciated the daily group meetings with other patients. Everyone was always laughing! Other than the IV stands, it did not seem that I was in the hospital."

Today, Wang is celebrating one year of remission. She's back at Cal State Long Beach studying nutrition, and is planning a much-deserved vacation with her family. "For my first year of intense treatment and the second year of recovery, my family worked harder than I did to keep me healthy," she said. "It's time for us to just have fun."

CLINICAL TRIAL ENGINEERED T-CELLS
AUTOLOGOUS STEM CELL TRANSPLANT
T CELL THERAPY

ALEX CAMARGO

Thyroid cancer survivor

When Alex Camargo was first diagnosed with thyroid cancer, his family doctor described him as “lucky” — it’s one of the most treatable cancers at all stages.

But Camargo’s cancer was starting to invade his trachea and larynx (windpipe and voice box) and move into his lungs. In order to treat the cancer, he was told he’d have to undergo a total laryngectomy, which would leave him with a permanent breathing tube and no voice.

Ellie Maghami, M.D.

Chief of Head and Neck Surgery

Dan Raz, M.D.

Co-director, Lung Cancer and Thoracic Oncology Program

COMPLEX LARYNGOTRACHEAL RESECTION CITY OF HOPE HEAD AND NECK SURGERY LUNG CANCER AND THORACIC ONCOLOGY

“I’m just so grateful for what City of Hope did for me. I’m thankful they were able to find a way for me to keep my voice, allowing me to continue communicating with my friends and family.”

Seeking a second opinion, Camargo turned to City of Hope. Ellie Maghami, M.D., chief of head and neck surgery and The Norman and Sadie Lee Professor in Head and Neck Cancer, and Dan Raz, M.D., co-director of the Lung Cancer and Thoracic Oncology Program, offered this idea: a complex laryngotracheal resection.

City of Hope surgeons removed portions of Camargo’s trachea and larynx, then reconnected the ends, allowing him to keep his voice box. They restored the continuity of the airway, eliminating the need for a stoma, or artificial opening.

Few centers in the country have experience with this operation.

Camargo is still undergoing treatment for the cancer, but he’s grateful that he sought a second opinion — and that he got it at City of Hope. In that, he considers himself very lucky indeed.

CITY OF HOPE BREAKTHROUGHS

Sharing opinions: Alexandra Levine, M.D., Chief Medical Officer, and Behnam Badie, M.D., Chief of Neurosurgery and Director of the Brain Tumor Program

Curiosity. Collaboration. Discovery. Scientific advances occur when top experts in laboratory, clinical and population-based research get together at City of Hope.

OCTOBER 2013

City of Hope researchers publish their findings of a key to more effectively growing islet cells in the lab. Transplantation of insulin-producing islet cells is a potentially powerful tool for treating type 1 diabetes.

Scientists find that berbamine, a compound in traditional Chinese medicine, and one of its derivatives blocked the growth of liver cancer cells. They report their findings in the journal *Molecular Cancer Therapeutics*.

NOVEMBER 2013

City of Hope researchers share their discovery of meditopes, newly discovered sites on monoclonal antibodies into which specific peptides fit neatly. Meditopes have the potential to treat cancer and many other diseases efficiently, without side effects.

DECEMBER 2013

City of Hope researchers present findings to the American Society of Hematology on risk of cognitive impairment after hematopoietic cell transplant.

JANUARY 2014

City of Hope researchers uncover how breast cancer cells evade the immune system to become tumors in the brain — a tremendous advance in breast cancer research.

City of Hope scientists investigate the effectiveness of various drugs against BRCA-related breast cancer, including the PARP inhibitor veliparib.

Research to use T cell therapy for prostate cancer gets a $1 million award from Movember and the Prostate Cancer Foundation.

FEBRUARY 2014

City of Hope researchers help create a new test to identify whether common chemicals promote or inhibit estrogen in the body.

Five foundations announce grants in support of Margarita Gutova's and others' work in engineering neural stem cells to target and deliver anti-cancer agents specifically to brain tumor sites.

California Teachers Study data suggest that women who regularly exercise at moderate intensity are 20 percent less likely to suffer a stroke than those who do no exercise.

MARCH 2014

A new study by City of Hope researchers sheds light on how tumors are able to work against the body's immune system — a discovery with the potential to unlock new immunotherapies.

City of Hope's John Rossi, Ph.D., Lidow Family Research Chair, nets a $3.3 million grant from the National Institutes of Health to support efforts to develop a practical way to deliver a gene therapy to HIV patients.

City of Hope becomes the first center in the U.S. to treat a prostate cancer patient with an investigational procedure that uses magnetic resonance imaging-guided ultrasound to "ablate" prostate cancer.

APRIL 2014

City of Hope researchers find that menopausal hormone therapy appears linked to a lower risk of B-cell non-Hodgkin lymphoma.

Edward Newman, Ph.D., associate professor of molecular pharmacology, boosts City of Hope's ability to conduct clinical trials with a five-year, $4.2 million grant from the National Cancer Institute.

City of Hope researchers identify a substance that may contribute to metastasis: a microRNA that is secreted by breast cancer cells.

MAY 2014

City of Hope's Teresa Ku, Ph.D., receives a five-year, $1.9 million grant from the National Institutes of Health to produce more islet cells to treat type 1 diabetes — and make needles a thing of the past for people with this disease.

Researchers find answers to the mystery of "metabolic memory," the enduring harmful effects from high blood sugar on the cardiovascular system.

A new City of Hope study shows that the drug cabozantinib could help undo lung cancer's resistance to chemotherapy.

JUNE 2014

A new City of Hope study suggests that vaccinating against hepatitis B could reduce the risk of diabetes.

A $5.6 million grant from the California Institute for Regenerative Medicine will advance studies of a new HIV treatment that could free patients from the virus' tyranny once and for all.

JULY 2014

City of Hope's Elizabeth Budde, M.D., Ph.D., uses modified white blood cells to turn the immune system on itself, benefiting patients with acute myeloid leukemia. A grant from the Jake Wetchler Foundation for Innovative Pediatric Cancer Research-Damon Runyon Cancer Research Foundation will support her studies for the next three years.

Researchers at City of Hope explore the impact of cancer and cancer treatment on children's academic performance — and how to lessen that impact.

AUGUST 2014

In the August issue of *Cancer Research*, City of Hope scientists provide insight on cancer's spread into the brain.

City of Hope scientists develop an advanced method to understand how one protein can affect multiple biochemical signaling pathways in a cell.

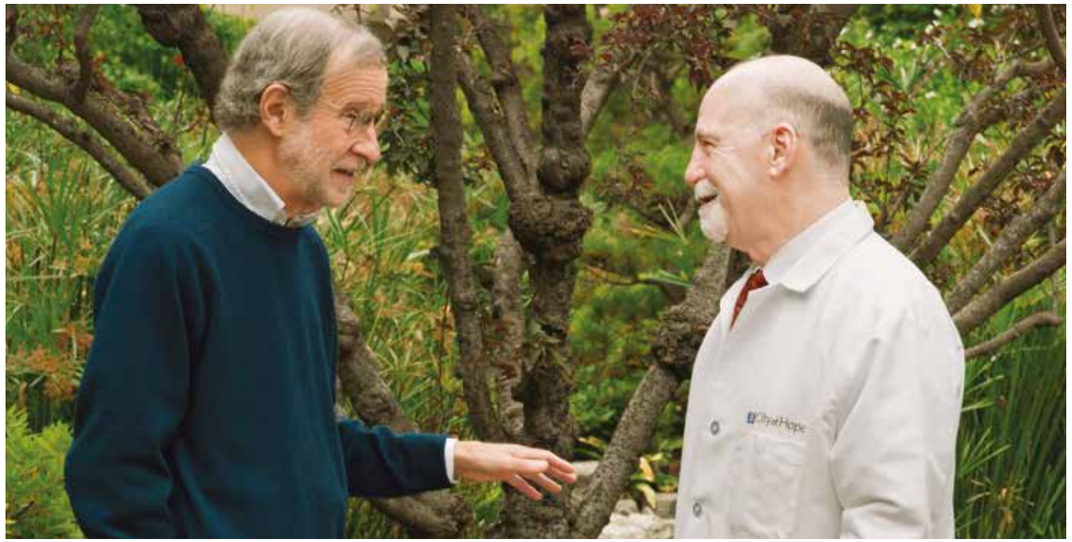
SEPTEMBER 2014

City of Hope researchers find that a high-fat diet can lead to detrimental changes to a person's chromosomes.

City of Hope research shows that older adolescents and young adults with brain and spinal cord tumors have better outcomes when treated at a National Cancer Institute-designated comprehensive cancer center like City of Hope.

Their findings may lead to better targeted drugs with fewer side effects.

ON THE HORIZON



Stephen Forman, M.D. (left), the Francis & Kathleen McNamara Distinguished Chair in Hematology and Hematopoietic Cell Transplantation, and Steven T. Rosen, M.D. (right), provost and chief scientific officer and the Irell & Manella Cancer Center Director's Distinguished Chair, discuss the latest advances in cancer research at City of Hope.

"WE GAIN MORE KNOWLEDGE IN A WEEK THAN WE USED TO GAIN IN A YEAR."

ROSEN I think the most exciting advances have been the modern therapies we call "biologics," or targeted therapies. That's where you know the molecule that you want to interfere with, and you can actually kill the cancer by disrupting that process. There's a spectrum of approaches in that area, all rapidly evolving.

FORMAN Immunotherapy is a very hot topic.

ROSEN Yes. And prior to that, antibody research (which was developed here). It was our first foray into immunotherapy, and it really made the difference in curing a lot of people of lymphoma and breast cancer.

FORMAN In the last two years, immunotherapy has become the fourth "partner" in the way we treat and cure cancer, in addition to surgery, radiation and chemotherapy.

ROSEN We know that the immune system can recognize and cure a cancer. We take a person's own cells out and "reprogram" those cells by introducing new genes to target the specific cancer. Then we put the modified cells back in, making the immune system recognize only the cancer (versus the whole body). It's incredibly exciting. Some patients have done amazingly well, almost at the end of their disease. And we want to make that available to everyone — perhaps even making stem cell transplant unnecessary, in some cases.

FORMAN Of course, we have a very large program in stem cell transplants. People come to us for stem cell therapy. It's a way to really get rid of a cancer. Years ago, you didn't do it for anyone over the age of 30. But now, we routinely do it for people in their 70s and even early 80s.

ROSEN Precision, or "personalized" medicine is also rapidly evolving. We're able to customize the treatment to each patient, based on the signature of each patient's tumor. This has enormous potential — but also a lot of hurdles. Not so much in defining the abnormalities, but in developing the therapeutics that can address those abnormalities.

"WE BORROW FROM EACH OTHER. WE LEARN FROM EACH OTHER."

FORMAN That's where our "bench to bedside" capabilities come in. Our sharing of information. These days, we gain more knowledge in a week than we used to gain in a year.

ROSEN Things I never would have predicted turn out to be remarkable. For example, researchers have recently developed something called checkpoint inhibitors — drugs that suppress the cancer's effect on your immune system. We've seen some remarkable results in diseases that are very hard to treat, like melanoma and lung cancer.

Brilliant scientists who had confidence in their work pushed it and pushed it, and they were right!

To maximize that impact, we want to try to develop engineered T cells and other drugs that affect the "micro-environment" of cancer and let your immune system do what it was intended to do. So far, the most dramatic results have been in leukemia and lymphoma. Now we want to develop it to include brain, breast, ovarian and cervical cancers — to turn this into a field.

FORMAN Trials are opening this year at City of Hope to answer questions about other diseases.

ROSEN We want to answer whether CAR-T cells can cause remission for a person with brain cancer. We've seen it in preclinical experimental work we've done. We've seen that cancer disappear.

FORMAN People should bear in mind that cancer is not one disease. It's 35 or 40 diseases. But there are clues we get from one cancer that become applicable in another. We borrow from each other. We learn from each other.

ROSEN That's what we're all about here at City of Hope working together.

FORMAN We're very hopeful. It's in our name! We're determined to move as quickly as we can. People are waiting.

Steven T. Rosen, M.D., joined City of Hope as provost and chief scientific officer and is a member of City of Hope's Executive Team. He also is director of the comprehensive cancer center and holds the Irell & Manella Cancer Center Director's Distinguished Chair, and is director of Beckman Research Institute of City of Hope.

Prior to joining City of Hope, Rosen was the Genevieve Teuton Professor of Medicine at the Feinberg School of Medicine at Northwestern University in Chicago. He served for 24 years as director of Northwestern's Robert H. Lurie Comprehensive Cancer Center.

Recognized as one of the "Best Doctors in America," Rosen is a recipient of the Martin Luther King Humanitarian Award from Northwestern Memorial Hospital and the Man of Distinction Award from the Israel Cancer Research Fund.

Stephen M. Sentovich, M.D., M.B.A., is a clinical professor in the Department of Surgery with extensive experience in the surgical treatment and management of colon and rectal cancers. He joined City of Hope from Boston University Medical Center, where he served as chief of colon and rectal surgery and co-director of its Center of Digestive Disorders. Concurrently, he was an associate professor of surgery at Boston's University School of Medicine, and also served as the associate chair of clinical operations within the Department of Surgery.

Board-certified in colon and rectal surgery, as well as general surgery, Sentovich served as program chair for the annual meeting of the American Society of Colorectal Surgeons in 2013. He has more than 26 peer-reviewed publications and has presented at numerous national meetings. Sentovich also serves as an AMA RUC advisor for the American Society of Colon and Rectal Surgeons.

Yuman Fong, M.D., an internationally recognized expert in hepatobiliary cancer and in the use of genetically modified viruses to combat malignant disease, is chair of the Department of Surgery at City of Hope. Fong is also associate director for international relations at the comprehensive cancer center. Fong joined City of Hope from Memorial Sloan Kettering Cancer Center in New York, where he held the Murray F. Brennan Chair in Surgery, while also serving as a professor of surgery at Cornell Medical College. He has been a pioneer both in the operating room and in the laboratory, crafting new surgical techniques and instruments and creating entirely new treatment methods. Especially notable is his track record of launching human clinical trials of genetically modified viruses with the potential to fight cancer.

Fong has continuously received grant support as a principal investigator over the past 17 years, most from the National Institutes of Health, and has been awarded five patents related to his work.

NEW TO CITY OF HOPE IN FY2014

Jasmine Zain, M.D., joined City of Hope as an associate clinical professor in the Department of Hematology & Hematopoetic Cell Transplantation. Additionally, she is the Tim Nesvig Lymphoma Research Fellow at City of Hope, as well as director of the T cell Lymphoma Program, part of the Toni Stephenson Lymphoma Center, at City of Hope.

In 2002, Zain first joined City of Hope where she specialized in the treatment of patients with cutaneous T cell lymphoma, allogeneic stem cell transplantation and early phase clinical trials in hematologic malignancies. She left City of Hope to assume a leadership position as director of the bone marrow transplant program at NYU Langone Medical Center, before joining the faculty at Columbia University in 2012.

Triple-board certified in hematology, oncology and internal medicine, Zain is an active member of several professional associations, and has published more than 78 peer-reviewed publications, abstracts and book chapters.

John Burnett, Ph.D., is an assistant research professor in the Department of Molecular and Cellular Biology at Beckman Research Institute of City of Hope. Initially, Burnett joined City of Hope in 2008 as a postdoctoral fellow to develop therapeutic strategies to eradicate HIV latency. His research focuses on biomolecular mechanisms and the development of advanced therapies for genetic and infectious diseases, including HIV and cancer.

Specifically, Burnett hopes to help develop new treatments for both hepatocellular carcinoma and HIV latency. He also hopes that his research findings may someday treat diseases caused by mitochondrial DNA mutations — inherited diseases that currently have no treatments or cures.

Burnett graduated *summa cum laude* from Oklahoma State University with a Bachelor of Science degree in chemical engineering. He received his Ph.D. in chemical and biomolecular engineering from UC Berkeley. He is the recipient of numerous honors and awards, and has published extensively.

OCTOBER 2013

A $6.25 million gift from the estate of Billy and Audrey L. Wilder will be used to create two professorships for City of Hope researchers, along with the Wilder Archives Recognition Gallery at City of Hope.

The seventh annual San Gabriel Valley HIV/AIDS Action Summit is held at City of Hope. More than 300 people attend, including students from local area high schools.

NOVEMBER 2013

City of Hope earns two prestigious Press Ganey awards for its top-quality patient care, marking its fifth consecutive year of being honored by the health care industry's leading performance improvement firm. City of Hope was one of only 26 institutions in the nation recognized for patient satisfaction.

City of Hope launches cn.cityofhope.org, a Chinese-language website with content focused specifically on the needs of Chinese-speaking patients, caregivers and their families.

JANUARY 2014

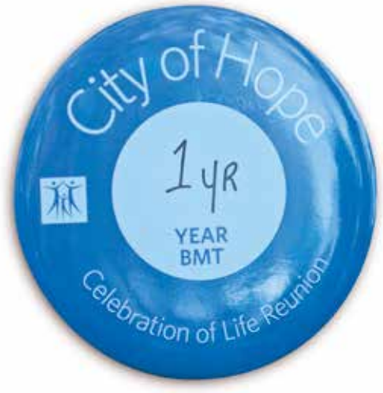
Robert W. Stone, president of City of Hope, assumes the dual role of chief executive officer. He sets the strategic vision for City of Hope, positioning the institution for further development and maximizing growth.

Noted business leader and physician Norman C. Payson, M.D., is selected as the new chair of the City of Hope board of directors. He takes the helm of the institution's board as the research and treatment center launches a new era of growth and scientific investment.

MARCH 2014

City of Hope announces a new $30 million investment to expand its basic and translational research efforts to provide new treatments for type 1 and type 2 diabetes.

NEWS



The beautifully landscaped gardens of City of Hope are perfect for rest, reflection, and perhaps even a "Eureka" moment. For this annual report, we chose this lush oasis as the backdrop for our City of Hope portraits.

JULY 2014

City of Hope launches new bone marrow transplant services for some patients on an outpatient basis.

AUGUST 2014

City of Hope, Duarte Unified School District and Citrus College announce California's first P-Tech style program, the TEACH project (Train, Educate, and Accelerate Careers in Healthcare) for public high school students.

SEPTEMBER 2014

City of Hope announces the launch of its Program in Natural Therapies, created to help researchers investigate the potential of foods and other plant-based ingredients to fight disease.

OCTOBER 2013

FOOTHILL FITNESS CHALLENGE

City leaders from across the San Gabriel Valley, along with the Boys & Girls Club of the Foothills, join City of Hope to launch the Foothill Fitness Challenge. Teams from each city compete to make healthy changes for longer lives. Participants agree to measure their progress toward those goals for the next three months at health fairs that offered nutrition and exercise advice.

NOVEMBER 2013

CITY OF HOPE'S WALK FOR HOPE

One in three women will be diagnosed with cancer in her lifetime. On Nov. 3, this reality unites thousands of survivors, families and friends in City of Hope's Walk for Hope, presented by Staples. The annual walk raises funds for research into breast and gynecologic cancers and is held where new treatments are found — on the City of Hope campus in Duarte, California. The 5k route passes by the nationally known City of Hope Helford Clinical Research Hospital, where cancer patients watch from the windows as walkers cheer them on.

DECEMBER 2013

COMMUNITY SCIENCE FESTIVAL

City of Hope researchers explain their leading-edge work in inviting ways at City of Hope's first Community Science Festival. The free, public event features hands-on science activities, educational lectures and fun.

EVENTS

JANUARY 2014

ROSE PARADE

For people who've battled cancer, each tomorrow is truly a dream come true. No one knows that better than the 11 cancer survivors who rode atop City of Hope's float at the 125th Rose Parade on New Year's Day.

FEBRUARY 2014

NORTHERN TRUST OPEN

As the official charity of the Northern Trust Open — one of the most respected tournaments on the PGA TOUR — City of Hope benefits from national media exposure and earns significant dollars for cancer research and treatment through a new program called *Birdies for Hope*.

MAY 2014

CITY OF HOPE'S 38TH ANNUAL BONE MARROW TRANSPLANT REUNION

More than 4,000 people attend City of Hope's 38th Annual Bone Marrow Transplant Reunion at City of Hope in Duarte, California. At this annual, exuberant celebration of life, patients meet the donors who've given their stem cells to save the lives of strangers.

JUNE 2014

CITY OF HOPE CELEBRITY SOFTBALL GAME

City of Hope's Celebrity Softball Game brings together country music's hottest stars, fans and friendly competition. The game takes place during the CMA Music Festival in Nashville, Tennessee, at Hershel Greer Stadium. Players for 2014 include Florida Georgia Line, Alison Sweeney, Lauren Alaina and Dustin Lynch. Team iHeartRadio and Team Grand Ole Opry compete at this annual event for winner bragging rights and to #strikeoutcancer with City of Hope.

SEPTEMBER 2014

DIVERSITY HEALTH CARE CAREER EXPO

City of Hope hosts the first Diversity Health Care Career Expo, creating awareness among students and professionals of the many opportunities available in the health care field.

An estimated 1.6 million new cases of cancer will be diagnosed in 2015. That's why we are so eager to help even more patients and their families benefit from world-class treatment closer to home, through City of Hope Medical Foundation-operated clinics.

To highlight this commitment, in November 2013, City of Hope cut the ribbon on City of Hope Antelope Valley — a full-service cancer center in Lancaster, California, offering a range of diagnostic and treatment services. Furthermore, City of Hope also established sites in the East Valley including Rancho Cucamonga, Corona, Glendora and West Covina.

RANCHO CUCAMONGA CORONA
GLENDORA WEST COVINA

INFUSION RADIATION
THERAPY PHYSICIAN
CONSULTATIONS
MEDICAL ONCOLOGY
RADIATION ONCOLOGY
SURGICAL ONCOLOGY

COMMUNITY EXPANSION

City of Hope has several other community practices throughout the Southland, collaborating with local physicians to provide the best in cancer care at conveniently located sites.

ARCADIA COLTON MISSION HILLS
PALM SPRINGS PASADENA
SANTA CLARITA SOUTH PASADENA

PARTNERS IN HOPE

Our generous supporters contribute to City of Hope through planned gifts such as bequests, annuities, charitable trusts, major donations, foundation gifts and a myriad of other ways of giving.

PRINCIPAL GIFTS

TONI AND EMMET STEPHENSON AND TESSA STEPHENSON BRAND
$10,000,000

Together with their daughter, Tessa Stephenson Brand, internet publishing entrepreneurs Emmet and Toni Stephenson funded the creation of the Toni Stephenson Lymphoma Center at City of Hope, the cornerstone of the new Hematologic Malignancies and Stem Cell Transplantation Institute.

NORBERT GEHR FAMILY FOUNDATION
$10,000,000

The Norbert Gehr Family Leukemia Center at City of Hope was named through the vision of Norbert Gehr, and establishes a foundation of powerful research and a legacy of cures. With this gift, City of Hope aims to increase the understanding of leukemia at the molecular level and reduce relapse rates through research to eliminate microscopic residual disease.

MAJOR GIFTS

Deana and Steven Campbell are grateful patients of City of Hope. Their generous donation was in support of Dr. Alexandra Levine within the Toni Stephenson Lymphoma Center.

Ira and Alice Rosenberg's gift of $1 million establishes the Ira and Alice Rosenberg Ovarian Cancer Research Fund. Their gift will help to shorten the time from concept to cure, to deliver better treatments to women sooner. Pilot research projects are already underway utilizing these funds.

PLANNED GIFTS

ESTATE GIFTS OF $1 MILLION AND ABOVE

JOHN NAGLE
Mr. Nagle passed away on February 4, 2012 at age 96. A Chicago native, U.S. Navy veteran, attorney and retired judge, Mr. Nagle was also a City of Hope annual giving donor.

DEBRA H. DEEM
Debra Deem, a City of Hope donor who died in a tragic cycling accident, bequeathed a generous portion of her estate to City of Hope. Her gift will be used for vital research at City of Hope.

BLACKMAN LIVING TRUST
Lillian and Harry Blackman were personal friends of Ben Horowitz, City of Hope's former Executive Director. The Blackmans were active in the Sportmen's Club, an auxiliary that raised funds for City of Hope.

FOUNDATION SUPPORT

The Panda Charitable Foundation awarded a three-year, $2.5 million gift to establish the Cherng Program in Natural Therapies Fund to advance knowledge toward the development of new treatments for cancer and other life-threatening diseases through natural therapies.

A $1.5 million gift from The Norman and Sadie Lee Foundation will establish The Norman and Sadie Lee Professorship in Head and Neck Cancer. Ellie Maghami, M.D., associate professor, Department of Surgery, and chief of head and neck surgery, will be the first investigator to hold this honor.

City of Hope received a total gift of $3 million to establish the Dr. Norman and Melinda Payson Professorship in Hematologic Cancers and the Dr. Norman and Melinda Payson Professorship in Oncology. Norman Payson, M.D. is chair of the City of Hope board of directors. He and his wife Melinda have supported numerous City of Hope programs through their private foundation.

A gift of over $2.6 million from the Arnold and Mabel Beckman Foundation will provide support for research efforts at Beckman Research Institute of City of Hope.

2014 SPIRIT OF LIFE® HONOREES

The *Spirit of Life*® Award is City of Hope's highest philanthropic honor. It's given to individuals to celebrate their philanthropy and impact on our mission and our patients. The award is presented to industry, chapter or community leaders and recognizes a lifetime of personal and professional achievement in advancing City of Hope's lifesaving work. These individuals share a deep commitment to advancing scientific research that will improve treatment for patients everywhere.

The Baer Family
Baer Furniture
National Home Furnishings Industry

Joe Buescher
Food 4 Less
Southern California Food
Industries Circle

Alan Cole
Hooker Furniture
National Home Furnishings Industry

Eddy Cue
Apple
Music, Film and
Entertainment Industry

M. Steven DeCarlo
AmWINS Group Inc.
National Insurance Industry Council

Hon. Ron Donatucci/ Keith Holmes
Workers Local 686
Tri-State Labor
& Management Council

Barbara Edelstein, M.D.
Diagnostic Radiologist
East End Chapter/Jeanne Kaye League

Adrian Foley
Brookfield Residential
Construction Industries Alliance

Harlan Kirschner
The Kirschner Group Inc.
National Professional Salon Industry

William J. McMorrow
Kennedy Wilson
Los Angeles Real Estate &
Construction Industries Council

Christopher Meany
Wilson Meany
Northern California Real Estate
& Construction Council

Karen Mendelsohn
Masco Corporation
Hardware/Homebuilding Industry

Jack Rimokh & Jason Rimokh
Signal Brands
Fashion & Retail Industry Group

Amy Robach
Anchor, ABC News in NY
East End Chapter/Jeanne Kaye League

Steve Schmidt
Office Depot
National Business Products Industry

Richard A. Stein
Mesirow Financial
Chicago Construction and
Real Estate Council

September 30, 2014 and 2013 Patient Information
GROSS CHARGES FOR PATIENT SERVICES (in thousands)

	2013	%	2014	%
Medicare	$751,446	30.8%	$843,215	31.8%
Indemnity insurance	26,474	1.1%	21,024	0.8%
Managed care contracts	1,294,794	53.2%	1,357,506	51.2%
Subsidized care	363,225	14.9%	428,553	16.2%
TOTAL	**$2,435,939**	**100.00%**	**$2,650,298**	**100.00%**

PATIENTS TREATED

	2013	2014
Patients treated during year	24,714	25,609
Admissions	5,997	5,876
Adjusted patient days	115,237	119,208
Outpatient and Infusion visits	196,756	217,816
Bone marrow transplants	607	544

CITY OF HOPE AND AFFILIATES
CONSOLIDATED STATEMENTS OF FINANCIAL POSITION
SEPTEMBER 30, 2014 AND 2013 (in thousands)

ASSETS	**2014**	**2013**
CURRENT ASSETS		
Cash and cash equivalents	$126,607	$129,384
Investments	706,186	555,499
Patient accounts receivable, less allowances for uncollectible accounts of $12,932 in 2014 and $8,513 in 2013	181,568	164,038
Grants and other receivables	22,239	34,211
Donor restricted unconditional promises to give, net	18,199	19,545
Prepaid and other	18,226	16,023
Total current assets	**1,073,025**	**918,700**
PROPERTY, PLANT AND EQUIPMENT net of accumulated depreciation of $583,417 in 2014 and $531,705 in 2013	704,109	632,118
OTHER ASSETS		
Investments	379,648	354,404
Board designated investments	662,774	592,755
Bond trust funds	35	32,532
Donor restricted assets	356,329	309,633
Other assets	68,161	60,802
Total other assets	1,466,947	1,350,126
TOTAL ASSETS	**$3,244,081**	**$2,900,944**

LIABILITIES AND NET ASSETS	**2014**	**2013****
CURRENT LIABILITIES		
Accounts payable and accrued liabilities	$150,789	$149,114
Long-term debt, current portion	73,726	65,828
Total current liabilities	224,515	214,942
LONG-TERM DEBT, net of current portion	636,925	611,486
ANNUITY AND SPLIT-INTEREST AGREEMENT OBLIGATIONS	17,574	17,345
Other	47,795	33,404
TOTAL LIABILITIES	**926,809**	**877,177**
COMMITMENTS AND CONTINGENCIES		
NET ASSETS		
Unrestricted	1,960,318	1,711,386
Restricted	356,954	312,381
Total net assets	2,317,272	2,023,767
TOTAL LIABILITIES AND NET ASSETS	**$3,244,081**	**$2,900,944**

CITY OF HOPE AND AFFILIATES
CONSOLIDATED STATEMENTS OF ACTIVITIES
FOR THE YEARS ENDED SEPTEMBER 30, 2014 AND 2013 (in thousands)

	2014	2013
REVENUES		
Net patient service revenues	$798,188	$777,694
Contributions and net special event revenues	112,308	128,308
Royalties and research grants	322,722	330,319
Other	136,664	87,312
Total revenues	1,369,882	1,323,633
EXPENSES		
Program services	929,130	865,712
Supporting services	205,516	202,543
Total expenses	1,134,646	1,068,255
Operating income	235,236	255,378
Change in net unrealized gain on investments	58,272	68,138
Change in net assets	293,505	323,516
Net Assets, beginning of year	2,023,767	1,700,251
Net Assets, end of year	$2,317,272	$2,023,767

** Reclassifications were made to conform to the 2014 presentation.

CONSOLIDATED STATEMENTS OF CASH FLOW FOR THE YEARS ENDED SEPTEMBER 30, 2014 AND 2013 (in thousands)

	2014	2013
Cash Flows from Operating Activities:		
Changes in net assets	$293,505	$323,516
Adjustments to reconcile changes in net assets to net cash provided by operating activities		
Depreciation and amortization	68,795	58,937
Net change in operating investments	77,416	(518,763)
Other changes in operating assets and liabilities	(18,837)	(70,477)
Total adjustments	127,374	(530,303)
Net cash provided by (used in) operating activities	**420,879**	**(206,787)**
Cash Flows from Investing Activities:		
Proceeds from sales of property, plant and equipment	2,094	1,012
Additions to property, plant and equipment	(103,145)	(86,663)
Acquisition of other long-term assets		
Change in investments and other	(328,665)	(92,202)
Net cash used in investing activities	**(429,716)**	**(177,853)**
Cash Flows from Financing Activities:		
Net cash provided by financing activities	6,060	435,515
Net (decrease) increase in cash and cash equivalents	(2,777)	50,875
Cash and Cash Equivalents, beginning of year	129,384	78,509
Cash and Cash Equivalents, end of year	**$126,607**	**$129,384**

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City of Hope®