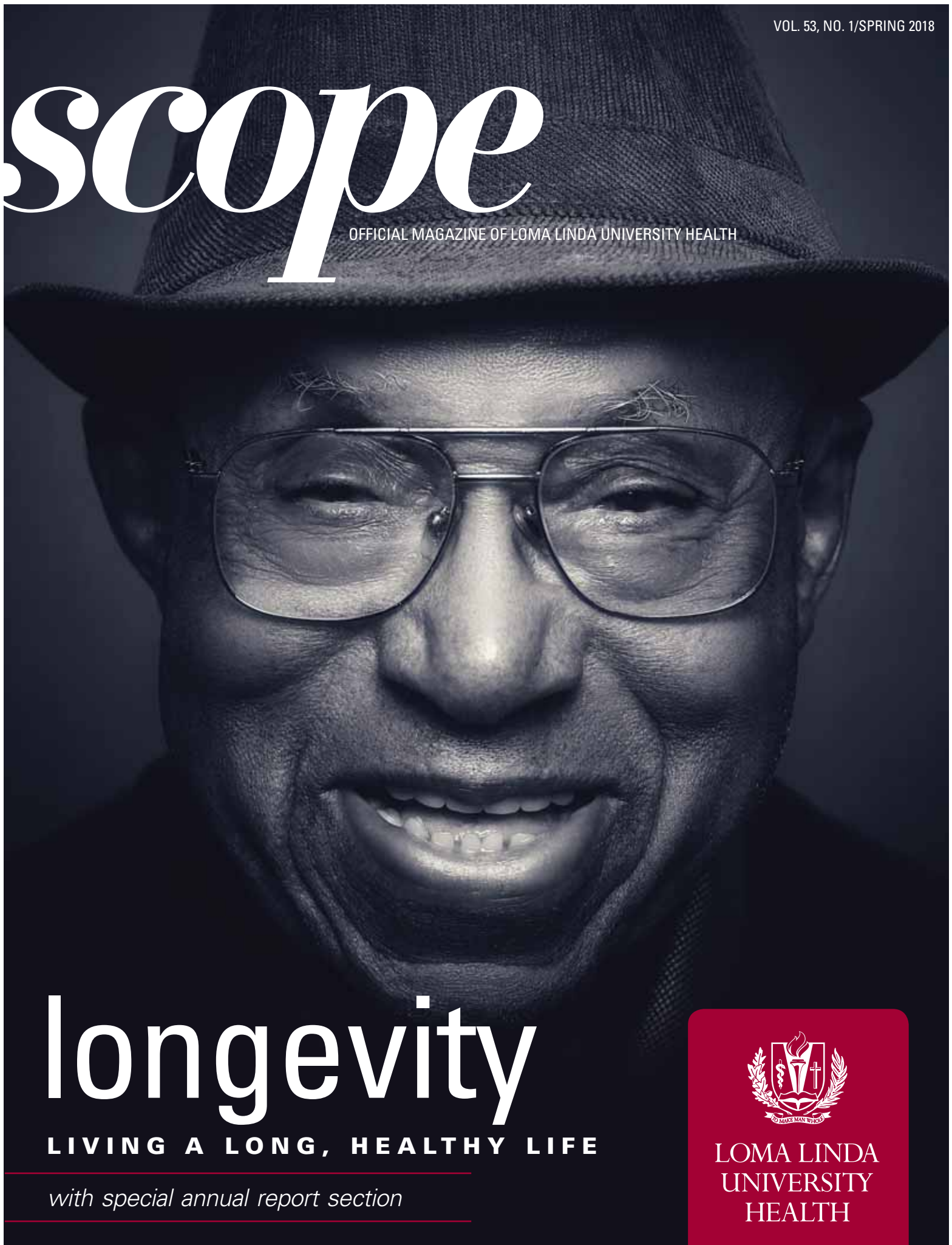


scope

OFFICIAL MAGAZINE OF LOMA LINDA UNIVERSITY HEALTH



longevity

LIVING A LONG, HEALTHY LIFE

with special annual report section



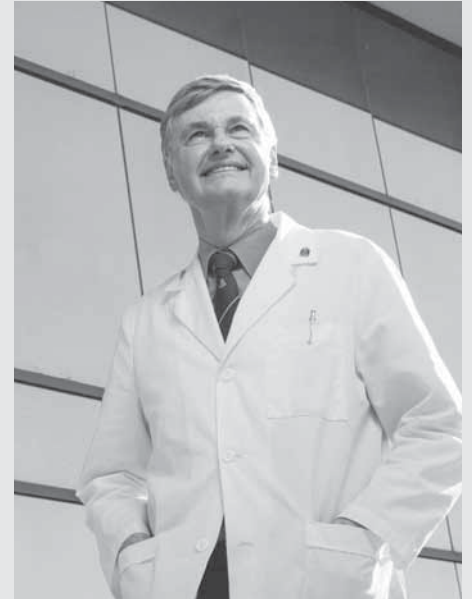
**LOMA LINDA
UNIVERSITY
HEALTH**

Opening shot

FOUR MUSICIANS LEAD SONGS DURING PRAXIS, a Friday night worship service for students that is typically held in the courtyard at University Church. The program is sometimes held on the top floor of the Medical Center staff parking garage, which offers landscape views of the San Bernardino Valley.







longevity

LOMA LINDA UNIVERSITY HEALTH HAS LED
IN IDENTIFYING AND PROMOTING FACTORS
CONTRIBUTING TO A LONG, HEALTHY LIFE.

LEARNING AND IMPLEMENTING KEYS
TO LONGEVITY HELPS US LIVE A FULL
LIFE OF SERVICE.

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scope

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**LOMA LINDA
UNIVERSITY
HEALTH**

ON THE COVER: 101-year-old E. E. Rogers has lived out Seventh-day Adventist health principles that are at the core of Loma Linda University Health's studies on health and lifestyle. Learn more about him on page 31. Photograph by Ronald Pollard.

No one's LAUGHING NOW



Richard H. Hart, MD, DrPH
PRESIDENT,
LOMA LINDA UNIVERSITY HEALTH

THE OLD JOKES STILL RATTLE AROUND

IN MY MIND DECADES LATER – “They practice health reform even if it kills them,” and, “They don’t really live longer, it just seems that way.” But the world isn’t laughing any longer as growing research evidence shows both the increased longevity and productivity of the Seventh-day Adventist lifestyle. We live longer and better, based on a few simple practices, detailed in this issue of *Scope*. But these are usually not isolated things to do, but rather an approach to living that weaves together into a beautiful and comprehensive whole.

I remember a few years back when the National Cancer Institute’s scientific review panel was reviewing our Adventist Health Study – 2 grant application. One of the reviewers made what seemed to him an obvious observation — he concluded we were all related and were benefitting from some special gene pool. But no, this healthy lifestyle can be enjoyed by anyone, joining early or late, partially or completely. The statistical power of the Adventist Health Studies has been that we are very diverse and don’t uniformly adopt all the practices of the church, particularly its recommended vegetarian diet.

The findings coming from two large databases, one beginning in 1974 and the second in 2002, examined everything from osteoporosis to diabetes, as well as many types of cancers, heart disease and other specific syndromes. We are indebted to the initial 30,000 California Adventists and now the 96,000 Adventists across North America that have filled out lengthy questionnaires, estimating their dietary intake and sharing their medical history over the past 43 years. We are now in the process of shifting to online entry of personal information by each participant to keep the cohort engaged more economically.

Some of the most intriguing information shared in this issue of *Scope* is the impact of “religiosity.” That is the term researchers

FACTS THAT DON'T APPEAR IN THIS YEAR'S OFFICIAL ANNUAL REPORT ON PAGE 44

STATE WITH LARGEST NUMBER OF
ALUMNI OTHER THAN CALIFORNIA **WASHINGTON**

NUMBER OF FORTUNE 500 COMPANIES THAT
LOMA LINDA UNIVERSITY HEALTH IS BIGGER
THAN BY NUMBER OF EMPLOYEES **170**

NUMBER OF BABIES BORN AT LOMA LINDA
UNIVERSITY CHILDREN'S HOSPITAL IN 2017 **3,058**

NUMBER OF BABIES BORN AT LOMA LINDA
UNIVERSITY MEDICAL CENTER – MURRIETA IN 2017 **903**

ESTIMATED NUMBER OF STUDENTS
WHO WENT ON MISSION TRIPS IN 2017 **600**

MISSION TRIP SIGN-UP SHEET
THAT FILLED UP THE FASTEST **PERU**

PERCENTAGE INCREASE OF MEMBERS IN THE
LOMA LINDA PICKLEBALL CLUB AT THE DRAYSON
CENTER FROM 2016 TO 2017 **2,400%**

TEMPERATURE FAHRENHEIT IN LOMA LINDA
ON NEW YEAR'S DAY AT NOON **71**

ESTIMATED NUMBER OF BIRD OF PARADISE
PLANTS ON CAMPUS **100**

PERCENTAGE OF BIRD OF PARADISE PLANTS
ON CAMPUS THAT BLOOM IN SOUTHERN
CALIFORNIA'S WINTER **100%**

MOST POPULAR MENU ITEM IN THE
MEDICAL CENTER CAFETERIA **HAYSTACK BAR**

POUNDS OF WALNUTS CONSUMED BY
183 TEST SUBJECTS OVER A TWO-YEAR PERIOD
FOR THE MOST RECENT NUT STUDY BY
THE SCHOOL OF PUBLIC HEALTH **10,556**

LENGTH IN MILES OF FLOSS THE
SCHOOL OF DENTISTRY USED IN 2017 **172**

NUMBER OF SELFIES SCHOOL OF MEDICINE DEAN
ROGER HADLEY, MD, TOOK WITH STUDENTS,
PARENTS, VISITING DIGNITARIES AND
GROUPS AT EVENTS IN 2017 **446**

NUMBER OF PHOTOS THE EDITORS SIFTED
THROUGH FROM A PHOTO SHOOT
TO FIND THEIR FAVORITE PICTURE OF
101-YEAR-OLD E. E. ROGERS FOR THE COVER **183**

use to define how we relate to God and our church. It is not just attending church itself, but rather the more subtle issue of inner peace and confidence in a relationship with a personal God. Attending church does seem to play a role by socially reinforcing healthy behaviors. In other words, there are probably things we do or don't do because we recognize we are part of a larger group that has publicly endorsed a particular lifestyle. I trust Seventh-day Adventists do this not out of guilt, but rather pride, confidence and the desire to treat the body as a temple, in a way of life that is increasingly being envied and adopted by others.

This is also a special Annual Report issue of Scope that includes a section of organizational updates, including a financial snapshot of operations, facts and figures for 2017 and lists of governing board members and executives.

This place never rests, with construction, outreach, recognitions and changes. Despite both the accolades and concerns, we are still a group of pilgrims seeking to follow God's will at Loma Linda University Health. It remains a very special place, with young and old working toward a common goal of "continuing the teaching and healing ministry of Jesus Christ." Thank you for joining us in this quest.

LOMA LINDA UNIVERSITY CHILDREN'S HOSPITAL EARNS NATIONAL AWARD FOR TOP QUALITY



PHOTO BY JANELLE RINGER

LOMA LINDA UNIVERSITY CHILDREN'S HOSPITAL (LLUCH) has been named a Top Children's Hospital by The Leapfrog Group, a designation that highlights its nationally recognized achievements in patient safety and quality.

LLUCH is the only children's hospital in the western United States to earn the coveted 2017 designation.

Announced Thursday, December 7, the Leapfrog Top Hospital award is widely acknowledged as one of the most competitive honors American hospitals can receive. The Top Hospital designation is awarded by The Leapfrog Group, an independent hospital watchdog organization.

Among the roughly 350 children's hospitals in the country, LLUCH was one of only 10 hospitals to receive the Top Children's distinction in 2017.

Scott Perryman, MBA, senior vice president/administrator of LLUCH, attributes this recognition to the medical professionals at LLUCH who dedicate their lives every day to their patients.

"At Loma Linda University Children's Hospital, our medical staff, nurses and other experts dedicate themselves to giving nothing but the best care for our mothers, babies and children, restoring them to health and happiness" Perryman said.

Performance across many areas of hospital care is considered in establishing the qualifications for the award, including infection rates, maternity care and the hospital's capacity to prevent medication errors. The rigorous standards are defined in each year's Top Hospital Methodology.

Leah Binder, president and CEO of Leapfrog, congratulated LLUCH in a statement to all the top hospitals.

"This demonstrates extraordinary dedication to patients and the local community," Binder said. "The entire staff and board deserve praise for putting quality first and achieving results."

The LLUCH medical team comprises more than 100 pediatricians, pediatric surgeons and sub-specialists to treat everything from broken bones to disabilities and life-threatening diseases. LLUCH also has more than 1,200 nurses, child life specialists and other staff who are dedicated to the health and healing of children. Together they provide a family-focused environment backed by state-of-the-art care.

LOMA LINDA HOSTS DACA FORUM FOR THREE AREA UNIVERSITIES

LOMA LINDA UNIVERSITY was one of three universities that participated in a panel discussion about immigrant students who were once covered by the United States' Deferred Action for Childhood Arrivals (DACA) policy.

DACA was a U.S. immigration policy that granted some people who came to the country as minors — having entered or remained illegally — a renewable two-year period of deferred deportation action. The policy was established in 2012 and was rescinded in September 2017.

"Faces of DACA. Stories from the Inland Empire: Our Own at Risk" was hosted at Loma Linda University in November, and was sponsored by the World Affairs Council of Inland Southern California. Students from three universities — University of California, Riverside; California State University, San Bernardino; and Loma Linda University — shared stories of their educational aspirations and their fears for the future.

Loma Linda University Health President Richard H. Hart, MD, DrPH, said the event was

meant to set aside the politics of the issue and highlight the stories of students who could be affected.

Presenters said there are some 800,000 people nationwide who were covered by DACA, with 28 percent of those in California.

The program is available for viewing at the Loma Linda University Health Facebook page at [facebook.com/LLUHealth](https://www.facebook.com/LLUHealth).



PHOTO BY ANSEL OLIVER

EAT YOUR BEANS TO REDUCE GAS WORLDWIDE

A TEAM OF RESEARCHERS from four American universities says the key to reducing harmful greenhouse gases (GHG) in the short term is more likely to be found on the dinner plate than at the gas pump.

The team, headed by Loma Linda University researcher Helen Harwatt, PhD, suggests one simple change in American eating habits would have a large impact on the environment: if Americans would eat beans instead of beef, the United States would immediately

reach approximately 50 to 75 percent of its GHG reduction targets for the year 2020.

In a paper released last spring, Harwatt and her colleagues noted that dietary alteration for climate change mitigation is currently a hot topic among policymakers, academics and members of society at large. The paper, titled "Substituting beans for beef as a contribution toward U.S. climate change targets," can be found online at <http://bit.ly/2pSQW0m>.

Joan Sabáte, MD, DrPH, executive director of the Center for Nutrition, Healthy Lifestyle and Disease Prevention at Loma Linda University School of Public Health, said the findings are substantial.

"The nation could achieve more than half of its GHG reduction goals without imposing any new standards on automobiles or manufacturing," Sabáte said. "As an environmental social scientist looking for solutions to our major

environmental problems, the idea of changing our diets as a pro-environmental behavior really appealed to me."

Harwatt applauds the fact that more than one-third of American consumers are currently purchasing meat analogs: plant-based products that resemble animal foods in taste and texture. She says the trend suggests that animal-sourced meat is no longer a necessity.



PHOTO BY ISTOCKPHOTO

LOMA LINDA UNIVERSITY HEALTH ANNOUNCES ENHANCED HEALTH CARE SERVICES TO BEAUMONT, BANNING

A SIGNIFICANT INCREASE in the health care services provided locally to residents in Beaumont, Banning and surrounding communities is underway. Highland Springs Medical Plaza has been renamed Loma Linda University Health – Beaumont – Banning.

“While Loma Linda University Health – Beaumont – Banning may be a new name, our commitment to those living and working in this area is the same — to

offer world-class, whole person care right in their community,” said Kerry Heinrich, JD, CEO of Loma Linda University Medical Center.

Area residents will see a significant expansion of primary care services. A new primary care suite opened mid-November. Initially, three primary care physicians will provide services, with plans underway to have as many as eight full-time physicians on site in the future. Loma Linda University Health has been offering primary and specialty care at the Beaumont – Banning facility since 2009.

The expanded primary care suite will enhance the current services Loma Linda University Health provides in the medical plaza, including advanced imaging, an outpatient surgery center and an infusion center. Primary care physicians will also help patients gain access to the entire Loma Linda University Health system, including the Level 1 Regional Trauma Center and the Children’s Hospital’s highest-level neonatal intensive care unit.

An urgent care center, offering walk-in care to community residents 365 days per year, will remain at the location. Beaver Medical Clinic, the current provider of the service, will continue to operate the center while an orderly transition of the service to Loma Linda University Health takes place.



PHOTO CREDIT MICHAEL EASLEY

SCHOOLS OFFER NEW DEGREE PROGRAMS, REDUCED RATE PROGRAM

LOMA LINDA UNIVERSITY SCHOOL OF ALLIED HEALTH PROFESSIONS has introduced two new bachelor's degree offerings in diagnostic medical sonography and nuclear medicine. Both degrees represent an expansion of the two programs to meet the needs of the specialties that are increasingly seeking graduates of a four-year program.

Medical sonography, commonly known as ultrasound scanning, is a diagnostic medical procedure that uses high-frequency sound waves to produce dynamic visual images of organs, tissues or blood flow inside the body. Unlike X-rays, sonography is a radiation-free imaging procedure.

Loma Linda University's diagnostic medical sonography degree is a 27-month program, approximately 80 percent of which is classroom coursework and 20 percent is completed online. Students

spend more than 30 hours a week in a clinical setting. Classes are held once a week for 2-5 hours.

Nuclear medicine is a specialty that uses nuclear properties of radioactive and stable nuclides to make diagnostic evaluations of a body's physiological conditions on a cellular level. Unlike an X-ray, which uses radiation to scan a body, nuclear medicine uses radiation from a person's body to detect images on a microscopic level, such as tumors or abnormal vascular or cardiac function.

The nuclear medicine program includes computed tomography (CT), allowing graduates to sit for the CT boards. The program also covers positron emission tomography-computed tomography (PET-CT) and single-photon emission computed tomography (SPECT), imaging modalities that have become more common in the past decade.



PHOTO BY ISTOCKPHOTO

Program graduates work in hospitals, clinics, stand-alone cardiology clinics, nuclear medicine clinics, research, teaching or administration. Starting annual salaries in Southern California's Inland Empire range from \$90,000 to \$110,000, said program director Raynold Ho.

Ho said the nuclear medicine program at Loma Linda University has had a 100 percent graduation rate for many years, and all graduates have found jobs soon after passing boards.

Nursing online bachelor's program

Loma Linda University School of Nursing has reduced tuition for its online RN-to-BS degree program by nearly half to make the program more accessible for working nurses. Tuition was reduced to \$19,600, down from \$35,000, to attract more working nurses who wish to complete their Bachelor of Science degree in nursing, said Joanna Shedd, PhD, CNS, RN, program director of the school's RN-to-BS in nursing program.

Nurses who complete the program open the door to greater professional opportunities, including working as a nurse manager, supervisor or charge nurse, Shedd said.

Shedd encouraged nurses practicing with an associate degree who have been unable to complete their BS degree due to high tuition costs or because of stringent prerequisite requirements to take a new look at this program. The school's RN-to-BS degree program is now fully online and is structured to accommodate schedules of working nurses by allowing them to complete it full- or part-time.



PHOTO COURTESY OF SCHOOL OF NURSING

BEHAVIORAL MEDICINE CENTER, LOMA LINDA UNIVERSITY NAMED AS TOP WORKPLACES

TWO MAJOR INDUSTRY publications have named Loma Linda University Behavioral Medicine Center (BMC) and Loma Linda University as outstanding places to work.

Modern Healthcare magazine identified the BMC as one of the top workplaces in the health care industry. Recognized as the leader in health care business news, research and data, Modern Healthcare named 150 companies and organizations to its 2017 Best Places to Work in Healthcare list. Organizations are selected based on an assessment process the magazine operates in partnership with the Best Companies Group.

"The Behavioral Medicine Center team serves with dedication and compassion as they support patients facing critical moments in their lives," said Kerry Heinrich, JD, CEO of Loma Linda University Medical Center. "We are grateful Modern Healthcare has identified our team for this singular honor."

Edward Field, MBA, vice president/administrator for the Behavioral Medicine Center, said the award from Modern Healthcare is an affirmation of the integrated treatment approach the BMC staff uses in addressing

mental health issues. "Each day our leadership team is focused on engaging our staff," he said. "Our work to create an environment where they can learn, grow and thrive together as a team demonstrates the value we place in them. This award validates those efforts."

The Chronicle of Higher Education, a leading trade publication for colleges and universities, named Loma Linda University as a great college to work for.

The results, released in July in The Chronicle of Higher Education's 10th annual report on The Academic Workplace, are based on a survey of more than 45,000 people from 232 colleges and universities. Of that number, 79 institutions made the list as one of the "Great Colleges to Work For." LLU was honored in five categories this year:

- Confidence in senior leadership
- Job satisfaction
- Professional/career development programs
- Supervisor/department chair relationship
- Work/life balance.

LOMA LINDA UNIVERSITY SURGICAL HOSPITAL HONORED FOR EXCELLENCE IN PATIENT EXPERIENCE



PHOTO BY ANSEL OLIVER

POLICE INVADE CAMPUS FOR GOOD CAUSE

In acknowledging the honor, Richard H. Hart, MD, DrPH, president of Loma Linda University Health, said the faculty and staff offer outstanding teaching and dedicated service to the approximately 4,500 students in the university's eight schools.

"Our entire university team shares a strong commitment to extending the teaching and healing ministry of Jesus Christ," Hart said. "I am so grateful for the passion, excellence and the commitment to our values each of them exhibits. Their devotion to sharing their knowledge and expertise with our students inspires me."

Ronald L. Carter, PhD, provost of Loma Linda University, said "We appreciate the dedication of each of our more than 3,200 employees. Visitors, particularly the many accreditation teams that visit our campus, remark on the palpable sense of unity — a family of faculty, staff and students who are glued together by whole person care, academic excellence and service to the world. We are small enough to know each other, and large enough to impact our community, both regionally and globally."

LOMA LINDA UNIVERSITY SURGICAL HOSPITAL received three 2017 Excellence and Improvement Best Practice Awards from NRC Health, a national health care market research firm. The awards are given to health care organizations for dedication to improving the patient experience.

Surgical Hospital received Patient-Centered Care Dimension Awards in three categories: continuity and transition, physical comfort and respect for patient preferences.

Jonathan Jean-Marie, MHA, vice president/administrator of LLU Surgical Hospital, said that although 426 hospitals were eligible, only 30 from the United States and Canada received awards during 2017. A top performer, LLU Surgical Hospital was the only organization to receive more than one award, earning recognition in three out of eight patient-centered care categories.

"It is a tremendous honor to be recognized for the amazing care we provide to our patients and their families," Jean-Marie said. "It highlights our team's incredible work and commitment to patient-centered care."

Jennifer McDonald, executive director of patient experience for Loma Linda University Health, said the awards reflect the staff's efforts to provide the highest quality of care in the safest, most compassionate environment. "Receiving these awards demonstrates how much talent and commitment exists within our walls and our hearts," McDonald said.

Loma Linda University Surgical Hospital offers a high degree of expertise and specialization by restricting its focus to metabolic and bariatric surgery, as well as robotic surgery for urologic and gynecologic concerns.

LAW ENFORCEMENT from throughout Southern California invaded the Loma Linda University Children's Hospital (LLUCH) campus — and for good reason: to put smiles on the faces of patients being treated at the hospital.

Five helicopters, a motorcade of police motorcycles, multiple squad cars and three SWAT vans made their way onto the north campus lawn during the 19th annual Cops for Kids Fly-In last October.

Richard H. Hart, MD, DrPH, Loma Linda University Health president, acknowledged participating law enforcement.

"This is definitely one of my favorite events," Hart said, "and all these squad cars and bikes show what a great relationship we have with law enforcement. We depend on them."

San Bernardino County Sheriff John McMahon reciprocated Hart's comments saying the sheriff's department is fortunate to have such a relationship with LLUCH.

"You take care of these kids, and these guys are all here because they want to be here," McMahon said. "It's not a lot, but it's what we can do to give back."

After the motorcade, patients and their families were invited to meet officers and take photos with the bikes, cars, choppers and vans.



PHOTOS BY BRIANA PASTORINO

THE *Chaplain* WILL SEE YOU NOW

GREGARIOUS CHAPLAIN RICKETTS IS THE NEW HEAD OF CHAPLAINS, BRINGING INNOVATION TO SPIRITUAL CARE

BY EDWIN GARCIA



Carl Ricketts Jr., MDiv, and his little sister were raised in a rough neighborhood, exposed to things most people don't experience in a lifetime.

"We saw people abusing people on the street; saw gangs abusing homeless individuals, throwing bottles at them; we've had friends stabbed, murdered; we saw cocaine deals in the local bodegas, we saw crack on the street, crack vials all over the street; heard gunshots at night," Ricketts recalled, then paused to take it all in, "Man, we saw a lot, we heard a lot."

Living in a roach-and-rodent infested co-op in Brooklyn, his mother urged the kids to keep to themselves while walking to and from elementary school; Ricketts forced himself into the refuge of a protective shell.

But everything changed at age 11, when his single-parent mother, Yolanda, had had enough of New York and moved the family of three to Orlando, Florida. Ricketts felt liberated — finally, he was safe to speak to anyone, anywhere, at any time. And he loved it.

His fascination for getting to know others at a meaningful level led him to become an outspoken university student leader, a compassionate chaplain, and now, the director of Chaplain Services for Loma Linda University Medical Center (LLUMC), a department whose dozen employees provide spiritual comfort for thousands of patients and their family members, students, faculty and other employees.

"I believe my upbringing in New York and move to Florida

uniquely shaped me in building a desire to connect with people in a deeper way, even beyond the confines of what I've known to be safe places," Ricketts says. "My goal is that every day we'll be able to see the value in the people we care for."

As a child and teenager, Ricketts hadn't expected to become a chaplain.

He envisioned a career in business, like his father, who separated from his mother when Ricketts was 5, and who worked in marketing for a radio station. Ricketts thought his dad had a cool job, and got to tag along when 1990s artists such as MC Hammer and Boyz II Men came into town for concerts.

Although Ricketts didn't fully realize it, his interest in ministry and leadership first emerged when he started to attend North

Orlando Seventh-day Adventist Church, which had robust youth programming.

Ricketts, a public high school student who was recruited by several colleges for his top-of-the-class academic standing, became active in church activities. Basketball was his thing, playing in a church league six days a week with a group of buddies who became lifelong friends. The youthful church is also where he met his future wife, Candice Davy.

Ricketts spent many hours in the school career center researching universities such as Georgetown and Oakwood. He chose University of Florida, in part to honor his mother, who was chronically ill with sarcoidosis, an inflammatory disease. Her sickness progressed at the time she was finally seeing her boy develop into a man in



PHOTO BY TANWA MUSGRAVE

said, “that was God, man. I don’t even know how that happened.”

Several people saw Ricketts’ spiritual formation as it developed. One was Lyndon Edwards, MBA, MHS, a church elder and local hospital administrator who became a mentor to a group of at least seven students that would later be called into ministry.

“The thing that has been consistently true about Carl from the moment I met him and got to know him a little bit, and continuing now, is his passion for doing what he was doing, no matter what that was,” says Edwards, now a senior vice president at LLUMC and Ricketts’ immediate supervisor. “He always brings a lot of energy — if he’s doing it, he’s doing it full go.”

Despite his seeming inclination toward a ministerial career, Ricketts graduated with a bachelor’s degree in business administration, management, and minored in economics and criminology.

Ricketts was on track for law school when he had a heart-to-heart encounter with God, sensing His calling into ministry. Afterward, he had a phone conversation with his mother. “She told me that she had a dream that I was going into ministry, leading in the service of God.”

Two months after that call, his mother died.

“As I look back on it, I see it like that was her duty in life,” Ricketts says, reminiscing on the conversation. “She had always given me to God, but at that moment it was literal, ‘You are now in God’s hands, I did my job.’”

Ricketts ended up at Andrews University just one month after his mother’s passing. He was

still heartbroken, which led him to suffer academically and emotionally, and struggle with his leadership responsibilities in the Black Student Association and Seminary Student Forum. “It was debilitating,” he recalls. “I’d be in my room, just crying in the fetal position. I would pick up the phone to call my mom, but I couldn’t call my mom.”

Eventually, he healed, thanks to prayer, fellow students and family members who always looked out for him, and his father, who is now remarried and living in Florida.

Near the end of his time in seminary, Ricketts was intrigued by the work of chaplaincy because of the opportunity to “help people to be whole” in whatever tradition works for them.

Ricketts entered the chaplaincy residency program at Florida Hospital in 2004 and worked as a per diem chaplain, staff chaplain, senior chaplain and then director of pastoral care for the Orlando campus. It was a remarkable trajectory, given Ricketts was then barely in his 30s.

Under his leadership, Florida Hospital grew from five chaplains to 12, just at the Orlando campus. Ricketts persuaded administrators to recognize the critical role spiritual care plays not just in life-and-death situations, but as part of a patient’s care team alongside physicians.

He successfully proposed a new chaplaincy model in which chaplains would be assigned to specific disciplines, such as the Emergency Department, Intensive Care Unit and Neuroscience, instead of floating throughout the hospital. He wanted chaplains to know medical terminology for the specialized areas they were assigned to, understand the

complexities of diseases by attending medical conferences and stay with their patients as they moved along their continuum of care.

“We wanted our chaplains to have a small community mindset where they can focus on the good of that area instead of being spread thin,” Ricketts explained.

Ricketts’ work in Florida impressed Gerald Winslow, PhD, LLU professor of religion and director of the Center for Christian Bioethics, when they first met several years ago at a conference.

“I think Carl Ricketts brings superb experience and wisdom to this position as head chaplain,” Winslow says. “He’s got the right combination of administrative skill and pastoral heart, and I think that’s what we need in this position.”

Ricketts, 39, was always curious about living in California, so he was thrilled when an LLUMC search committee identified him as a job candidate.

He moved to Loma Linda with his wife Candice, who is a business analyst at Loma Linda University, and their children, 9-year-old Carl III, 8-year-old Christian and 5-year-old Caitlyn.

One drawback to leaving Orlando last April was having to move away from his next-door neighbor — his sister, Nneka Ricketts-Cameron — a registered dietician who continues to look up to her big brother.

She isn’t surprised by his most recent calling.

“He’s always been focused — as a little boy, as a teenager, in college,” Ricketts-Cameron says. “But he’s a people person, very outgoing, very social and he was able to maintain his focus, and that’s what I think drove him.”

that post-New York life she so fervently prayed for years earlier.

His time at the university, from 1996 to 2000, shaped his spiritual life in profound ways, thanks to his involvement in church. Ricketts joined the choir, got active in prison ministry, participated in feeding the homeless, attended Wednesday night prayer meetings and served in street ministries caring for impoverished communities. He started preaching from sermons written on index cards.

Ricketts insists he never saw himself as a spiritual leader. “To see people nominate me and then vote for me to be a leader of a Christian student organization, then to have leaders nominate me and lay hands on me to preach even before I would ever think of myself as a preacher,” Ricketts



5 QUESTIONS WITH BETH ELWELL

ELWELL RAN A 5K AS A MEMORIAL FOR EVERY U.S. LAW ENFORCEMENT OFFICER WHO WAS KILLED IN THE LINE OF DUTY IN 2016

BY NANCY YUEN

Beth Elwell, MBA, has run multiple marathons, but last year, running was even more significant for her. Elwell, the recently retired executive director of operational excellence at Loma Linda University Health, ran a 5K on the anniversary date of the death of each of the 145 law enforcement officers who were killed in the line of duty in the U.S. in 2016.

Her husband worked in law enforcement, and her regimen highlighted real issues and dangers he and other law enforcement officers face going to work each day, she said.

In preparation for each memorial run, Elwell read the officer's story on the Officer Down Memorial Page and then completed a 5K, wearing a GPS to measure her progress. For the final mile, she turned off her headphones and prayed for the officer's family and department.

At Loma Linda University Health, Elwell led the team that implemented LLEAP (Loma Linda Electronic Access Portal), a system-wide electronic health record that enabled the organization's six hospitals and more than 900 physicians to manage and share information.

Three weeks before LLEAP went live in 2013, she and several members of her team ran a half marathon. "It was cheaper than therapy, and it helped relieve our stress," she said.

In addition to the LLEAP project, Elwell assisted with the opening of the Loma Linda University Surgical Hospital, which admitted its first patient in 2009. She also assisted with the separate licensure of Loma Linda University Children's Hospital, which took effect late 2014.

Before retirement, she oversaw consultants working on Project NOWW (New Outstanding Ways to Work). The project helped Loma Linda University Health achieve operating efficiencies in the organization's health care activities that are needed to build new hospital towers.

During her retirement ceremony in November, executives praised her for achieving process improvement and operational efficiencies throughout the organization.



PHOTO BY TANIA MUSGRAVE

WHAT DO YOU DO WHEN YOU REACH THAT POINT DURING A RUN WHEN THERE'S A HILL OR WHERE YOU'RE HITTING THE WALL?

It varies. Running time is a very spiritual time for me. I like to pray when I run.

Sometimes I pray for others, sometimes I pray about work issues and sometimes I pray for the strength to get through the next mile. Sometimes I'll be out running, mulling over a work issue and a solution that previously eluded me comes to mind. A lot of that just comes through prayer. More than once when I've struggled on a run, I've asked God to get me to the next mile.

WHAT WOULD YOU TELL SOMEONE WHO WANTS TO RUN A 5K BUT DOESN'T KNOW WHERE TO BEGIN?

I think too many people say, "I can't run a mile, so I can't do a 5K." But who says you have to run the whole thing? When I started running, I couldn't even run a half mile. I started on a plan where I ran a minute, walked a minute and worked my way up. There isn't anything wrong with walking.

WHAT ARE THE BEST AND WORST THINGS ABOUT TRAINING?

For me, the best things about training are that you can run anywhere anytime, you can run with others or by yourself, and you don't have to say no to dessert. I try to work out five days a week, and there are times when the battle is just getting the first foot out the door.

The worst parts of training are injuries and the mental games. During long distance runs I've had the mental dialogue, "Should I keep on going or talk myself out of it?" I remember two marathons that were grueling for me, and I don't know why they were so much harder. I'd trained the same as all of my other marathons. I had to decide if I was going to quit or run, walk or crawl to get across the finish line. I've never quit a marathon or any other race.

IN YOUR EXPERIENCE, DOES THE MENTAL TOUGHNESS NEEDED TO TRAIN CORRELATE TO WORK?

Yes, I even used running examples when I talked with the LLEAP team about the significant task that was ahead of us. The analogy I drew for them was to imagine how it feels when you think about running a marathon: you're super excited at the beginning and think, "Wow, this is going to be so much fun!"

At first, it's great and you are proud of what you are accomplishing. Then as the runs get longer it can become difficult, and it takes mental toughness to continue. LLEAP was the same way. We were excited and felt great energy when we were selected to be on the LLEAP team working up to the Go Live event. But then deadlines arrive, and there is more stress. I encouraged the team by reminding them that the project wasn't a sprint, it was a marathon. The Go Live event was crossing the finish line.

WHERE ARE YOU NOW?

My husband and I bought a home in Idaho, and we moved when he retired in December. I'm semi-retired with him, working remotely and coming back on-site periodically for Loma Linda University Health.

I enjoy the outdoors, especially being out on the water. Our new home is right on the river, and I love that I can see the water every day.

Most of my life I've prioritized work as my number one thing. Over the past few years, I have reorganized my priorities, making sure I put God first in my life, and then my spouse and then work. I enjoy a slower pace of life in Idaho, where I can continue to draw closer to my Lord and enjoy more time with family and friends.

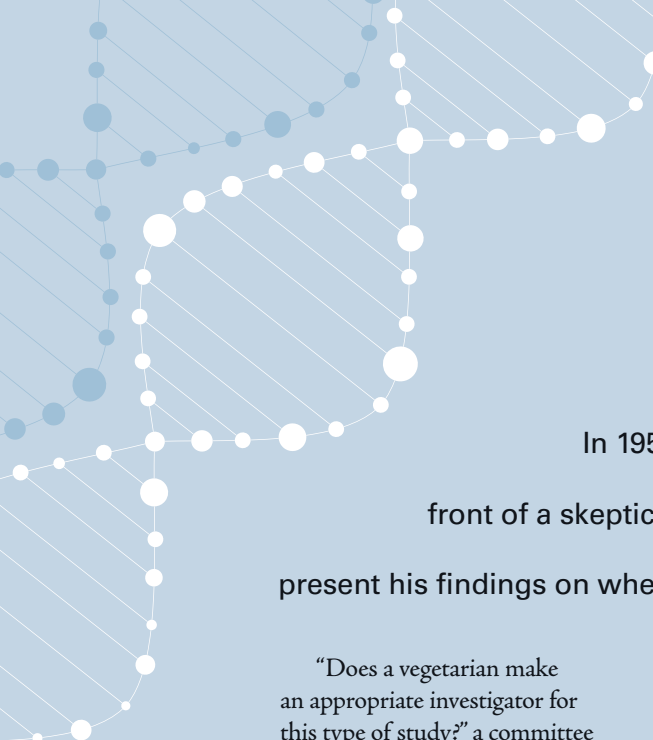


LOMA LINDA'S LONGEVITY LEGACY

Seventh-day Adventist health principles were long considered an oddity, but scientific findings in recent decades have offered validation for an Adventist lifestyle's effect on longevity and chronic disease. Now, nutritional epidemiologist Gary Fraser, who oversees the largest ongoing study of Adventists and vegetarians, is looking to the next phase of research that has helped shaped the understanding of health and longevity worldwide.

BY ANSEL OLIVER





In 1951, the late Mervyn Hardinge, MD, DrPH, PhD, stood in front of a skeptical doctoral defense committee at Harvard University to present his findings on whether a vegetarian diet provided adequate nutrition.

“Does a vegetarian make an appropriate investigator for this type of study?” a committee member asked.

“Would a non-vegetarian be any less prejudiced?” Hardinge retorted.

From the start of his time at Harvard, his professors had been welcoming but skeptical of Hardinge, a lifelong vegetarian embarking on research that would run counter to lobbying efforts of the meat and dairy industries to influence federal dietary guidelines. Professors had required him to work in a hospital kitchen to learn cuts of meat, thinking he should better understand the diets of non-vegetarian research subjects.

Even at Loma Linda University, where Hardinge taught anatomy, some colleagues were leery of his research, thinking it could expose holes in the vegetarian diet espoused by the organization's Seventh-day Adventist founders. A dean had urged him to change his research subject, saying, “If you find the diets of vegetarians are deficient, it will embarrass us.”

Hardinge reportedly replied, “If the diets are deficient, we should be the first to find out, not others.”

As it turned out, Hardinge's dissertation, titled “A Nutritional Study of Vegetarians and Non-Vegetarians,” indeed validated

a vegetarian diet's nutritional sufficiency as recommended by the National Research Council.

Hardinge, a nutritionist who went on to found the Loma Linda University School of Public Health in 1967, and died in 2010 at the age of 96, is credited for cracking open the door for academic study and validation of a plant-based diet long espoused by the Seventh-day Adventist Church.

While a vegetarian diet has become more widely recognized as a key to good health, studies conducted by epidemiologists at Loma Linda University Health have since built on Hardinge's original dietary research to examine disease in populations and a variety of longevity-enhancing behaviors.

In the ensuing decades, results from several studies have enabled the university to help influence public policy, garner support and tens of millions of dollars in research funding from the National Institutes of Health, and put the city on the international stage for being one of a few international regions where citizens live long, healthy lives.

Gone are the days when Adventist nutrition researchers had to stand on their own and endure ridicule. Loma Linda is America's “longevity oasis,” author Dan

Buettner wrote in his 2008 book *Blue Zones*, which told about the health principles of Adventists and their longer, healthier lifespans.

“How to live forever ... Live like a Seventh-day Adventist” touted *Newsweek* magazine in 2011. And in 2012, dozens of top media outlets worldwide — from the BBC to *The Wall Street Journal* to the *Sydney Morning Herald* — reported findings from the latest Adventist health study in a *JAMA Internal Medicine* article stating that vegetarians live longer than meat-eaters.

Yet for all the work, the studies largely point back to the basics of the Adventist Church's health principles, which the denomination has promoted since its founding in 1863.

“Our health studies have been able to offer evidence for why the church's guidance on healthful living works,” says Gary Fraser, MB ChB, PhD, professor of epidemiology at Loma Linda University School of Public Health and director of the ongoing Adventist Health Study.

A native of New Zealand, Fraser became director of the study in 1987 and continues to oversee what is widely recognized as the largest

ongoing research of vegetarians, as well as Adventists and healthful living.

“The results we have found continue to validate what Adventists have believed for more than 150 years,” Fraser says. “This is a big deal because we are members of a church that has historically emphasized physical health as an important component of spiritual health, and we are in a unique position to find answers and promote those to the public.”

MAJOR FINDINGS

Fraser says Loma Linda University’s studies have discovered that Adventists in California live an average of about seven years longer compared to the public for men and about four and a half years longer for women. For Adventists who are vegetarians, men live nine years longer and women live six years longer.

The key finding to longevity? Genetics aside, the more a

person eats a plant-based diet, the more likely they are to live longer and healthier. Other longevity-related findings from Adventist Health Studies include staying active, maintaining a healthy body weight, eating a variety of nuts several times a week and engaging in positive faith activities. Also, no smoking, alcohol or other drugs.

The Adventist Health Studies have confirmed many well-known health factors, but numerous times over the years its researchers discovered links between certain foods and health outcomes that hadn’t previously been identified. For instance, eating nuts can significantly lower the risk of heart disease. Eating cooked tomatoes may help reduce the risk of prostate cancer. Eating more food earlier in the day and less later in the day can help reduce one’s body mass index. And non-vegetarian Adventists have

about a 25-percent higher risk of developing colon cancer than their vegetarian counterparts.

“There have been so many areas of our research that have since been validated by other studies, but we were blazing a trail in many ways,” Fraser says.

Results from Adventist health studies conducted at Loma Linda University Health have appeared in nearly 300 peer-reviewed journal articles — from *New England Journal of Medicine* and *American Journal of Epidemiology* to *Archives of Internal Medicine* and *American Journal of Clinical Nutrition*. Articles have reported on healthy behaviors, statistical approaches and innovative research methods, such as



Mervyn Hardinge, MD, DrPH, PhD



Richard T. Walden, MD, DVM

increasing participation of minorities in widespread health studies. More articles about the Adventist Health Study are on the way, Fraser says.

THE RESEARCH

The first major study of Adventists launched in 1958 and examined some 23,000 people living in California through 1966. It became known as the Adventist Mortality Study, with Frank Lemon, MD, and Richard T. Walden, MD, DVM, chiefly examining mortality as an outcome. The duo started with the primary emphasis of tobacco smoking, and the subjects were used as a control group for an American Cancer Society study that led to the Surgeon General's landmark report on smoking in 1964.

In 1974, Roland Phillips, MD, DrPH, and Jan Kuzma, PhD, were given a grant to start the second Adventist Health Study, which is now known as Adventist Health Study – 1. It studied 34,000 Adventists in California and lasted through 1998.

The Adventist Health Study – 2 (AHS – 2) began in 2002, designed as a rigorous tracking study of some 92,000 participants across the United States and 4,000 Adventists in Canada. The study included 26,000 African-Americans and immigrants from the Caribbean. The chief goal was to examine the relationship between diet and cancer.

At times, the study has employed more than 50 people on staff, including a team working a call center. Researchers include physicians, epidemiologists, nutritionists, health promotion experts and statisticians.

AHS – 2 is still ongoing and has given researchers a swath of data to

offer a comparison among vegetarian Adventists versus their meat-eating counterparts.

Taking into account genetics and psychosocial components, diet continues to be the chief longevity factor, Fraser says, with vegetarians exhibiting an approximately 10 percent lower death rate. This means that at every age after 30, vegetarians experienced only 90 percent of the deaths of non-vegetarians during the study period.

Fraser says that Adventists not only live longer, they also live better. Adventists still die of similar causes as the rest of the population; they just die later.

“The kinds of diseases we’re delaying are those that are also adversely impacting quality of life,” Fraser says. (See a list of findings over the years starting on page 32)

THE NEXT STEPS

Plant-based diets have exploded in popularity in recent years, and Fraser says Adventists and Loma Linda University Health are in a prime position to continue demonstrating in a bigger way than ever before how diet and lifestyle factors contribute to health and longevity.

“In terms of the science world, our study is well-known, highly regarded and has had an impact,” Fraser says. “But even though we’ve provided a lot, there’s still more to come. We need to provide more convincing



Roland Phillips, MD, DrPH

evidence that goes beyond statistical associations and starts to look at mechanisms — the epigenetics, the microbiome and metabolomics.”

Adventist Health
Studies of cancer research have primarily focused on the three high-frequency cancers — breast, colorectal and prostate. Fraser says the next step is to examine medium-frequency cancers,

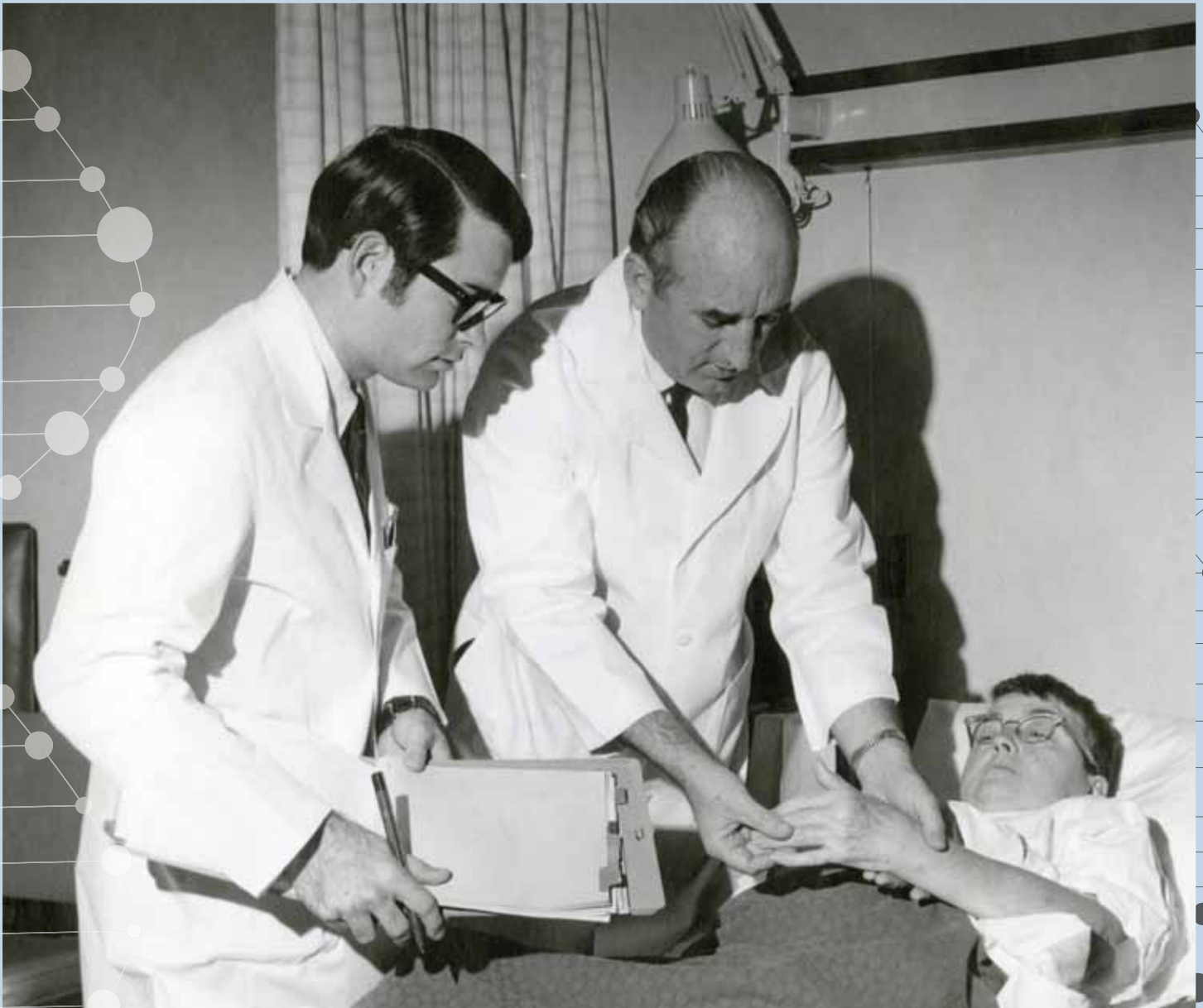
such as lung, melanoma, pancreatic and uterine.

He and the team are exploring the feasibility of a larger biorepository. The current storage facility holds blood and urine samples from 3,000 subjects, and his goal is to be able to hold more than 10,000. The 3,000 have already proven invaluable, Fraser says. Also, AHS – 2 will likely be expanded within a year, including opening enrollment to new subjects, which the team feels will lead to new findings.

“All of us are pleased that we’ve added to the reputation of the University and the Seventh-day Adventist Church with this work over the years,” Fraser says of the team.

“I think we still have a big task ahead of us — to provide even more compelling evidence of cause and effect,” he says.

Richard T. Walden, MD, DVM



OVERCOMING ACES BY **LIFEST**

RESEARCH CONFIRMS THAT ADVERSE CHILDHOOD EXPERIENCES ARE LINKED TO NUMEROUS HEALTH ISSUES AND PREMATURE DEATH. A SCHOOL OF PUBLIC HEALTH RESEARCHER UNCOVERS SOME SOLUTIONS.

BY LARRY BECKER

Rhonda Spencer-Hwang, DrPH, MPH, once dressed up as a “pirate” doctor and danced on a stage at an elementary school fair to attract children and their parents to sign up for a health study. It was 2012, and she was using a \$2-million grant from the First Five Riverside Commission to provide educational services and conduct research among 10,000 children and families in Riverside County, searching for why asthma was so prevalent in that community and how the health issue could be addressed.

But in the course of her research, Spencer-Hwang soon realized Riverside children were dealing with chronic diseases in addition to asthma. She also began to understand the types of stresses these families dealt with daily — poverty, anxiety, homelessness, broken families and many others.

Spencer-Hwang, an associate professor at Loma Linda University School of Public Health and a researcher for the school’s Center for Community Resilience, says there’s a growing body of evidence that links a wide range

of stresses a person experiences in childhood to developing chronic diseases in adulthood, thereby reducing longevity.

She points to Vincent Felitti, MD, who in 1998 published a groundbreaking study that showed a link between what he termed “Adverse Childhood Experiences,” or ACEs, and health issues in adulthood. Felitti’s work showed that, left unabated, frequent activation of a person’s stress response system could become toxic, potentially leading to adverse biological changes. Felitti worked with Kaiser Permanente and partnered with the Centers for Disease Control for his landmark work.

Researchers have defined ACEs as traumatic events such as extreme poverty, household challenges, including divorce or single parent families, a parent’s mental health, abuse, neighborhood or regional violence, alcohol or drug use, or parental incarceration.

“The more of these events you check off in your lifetime, the greater the likelihood you’ll have chronic diseases as an adult,” Spencer-Hwang says. “More than



STYLE

two-thirds of adults have at least one ACE in their lives. And 46 percent of children have endured at least one ACE.”

Spencer-Hwang says ACEs can promote chronic inflammation in a person’s body, and this type of inflammation is a contributing factor to the development of many chronic illnesses, such as cardiovascular disease, mental illness, cancer, diabetes and other conditions, which can ultimately limit one’s lifespan. Additionally, ACEs and their associated stress, make a person even more susceptible to other types of harmful environmental exposures, like air pollution.

A research study of 7- and 8-year-olds who come from abusive families show significantly increased inflammatory markers when compared to non-abused children, she says. She and her team already see in children the adverse biological changes taking place. In the low-income minority population she targets through her First Five program, she saw chronic stress building across the generations. She also saw mitigating the effects of ACEs as one of the top health challenges in the country.

“As a researcher and a mom, I felt there had to be something we could do,” she says.

Spencer-Hwang took advantage of Loma Linda’s Blue Zone® status to look at the issue from a new perspective. The city is home to many centenarians, and she decided to start by studying the other end of their lifecycle to see what might be learned. “Have they developed resiliency to ACEs? And beyond individual resiliency, can there be resilient communities, as well?” she wondered.

She and her volunteers assumed centenarians as a group would have

had easier lives, but they were in for a surprise.

“There actually was a tremendous burden of ACEs in our centenarian population,” Spencer-Hwang says. “They averaged four ACE experiences — one of them had six. Research shows that six ACEs should lower lifespan by 20 years!”

Only two of the centenarians interviewed were born in the United States. The group was genetically diverse and faced different ACEs depending on where they grew up. So how did Loma Linda centenarians overcome the effects of those life experiences?

“What they shared was this type of simple kinetic life,” Spencer-Hwang says. “They spent time in nature, often because their families were farmers. These were active people. They also enjoyed strong social bonds from family and friends. Their diet was rich in fruits and vegetables, with little meat, the type of food readily available on their farms.

“Not all of them were Adventist growing up, but all of them had a religious background,” Spencer-Hwang said. “Eventually, they all came to Seventh-day Adventism at some point in their lives.”

A concept called “inflammaging theory” proposes that whatever steps are taken to reduce systemic inflammation in one’s body will allow a person to live longer and better. Spencer-Hwang says there are two ways to deal with how ACEs contribute to build up of systemic inflammation — reduce the number of ACEs, or mitigate the effect of the ACEs.

“Clearly, we will never be able to completely eliminate things like poverty, violence, broken families or chemical abuse,” Spencer-Hwang says. “But the lives of our centenarians show it may be possible to reduce the ACE accumulated response. This is definitely an exciting area of potential research for our organization.”

“We are unaware of any studies done in a Blue Zone that looks at ACEs, lifespan and mitigating inflammation,” Spencer-Hwang says.

“Loma Linda should be known as a community of resilience.”

The Adventist lifestyle is often presented to the public as a series of individual health practices — diet, exercise, fresh air and sunshine. Spencer-Hwang prefers a more integrated approach.

“No one has time in the day to address all the lifestyle factors individually,” she says. “The Adventist lifestyle brings many factors together synergistically. I don’t know anyone who can be perfect in every health practice. The holistic approach allows you to live life rather than follow a formula.”

Spencer-Hwang presented her preliminary findings during the Healthy People 2017 conference held on campus as part of the Homecoming weekend. What started as a side project with a group of student researchers will soon be published in the *Permanente Journal*. She’s also writing a book for parents, showing how to adopt the secrets of the centenarians into their families’ lives.

“Looking at younger families, you see a decreasing value in the things that centenarians valued,” Spencer-Hwang says. “There is such a crunch for time today. There is no downtime for kids, just a frenetic pace. I believe many of us need to reevaluate some of the choices we’re making and begin to place more value in time together with families.”

Spencer-Hwang suggests families schedule unstructured quality time in nature, and cook some simple meals together at home rather than grabbing takeout.

Spencer-Hwang would like to develop ways to creatively bring this information to the public. Her dream would be to develop a Center for Children in Loma Linda to conduct groundbreaking research and provide services. As for the next step in her research, she hopes to go to other Blue Zone regions in the world to uncover how centenarians in those places have coped with the life stresses they faced as children, which research suggests should have cut their life short.

EPIGENETIC RESEARCH REVEALS CHANGES IN CELLULAR FUNCTIONS

Research in the area of epigenetics is providing Loma Linda University Health investigators with insights into how lifestyle choices affect human health on the genetic level. Building on decades of understanding of how the genes in a person's DNA contain the "code" for human development, researchers are taking advantage of improvements in technology and reduced costs of analysis to better understand how a person's DNA uses its coded information at various stages of life.

In the future, epigeneticists may be able to offer patients highly-tailored health advice based on their DNA.

Each person inherits one set of DNA from their father and one set from their mother. The genes included in that DNA contain the code for everything about that person. And almost all of a person's cells contain the entire genetic library, even though not all of that information is used all the time. Genes can be turned on or off at various stages of life, and the body does this naturally.

"Your body's enzymes put a little methyl group in specific places of your DNA," says Penelope Duerksen-Hughes, PhD, associate dean for basic sciences and translational

research in the School of Medicine. "This process is called DNA Methylation. The methyl group turns off the portion of DNA to which it's attached."

Epigenetics research looks at ways and why this process takes place. "Epi" means above. According to Duerksen-Hughes, this research has determined that not only is what a person inherits from their parents important. Whether the gene is turned on or off at a particular time is vital as well. And life events play a key role in when one's body switches a gene on or off.

EARLY STUDIES

Duerksen-Hughes points to the Dutch Hunger Winter as an example of how life circumstances can impact health on a genetic level. The Nazis had established a blockade in an area of the Netherlands during the winter of 1944-45, causing tremendous food shortages in the region. Despite the hardships, many babies were born there. Years later, those grown babies were compared to babies born at the same time elsewhere.

"Researchers saw differences between the two sets of babies," Duerksen-Hughes says.

When a mother was food-deprived, that sent signals to her fetus that changed the on and off sequences in that child's genes. Children born during the Dutch Hunger Winter had lower birth weights, and then grew up with more metabolic syndrome and heart disease.

Current research at Loma Linda University Health continues the search for how these epigenetic processes regulate an individual's health. Much of this research focuses on the population cohort that has been studied in the Adventist Health Studies.

Epigeneticists at Loma Linda University Health have followed subjects from Adventist Health Study – 1 for 40 years, and they know from an epidemiological perspective that they live longer than the general population. "What we want to know is: what is the 'big black box' that connects, for example, the fact that you eat more walnuts to develop less heart disease?" Duerksen-Hughes says.

DATA NEEDED

By acquiring blood samples, isolating DNA, and determining where methyl groups are located on the DNA, researchers hope to fill in the blanks between epidemiological

A DEEPER LOOK AT
HOW BEHAVIORS
AND NUTRIENTS
INFLUENCE
HEALTH — ON A
MOLECULAR LEVEL

BY LARRY BECKER

observations and how those results occur in a person's body at the molecular level. Loma Linda University Health researchers currently have some 3,000 blood samples from that group, which is a small pool to study.

"We have methylation profiles on 192 samples, and have an additional 100 in process using a different technology," Duerksen-Hughes said. Researchers know that epigenetic patterning changes with age, so those patterns can be used as a surrogate for a person's biological age.

Data developed from the Adventist Health Study (AHS) group shows there is a dietary component that can contribute to changing a person's epigenetic patterns.

"Our preliminary data indicate vegans seem to be aging more slowly," Duerksen-Hughes said. "But everyone in the AHS cohort — omnivores, pescatarians, vegans — may also be aging more slowly than the general population."

BEYOND NUTRIENTS

Duerksen-Hughes is also interested in how psychological and social factors influence genes.

"There is a second molecular clock on your chromosomes, called telomeres," Duerksen-Hughes said. Telomeres are essentially caps at the tips of your chromosomes that protect chromosomes from damage — similar to the plastic tips on the end of shoelaces.

As a person ages, the telomeres get shorter, Duerksen-Hughes says. And, again, participants in the original Adventist Health Study are providing some insights into how telomeres can be affected in ways that don't involve what a person eats. In the first health study, participants answered questions concerning the parenting styles in their childhood homes.

Subjects who reported their mother's approach was warm and welcoming instead

conducting a computer analysis of a single individual's genome.

"The price of a single genome has gone from \$1 billion to \$1,000, and soon it may be as low as \$100," Duerksen-Hughes says. "We never could have afforded this type of research in the past."

Because of the more affordable cost of research, plans are being made to collect and analyze more blood samples from the original Adventist Health Study – 2 cohort. Grant support is being sought that would allow for the collection and sequencing of at least 10,000 additional samples. Already, the purchase of a \$1.1-million gene sequencer was made possible by the generosity of the Ardmore Institute of Health and by Charles A. Sims, MD, a graduate of the School of Medicine's class of 1960.

Once the samples are sequenced, the difficult work of interpreting the data begins. "Computers can do the early stages of analysis," Duerksen-Hughes says. "But ultimately it takes a human being to look at the list and determine which locations might be connected to, for example, neural signaling or inflammation, and then to find ways to further test and validate that connection."

Duerksen-Hughes says Loma Linda University Health researchers want to be able to explain scientifically why the Adventist Health Study results are what they are. "If we can do that, we strengthen our messages and our advice. The epidemiology says this whole package of being a plant-eating person is better, but it doesn't tell you which plants are better, or how much of which plants, or how the various nutrients do what they do."

They also want to tease out the impact of the non-diet part of the Adventist lifestyle on healthy longevity.

"If we can determine what provides individuals a protective advantage, we may be able to look at your genetic profile and make suggestions regarding your diet or lifestyle that will be protective," Duerksen-Hughes says. "Though we're years away from this, if we can get to the point that we can tailor our advice to your specific DNA, you might take that advice more seriously."

Researchers hope to fill in the blanks between epidemiological observations and how those results occur in a person's body at the molecular level.

Part of the research involves identifying the relevant sites out of 450,000 tested that show differences between dietary groups. And once those sites are identified, what kinds of biological pathways are they connected to? According to Duerksen-Hughes, there are challenges to be overcome.

"Because we are looking for relatively modest changes, we could use better tools," she says. "We need to find better ways to be certain that the modest changes we see aren't just due to chance." Duerksen-Hughes said Adventist Health Study principal investigator Gary Fraser, MBChB, PhD, is working to create better research tools for this effort.

of cold and distant had longer telomeres. Also, if their father was never around, they had shorter telomeres.

"What we're talking about is resilience," Duerksen-Hughes says. "Take the situation of someone with bad DNA. They might be destined to be obese, or develop diabetes, but don't. Are there things about the diet, psychosocial environment, or belief in God that result in that particular genetic time bomb not going off? And eventually, can we start to find common things people can do that keep those time bombs from going off?"

One area where technology improvements are aiding this research is the reduced cost of

FACES OF LONGEVITY



Whether its good genes or good living, many Seventh-day Adventists enjoy a long, healthy life of work, play and service. Here are people who have defied the norms for an average human lifespan and are living active, healthy lives in their 80s, 90s ... and beyond.

BY JAMES PONDER

ADRENALINE RUSHES AND LOVE OF THE JOB PROPEL DAVID BAYLINK



SCHOOL OF MEDICINE DISTINGUISHED PROFESSOR COMMUTES ON HIS MOTORCYCLE

Zest for living propels the longevity and enthusiasm of the 86-year-old Loma Linda University Health research physician whose favorite expression is “Let ‘er rip!”

In addition to holding two distinguished professorships and heading the division of regenerative medicine at the School of Medicine, David J. Baylink, MD, studies gene therapy and non-embryonic stem cells, the ones that don’t harm fetuses.

His off-duty behavior, however, sometimes raises eyebrows around town. Motorists stuck in Friday traffic may not know it, but the guy in the blue shirt and red bowtie who rocketed by them on Barton Road, splitting traffic on his Kawasaki Ninja, was Baylink. “I’m addicted to motorcycles,” he says with a grin.

Perhaps to adrenaline as well. Baylink also plays tennis, snow skis and rollerblades. He only slows down to write fiction, but even that contains elements of high-octane acceleration. “I write about the excitement of being a researcher,” he says.

Baylink may be nearing 90, but the lifelong Seventh-day Adventist never worries about longevity, ascribing his own to two characteristics. “I’ve got fairly good genetics,” he says, “and I love my job!”

PHOTO BY JAMES PONDER

DOROTHY ZANE INSISTS AEROBICS IS KEY TO VITALITY

85-YEAR-OLD EXERCISES AT
THE DRAYSON CENTER FOUR
TIMES A WEEK

Ask 85-year-old Loma Linda resident Dorothy Zane the secret of her good health and she will answer, without a moment's hesitation, that it's aerobics classes.

Back in the early 1980s, Zane enrolled in Jazzercise classes taught by a friend. She soon became a regular, shifting focus, a few years later, when the

friend transitioned to teaching aerobics instead.

For the next 30 years, Zane took aerobics several times a week until her friend moved away two years ago. Fortunately, Zane discovered that Loma Linda University Drayson Center offers free memberships to people over 80. She has been attending aerobics classes there an average

of four days a week ever since. The oldest in her class is 93.

Zane says two of her friends keep her motivated to fight the aging process. One of them has been bedridden with diabetes for two or three years, and the other can't walk anymore. Zane, meanwhile, keeps doing aerobics and enjoying radiant health.

She and her husband, Ernie, the semi-retired former chair of ophthalmology at Loma Linda University School of Medicine, follow a mostly vegan diet at home. But she insists food isn't the main ingredient in her recipe for abundant vitality.

"I really think it's the aerobics," she says. "It's got to be."



PHOTO BY JAMIES POUNDER

HEPSIE GURUSAMY LOVES HER TIME WITH GOD

RETIRED ELEMENTARY SCHOOL
TEACHER LEADS A CHOIR, PRAYS
AND ENJOYS THE WORLD OF NATURE



PHOTO BY ANSELOLIVER

Hepsie Gurusamy says her relationship with God is the secret of her happiness and vitality.

The 86-year old retired elementary school teacher, who came to California by way of India, East Asia, Guam and Hawaii, says spirituality keeps her healthy. She awakens every morning early to pray, then reads her Bible for another hour to start her day.

Born in India in 1931, Gurusamy moved with her family to Penang, Malaysia, and later Singapore, where she finished high school and two years of college and married her husband, the late Gilbert Gurusamy. His career as

an auditor for the Seventh-day Adventist Church headquarters took them all over East Asia.

Gurusamy moved to Linda Valley Villa, an independent living facility in Loma Linda, California, in 2005. After two years, she returned to Guam to house-sit for her son, who was opening a medical laboratory in neighboring Saipan. In November 2015, she returned to the Villa. "I thank the Lord I'm here in this place," she says.

Recently, Gurusamy started a ladies' choir at the Villa. "We gave a little concert here," she says. "We are singing to bring a message."

In her room, Gurusamy proudly displays two works of art inspired by and crafted from nature. Every detail, from dark purple waves to the wispiest of clouds, results from the careful placement of duck and goose feathers she gathered from a nearby pond. Another display features a large collection of pine cones, rocks and seashells, including her favorite, a Golden Cowrie.

Gurusamy ends each day as it began. "In the evening, I pray again for another hour," she says. "What a rich blessing it has been for me! Every day is a good day for me."



PHOTO BY ANSEL OLIVER

HEISLER'S SECRET FOR A HEALTHY, PRODUCTIVE LIFE

84-YEAR-OLD SEMI-RETIRED DENTISTRY PROFESSOR REFUSES TO DRIFT INTO RECLUSIVENESS

When his wife died on New Year's Day last year, Bill Heisler, DDS, emeritus professor at Loma Linda University School of Dentistry, had a choice to make. He could either become a recluse or commit to staying active and healthy.

The 84-year-old Heisler chose the latter option. That meant eating right, maintaining his faith in God, staying actively involved in his church and Rotary Club, exercising regularly and keeping his mind sharp.

Heisler starts each day with a devotional, reading and praying for members of his family.

He then makes breakfast — usually a bowl of cooked cereal, some fruit and a piece of toast with peanut butter. After that, he works on crossword puzzles and reads the paper.

"I'm not the poster child for the Blue Zone," Heisler says, admitting he isn't always a vegetarian. "But I only eat eggs a couple of times a week, and I don't eat meat at home."

Love motivates him to tend his late wife's rose garden, trimming, watering and fertilizing the bushes. The activity fits perfectly within his overall exercise program of walking, stretching and gardening.

Two-and-a-half days a week, he teaches at the School of Dentistry. "I love the contact with young brains and young people," he says. "They seem to enjoy hanging out with me, too."

Heisler credits a strong commitment to family as the anchor of his life. He insists health is not about fads. "Staying healthy and living a long time is not one simple thing," he says. "It's a constant lifestyle based on good principles and conservative ideas of health."

ALICE LEON, 92, MAKES GIFTS FOR VULNERABLE BABIES

PERUVIAN NATIVE COOKS SPECIAL MEALS FOR SPECIAL OCCASIONS

PHOTO BY ANSEL OLIVER



Alice Leon has a tangible way of expressing her love to the most vulnerable infants of the Inland Empire.

For nearly six decades, the 92-year-old nimble seamstress from Libertad, Peru, worked with her husband, Patricio, crafting custom clothing in his tailor shop. After Patricio passed away in August 2008, Alice moved to Colton, California, to live with her daughter Geli, a social worker for San Bernardino County, and son-in-law, Carlos Casiano, PhD, a professor at Loma Linda University School of Medicine.

Each morning after breakfast, Alice reads her Bible and prays. Then

she knits blankets for the tiny patients of the neonatal intensive care unit at Loma Linda University Children's Hospital. Over the last three years, she has created an average of three blankets per week.

Alice knits all day until Geli arrives home after work. Then she helps make dinner. On special occasions, she makes Peruvian delicacies such as empanadas, tamales or Aji de Gallina.

As she knits, Alice thinks about the babies' mothers, some of whom are too poor to buy their baby a gift. "It makes me happy to know they can wrap the baby in one of my blankets and take them home," she says.

THE UNEXPECTED LONGEVITY SECRET OF ERNEST E. ROGERS

RETIRED BIBLICAL SCHOLAR CAN STILL TOUCH THE FLOOR AT 101 YEARS OF AGE



PHOTO BY RONALD POLLARD

Ernest E. Rogers, PhD, may be 101 years old, but Huntsville, Alabama's oldest biblical languages scholar refuses to let a little thing like the passage of time slow him down.

Despite joining the ranks of the centenarians last year, Rogers — known simply as E.E. to his friends — exercises regularly, tinkers with his computer, visits friends, attends church and

spoils his great-grandchildren. His daughter, Jeannette Dulan, says her dad also takes calls from people who want his input on questions related to biblical languages and accepts the occasional invitation to speak at church.

Rogers cites an incident with his late first wife, Mildred, as the reason the Gospel of John is his favorite book. Ten years into

their marriage, Mildred became seriously ill and doctors said she had just weeks to live. Undaunted, Rogers quoted the text of John 15:7 to her: "If ye abide in me, and my words abide in you, ye shall ask what ye will, and it shall be done unto you." The couple claimed the words of Jesus in prayer and asked that Mildred might live to see her children grow up. Instead of dying, she

lived another 53 years. "It shows what God can do even in our present age," Rogers says.

For people interested in living a long, healthy life, the former pastor and college professor has some advice. "Proper rest and exercise," he says. "Also, eating healthy foods and keeping a song in your heart. That's been a blessing in my life experience. I don't worry about things."

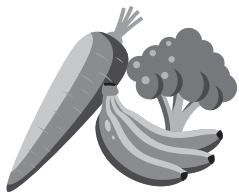
FINDINGS ON

behaviors

RELATED TO

HEALTH

FOOD



FRUITS AND VEGETABLES

Increased fruit and vegetable intake
– Found to be **protective** factors against cancer

SOY PRODUCTS

- Too much soy protein may lead to a failing thyroid in women
- **Lower odds** of osteoporosis in women



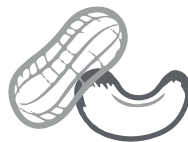
LEGUMES

Consumption of legumes daily – Associated with **reduced risk** of colon cancer, pancreatic cancer and hip fracture

NUTS

Consuming nuts multiple times per week

- **Decreases the risk** of coronary heart disease
- Is inversely associated with obesity



MEAT

Red meat – found to be a **dietary risk factor** for colon cancer

Meat consumption

- Associated with all-cause mortality
- **29% more likely** to develop diabetes (38% more likely to develop diabetes if eating processed meats)



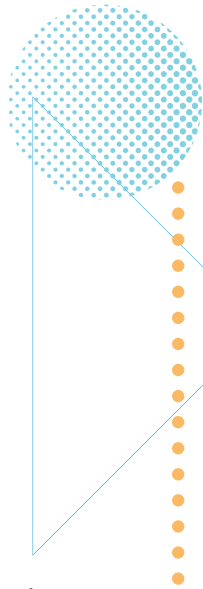
MILK CONSUMPTION

Preliminary evidence of **increased risk** of prostate and breast cancer

Found to be a **protectant** against colorectal cancer

Long-term consumption of meat – Associated with a 74% increase in odds of diabetes

Higher meat intake – Associated with higher prevalence of degenerative arthritis and soft tissue disorders



HEALTH

Source: Loma Linda University Health Department of Research Affairs

For more than six decades, Adventist Health Studies at Loma Linda University Health have contributed to the public's understanding of health, either by confirming existing knowledge or discovering new findings. The discoveries have been the subject of more than 300 articles in academic, peer-reviewed journals. Here is a sample of some of the studies' top findings.

DIET

VEGAN

Protection against obesity, hypertension, type 2 diabetes and cardiovascular mortality



Protection for overall cancer incidence

LACTO-OVO VEGETARIANS

Helpful in the protective health care by **defending against** or **controlling** bone mineral loss in the older years of women



Consume more fiber and saturated fatty acids



Lower blood pressure

Lowest risk of type 2 diabetes when compared with non-vegetarians

Lower risk of colorectal cancer

Group who preferred whole grain bread – **Reduced risk** of ischemic heart disease

Decreased risk of cancers of the gastrointestinal system

Consumption of brown rice **once a week** or more – Associated with **reduced risk by 40%** of colorectal polyps



High tomato consumption – Reduce risk of all ovarian cancers in intakes of more than five times per week

RELIGION

SPIRITUALITY



Religious engagement and healthy diet – Strongest indirect effects associated with lower mortality

Increasing church membership duration – Mortality declined



Religious coping – Bears a direct inverse association with depressive symptoms and also buffers the effects of divorce.



Intrinsic religiosity – Found to be just as strongly related to lowering hypertension as the lifestyle factors



Spiritual meaning – Found to be the link connecting a relationship with God to a relationship with one's spouse and well-being



Religious engagement – Counteracts the damaging effects of early life stress

A relationship with God devoid of meaning – Found to lead to a poorer well-being and a worse relationship with one's spouse



Intrinsic religiosity, positive religious coping, forgiveness and gratitude – Reduces the negative effects of early trauma on mental health

Women who joined the church after age 50 – Increased mortality compared to those who joined the church in childhood

EXPOSURES

AIR POLLUTION



Increased ambient concentrations of ozone exposure in men – **Increased risk of asthma**



Elevated long-term ambient concentration of particulate matter 10 micrometers or less in diameter, and sulfur dioxide in both genders and with trioxigen (ozone) in males – **Associated with increased risks of incident lung cancer**

ACTIONS

PHYSICAL ACTIVITY

Walking, running and jogging – Positive associations with bone composition



Moderate activity – Associated with a protective effect on cardiovascular and all-cause mortality

EXERCISE

Associated with **increase in life expectancy** by approximately **two years**



Decreases the risk of hip fractures among the elderly population

BODY MASS INDEX

Weight gain over a 17-year interval – **Increased the mortality risk** of men and middle-aged women



Overweight men – **Much higher risk** of prostate cancer mortality when compared to men around their desired weight

High BMI in men – 3.7-year shorter life expectancy and up to **100% greater mortality risk**



High BMI in women – 2.1-year shorter life expectancy and **41% greater mortality risk**

Eating greater amount of food earlier in the day and less later in the day – associated with **lower BMI**

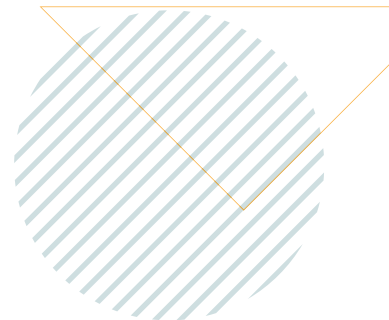


CIGARETTE SMOKING

Associated with **increased bladder cancer risk**

Decrease in life expectancy

Major **independent predictor** of fibromyalgia





CUBA



MADAGASCAR

/ Gallery /

SERVICE TO THE WORLD

Many Loma Linda University students participate in a variety of international mission trips to offer medical care, conduct health fairs and teach healthful living. The university sponsors approximately 40 such trips a year. Here are snapshots from a few recent trips.



NIGERIA





BRAZIL PERU



MEXICO



THAILAND



HELPING FAMILIES GET THROUGH THEIR DARKEST DAYS

*Marlene Hagen answered the call to help an abused baby,
and she's never looked back*

By **JAMES DETAR**

While answering a call to the scene of a domestic dispute, one of the police officers noticed some movement beneath a pile of sheets.

He looked under the bedding and found a baby, alive but with serious injuries. The police later said the boyfriend of the woman at the home had severely beaten the infant girl and left her for dead.

The police called San Bernardino County Children and Family Services (CFS) to help them decide what to do with the baby. The agency assigned Marlene Hagen, a new social services practitioner, to the case. Hagen had just earned a Master's of Social Work degree from nearby Loma Linda University, and this was her first case.

"Because of the severity of the injuries, the agency didn't offer to reunite the mother with her child," Hagen said. Her job then became finding a good home for the baby girl. After a long search, she found a home and the girl was adopted at two years old.

Five years later, Hagen received a picture of the little girl and her brother, whom they had also adopted, from the adoptive parents. It was their way to say thank you. "The parents wanted to share with me that she was doing really well, and thanked me for bringing her into their lives," she said.

That tragic incident was 19 years ago. Hagen is still with San Bernardino County CFS. Because of her diligence and deep concern for children and their families, she has risen through the ranks. In February 2015, the county promoted her to the post of Director of Children and Family Services. The agency employs about 1,000 employees in six regions serving some 2 million people.

In June, Hagen was the speaker at the hooding ceremony for the Master's of Social Work students from Loma Linda University School of Behavioral Health. She spoke to the new graduates about the importance of the profession they were entering and reminded them that they would be working with individuals and families during the most difficult and vulnerable times of their lives.

"I told them it's all about building relationships and collaborating with the families they will work with," she said. "If they trust you and they connect with you, you will be much better at helping them, and the parents will be invested in their success."

Hagen has worked with hundreds of children and families over the years. She says one of the most rewarding programs in her department today is the Parent Partner Program, which she and her staff

have enhanced over the years. Parents who have been involved with CFS and have successfully reunited with their children mentor and share their experiences with others going through a family crisis.

The program received a merit award for innovation and best practices in county government by the California State Association of Counties earlier this year.

"Not only do we hire parents who have successfully reunited as a family, but we also hire former foster youths. That's a tremendous benefit to children and youth trying to cope with the pain and confusion of separating from their family," she said.

Hagen grew up in the town of Hacienda Heights, nearly 50 miles west of Loma Linda, in the San Gabriel Valley. Her mother emigrated to the U.S. from Mexico in her 20s and married her father, who grew up in California.

"I was raised in a bilingual household. There were three girls in our family, and there was always a huge emphasis on education." Hagen did her undergraduate work at Cal State Fullerton, earning a bachelor's degree in psychology with a minor in Spanish.

After she graduated, she married her high school sweetheart, Tony, and they settled into a home in nearby Ontario.



They had two children, Christina and Ian, and moved to a bigger house in Riverside County where she landed a service position at Loma Linda University Behavioral Medicine Center.

There she met a friend and mentor who changed her life. Jim Dyer was the head of the center's social work department and also taught in the social work program at LLU.

"He saw something in me that I didn't see, something in how I interacted with patients. He asked me if I had thought about going back to school to continue my education." Hagen says she had always wanted to go back to school, "but once you get married and have children and a house ... having to pay for my education wasn't in the cards."

Dyer, who has since passed away, told her about the Title IV-E program for students wanting to further their education in social work. She applied to LLU and was accepted

to the social work program in the School of Behavioral Health. "Without Jim's guidance and mentoring, I don't know whether I would have gone back to school. Over the years I have made some really good friends and formed relationships with colleagues from the School of Behavioral Health," she said.

She received her Master's in Social Work in 1998 from the Loma Linda University School of Behavioral Health and began her career as a San Bernardino County social worker. Her main job was to get children reunited with their family or, if that wasn't possible, then to get them placed with a family who was willing to adopt or become legal guardians.

Although her work week is filled with administrative functions, Hagen enjoys meeting with her new staff during the Director's Meet and Greet and sharing her nearly 20 years of experience on the front lines helping families.

Marlene Hagen speaks at the 2017 Adoption Finalization Day for San Bernardino County, which was held at the Ontario Convention Center in November.

"I had a new hire today who shared she was a former foster youth, and she mentioned all the good social workers she had along the way," Hagen said. "I shared with the other new hires that it's these types of testimonials that make it worthwhile. Many of the children and youth we work with are resilient and become contributing and responsible adults like this new social worker. This is what the social work profession is all about: making a difference in the lives of the children and families we come in contact with every day."

THE MISSIONARY ADMINISTRATOR

*Edward Martin prayed for a purpose overseas —
leading to posts in Africa and Haiti*

By **CLIFFORD GOLDSTEIN**

Edward Martin is now working in what he says is the toughest assignment of his life.

Loma Linda University graduate (Master's, Health Care Administration, 2005) Martin is the General Director/Chief Executive Officer at Hopital Adventiste d'Haiti (Haiti Adventist Hospital) in Port-au-Prince. The challenges are staggering in the Caribbean nation that CIA World Factbook says is the poorest in the Western Hemisphere. The average life expectancy is less than 64 years.

"There are very limited resources here," Martin says. "There are challenges with infrastructure, high unemployment — a very tough environment all the way around. Cash flow remains a constant struggle. I can say that this has been the most difficult post I have ever had."

That coming from a man whose previous posts included Malawi, where he was Chief Executive Officer of the Malamulo Hospital in Makwasa, and a stint in Lusaka, Zambia, where he worked as executive director of Adventist Health International — Zambia. Even though those were challenging assignments, this one, in Haiti, he insists, remains the toughest.

But he relishes it.

It's the challenges themselves that make the work so exciting, and the chances for doing good so rich and ever-present.

"The opportunities in Haiti are overwhelming," Martin says. "But that's why I'm here."

Since 2014, Martin has been running the 54-bed facility that offers an emergency department, internal medicine, orthopedics, surgery, pediatrics, OB-GYN, urology, ophthalmology, oncology, neurology, rehabilitation and prosthetics. He has more than 20 fulltime physicians on staff. And, besides the patients in the hospital, its outpatient clinic serves about 40 people per day.

The mission statement is simple: "Building healthier communities through a developed workforce, connecting them to the Ultimate Physician, Jesus Christ."

As the hospital administrator, Martin spends most of his time in meetings — meetings with staff, meetings with department heads, meetings with community leaders, meetings with bank officials. He thrives on his tasks, and is now working on new projects, including one in which the hospital reaches out to factories in the area so they can create a health plan for their employees.

He's also working with Loma Linda University Health and Orlando-based Florida Hospital to develop a new outpatient clinic.

There's also Operation Sunshine, a collaboration between Florida Hospital, My Neighbors Children and Haiti Adventist Hospital to provide free health care for all orphanages in Haiti

that are affiliated with My Neighbors Children. Currently under this arrangement, the hospital is providing care to nearly 500 orphans.

In 2016, the hospital celebrated its 35th anniversary with the inauguration of a state-of-the-art surgical suite and a new private multi-med clinic. The event drew government officials who remember the hospital's establishment in the early 1980s. For Martin, the new complex helped fulfill a life-long dream of doing the work of Christ, of healing and ministering, and doing it overseas as well.

Martin grew up in a town with a high concentration of fellow Adventists — Takoma Park, Maryland. His father worked for years as a security guard at the General Conference of Seventh-day Adventists world headquarters. As a child, his feet barely touching the

floor, he remembers sitting in the Takoma Park Church one Saturday morning watching Mission Spotlight stories about Adventist missionary work around the world.

"I thought to myself even way back then that I want to do this," he recalls. "I wanted to spread the love of Christ overseas as a missionary."

At Oakwood University in Huntsville, Alabama, where he studied biology, Martin became involved with missionary work. What first started out as feeding the homeless under nearby bridges grew bigger and bigger until it morphed into NAPS, National Association for the Prevention of Starvation — work that took him to Sudan, twice.

The missionary call inside him kept on growing.

After graduating from Oakwood, he worked at the university as the lab coordinator for the Department



of Biological Sciences, which enabled him to take free classes. He completed health administration courses that had caught his interest.

Martin's life changed soon after. One day, while reading the

Bible in his office, he prayed: "God, I want to serve you overseas and in health care, but I'm not ready to go to medical school now." Then his office phone rang. It was Donn Gaede, DrPH, from the Loma Linda

University School of Public Health's Health Administration Department. Martin's name, Gaede said, had been sitting on his desk for months, and only at that moment did he feel impressed to call him. And he called to tell him that Loma Linda University was seeking to incorporate health administration with Adventist mission, and that the school wanted him to be a part of this work.

"I said to him, 'You have no idea what you have just done,'" Martin recalls.

Within a few months, Martin left for Loma Linda University, where he earned a master's degree in health care administration from the School of Public Health. Before long he was overseas, fulfilling his

dream of being a missionary and spreading the love of Christ, first with two different posts in Africa, and now, his toughest assignment to date — Haiti.

Yet, whatever the challenges, Martin is moving ahead in faith, believing he is doing God's will in serving people there.

"This was once considered the best hospital in Haiti," he says. "But over time, finances brought it to a crisis, and it lost a lot of its appeal to the community. We are trying to get it back. My great hope for Haiti Adventist Hospital is to see it become a self-sustaining institution that can provide curative and preventive treatment for the people on this island."



PHOTOS COURTESY OF EDWARD MARTIN

MILESTONES, JANUARY

Events:

WILLIAM JOHNSON CENTER FOR UNDERSTANDING WORLD RELIGIONS OPENS

Named for the man who demonstrated strong advocacy of interfaith relations during his distinguished career in the Seventh-day Adventist Church, the Center held its inaugural event January 28. The commemorative ceremony, which focused on the faith of Islam, included a recitation from the Quran, a speech by a prominent Muslim scholar from Claremont School of Theology and a discussion of Seventh-day Adventism and Islam.



GALA RAISES MORE THAN \$1.1 MILLION FOR LLUCH

The 24th annual Children's Hospital Foundation Storybook Gala raised more than \$1.1 million for Loma Linda University Children's Hospital on February 16. More than 1,000 guests to the event helped push the total over the \$1 million mark, supporting the event through sponsorships, ticket purchases, two auctions and a Fund-a-Future pledge drive. The monies will help fund construction of the new Children's Hospital tower as part of the Vision 2020 campaign.

TRANSPLANTATION INSTITUTE OPENS SATELLITE LIVER CLINIC IN LAS VEGAS

To better serve Nevada residents with liver disease, the Loma Linda University Medical Center Transplantation Institute opened a satellite liver clinic in Las Vegas in February. Having the clinic in Las Vegas means southern Nevada patients will have access to comprehensive liver disease management in their own community.



HOMECOMING INAUGURATED

Loma Linda University Health held its first-ever Homecoming celebration March 1 to 6. It marked the first time that alumni from all eight Loma Linda University schools came together at the same time, joining all graduates and current and former staff members and students from across the Loma Linda University Health enterprise.

"LIFE ON THE LINE" REACHES OUT TO 61 PERCENT OF U.S. HOUSEHOLDS ON WORLD CHANNEL

"Life on the Line," Loma Linda University Health's documentary TV series, went nationwide when it launched on the World Channel on March 6, reaching a potential audience of 61 percent of U.S. households. World is a full-service, multicast channel featuring public television's signature nonfiction, documentary, science and news programming. "Life on the Line" is narrated by noted television presenter Lisa Ling.



COMPREHENSIVE STROKE CENTER DESIGNATION

Loma Linda University Medical Center was approved April 18 as a Comprehensive Stroke Center by the Joint Commission, the American Heart Association and the American Stroke Association, making it the first hospital in the Inland Empire to earn this accreditation.

TO JUNE 2017

THE BIG POUR KICKS OFF VISION 2020 CAMPAIGN CONSTRUCTION



Eighty-five concrete-mixing trucks delivered more than 5,400 cubic yards, or 21,870,000 pounds, of wet concrete to the enormous open pit in front of Loma Linda University Medical Center on March 25. Beginning at 10 p.m. Saturday night and concluding more than 10 hours later, the trucks delivered a total of 540 loads. Even so, the event completed only one-third of the foundation for the new Medical Center and Children's Hospital towers. Subsequent pours on April 29 and May 21 completed the project with a grand total of 16,000 cubic yards or 64,800,000 pounds of concrete.



SCHOOL OF MEDICINE GRADUATES 11,000TH PHYSICIAN

When she marched in with her fellow Loma Linda University School of Medicine graduates on May 28, Michelle Wheeler had no idea she was about to be announced as the 11,000th graduate in school history. As a third-generation graduate on both sides of her family, Wheeler's personal and professional history is intricately linked to the school. She is currently pursuing an OB/GYN residency at LLU Medical Center.

RETINA CENTER OPENS AT LOMA LINDA UNIVERSITY EYE INSTITUTE

The LLU Eye Institute unveiled its new Retina Center June 22 in Suite 2900 of the Faculty Medical Offices, located at 11370 Anderson Street in Loma Linda. The new Center, a stand-alone suite, will be able to serve the retina care needs of approximately 100 patients per day while offering specialized neuropathology and oculoplastic services to an additional 25 patients per day.

SAN MANUEL GATEWAY COLLEGE GRADUATES ITS FIRST CLASS



San Manuel Gateway College, graduated 34 students in June. The occasion marked the first time any student has received a

Loma Linda University education in the city limits of San Bernardino. Twelve students received medical assistant certificates and 22 received certificates as community health workers.

LLUMC – MURRIETA OPENS FIVE NEW



EMERGENCY DEPARTMENT TREATMENT ROOMS

Loma Linda University Medical Center – Murrieta opened five new "flex space" emergency department treatment rooms on June 19. The move will allow the hospital to meet the growing demand for emergency services. Before the addition, the hospital served approximately 45,000 patients per year. The new rooms will enable the facility to treat more than 9,000 additional patients per year.

Awards:

“LIFE ON THE LINE” CAPTURES SIX REGIONAL EMMY AWARDS

“Life on the Line,” a documentary TV series highlighting Loma Linda University Health’s stories of transforming lives, won Emmy Awards in six of seven nominated categories at the 47th annual Emmy Awards in San Diego on June 24. The series is produced for Loma Linda University Health’s department of advancement films by Mound City Films.



INLAND EMPIRE ECONOMIC PARTNERSHIP NAMES LOMA LINDA UNIVERSITY EDUCATION PARTNER OF THE YEAR

Loma Linda University was named education partner of the year by the Inland Empire Economic Partnership during the organization’s annual meeting and awards dinner on Jan. 11. The IEEP said Loma Linda University has demonstrated extraordinary leadership in bettering the business climate and quality of life of the Inland Empire and noted that the university stands out among those who make the area a better place to live for the 4.4 million people of the region.

INDEED.COM LISTS LLUH AS ONE OF TOP 25 PLACES TO WORK IN HEALTH CARE IN THE U.S.

Online search-engine employment service Indeed.com listed Loma Linda University Health as number 15 in its top 25 best places to work in health care in the United States. The March announcement means that the organization has moved up 10 places on the list from 2016. It also means Loma Linda University Health outranked approximately 6,000 other American hospitals that did not make the list.

Outpatient Visits
Through June, 2017:
727,273

Students
in Fall 2017:
4,451

LOMA LINDA UNIVERSITY HEALTH FINANCIAL SUMMARY

We earned:	
From clinical activities	\$1,290,554,000
From academic activities	\$259,146,000
Total Net Revenue	\$1,549,700,000
We spent:	
On clinical activities	\$1,261,771,000
On academic activities	\$291,996,000
Total Expenses	(\$1,553,767,000)
Increase in restricted net assets from gifts and investment income	\$56,704,000
Unrealized gain on investments	\$33,133,000
Transfers and other adjustments	\$8,104,000
Increase in net assets	\$93,874,000

Note: Financial statement amounts are for the fiscal year ended June 30, 2017. To better align with the other Loma Linda University Health entities, the Loma Linda University Health Hospitals changed from a 12/31 to a 6/30 year-end, effective 6/30/2017. Thus, the numbers include only six months of activity for the hospitals.

LOMA LINDA UNIVERSITY HEALTH BOARD OF TRUSTEES

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MPH, MBA**

Director, Department of Education
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Shirley Chang, PhD

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Richard Chinnock, MD

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Ricardo Peverini, MD, MS, MS

Senior Vice President for Clinical Faculty
Loma Linda University Health

Juan Prestol-Puesán, PhD, MBA

Treasurer
General Conference of Seventh-day Adventists

Scott Reiner, MHA

President/Chief Executive Officer
Adventist Health

Herbert Ruckle, MD

Chair, Department of Urology
Loma Linda University School of Medicine

Eunmee Shim, MSN

SVP Ambulatory Networks and Chief
Strategy Officer
Adventist HealthCare

Ron Smith, PhD, DMin

President
Southern Union Conference of
Seventh-day Adventists

Max Trevino

Retired administrator

Eric Tsao, MBBS

Physician

Tom Werner, MBA

Retired health care executive

David Williams, PhD

Professor of Public Health
Harvard School of Public Health

Ted N.C. Wilson, PhD,

MPH, MDiv

President
General Conference of Seventh-day Adventists

Roger Woodruff, MD

Chair, Department of Family Medicine
Loma Linda University School of Medicine



LOMA LINDA UNIVERSITY HEALTH CORPORATE OFFICERS

Some of Loma Linda University Health's leaders gather at the new hospital complex currently under construction to sign one of the 126 steel pedestals. The pedestals, each weighing approximately 19,000 pounds, are the cornerstone of the earthquake protection system for the hospital. Sliding bearings will be mounted to the top of the pedestals to isolate the building from the damaging effects of horizontal earthquake shaking. The holes on the faces of each pedestal will allow for the possibility of future vertical shock absorbers to be installed to isolate the building from vertical earthquake shaking, creating the world's first seismically isolated hospital building.

Richard H. Hart

President and Chief
Executive Officer

Kevin J. Lang

Executive VP for Finance
& Administration/Chief
Financial Officer

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Executive VP for Hospital Affairs

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VISION 2020 UPDATE

Loma Linda University Health's construction of a new adult hospital and new Children's Hospital tower entered a new phase in November with the delivery of two massive construction cranes to the building site. The taller crane, fully extended, stands 400 feet tall.

Eighty-four trucks were needed to deliver the cranes' components, and on-site assembly took roughly a week. With the cranes' arrival and placement, work on the new hospital site switches from excavation and seismic safety installation to the start of building the planned 16-story hospital. Once completed, the new adult hospital tower will be the tallest building in San Bernardino County.

The new hospital towers are the most visible aspect of Vision 2020 – The Campaign for a Whole Tomorrow. Vision 2020 is a \$360-million comprehensive philanthropic initiative, the largest in the history of Loma Linda University Health. The effort also represents the largest investment in health care and education in the Inland Empire.

The Vision 2020 campaign supports priorities in:

- Clinical Care, advancing health care in the Inland Empire through a new Loma Linda University Health adult hospital and expanded children's hospital.
- Research and Education, providing funding for new and enhanced research labs where Loma Linda University Health scientists will continue their research discoveries, as well as increasing scholarship endowments, faculty development and new educational approaches.
- Wholeness, expanding Loma Linda University Health's historic emphasis on living a healthy lifestyle and sharing that knowledge locally and internationally.

For more information and to see a live webcam view of the construction progress, visit lluhs2020.org.

\$277.1 MILLION TOTAL RAISED IN VISION 2020 THROUGH END OF 2017.



Rachelle Bussell, MA
Senior Vice President for Advancement

“Loma Linda University Health continues to be blessed with an outpouring of support for Vision 2020 as we work to strengthen the health of our region and world.

Thank you for your prayers, encouragement and gifts as we achieve this vision that will transform lives.”

VISION 2020 CAMPAIGN STEERING COMMITTEE

Leonard L. Bailey
Nancy Bailey
Bob Ching
Phyllis Ching
Jere E. Chrispens
Marian Chrispens
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Pam Feldkamp
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PHOTO BY ANSEL OLIVER

SAVED MY LIFE

Renowned pediatric cardiac surgeon Leonard Bailey, MD, received a surprise when a former patient made a special trip recently to Loma Linda University Children's Hospital.

Ryan Denos, originally from Yucaipa, California, was born in 1981 with a rare heart condition called total anomalous pulmonary venous connection. Bailey and his team worked to save Denos' life 26 hours after his birth.

During the visit, Bailey was introduced to Denos' wife and 3-year-old son. Denos' mother showed the doctor pictures and shared stories on the life-saving care Bailey and his team provided.

After the visit, Bailey, who in 1984 became the focus of international media coverage as the lead surgeon for "Baby Fae," said it's always an "exciting experience" to see former patients.

"It's so reassuring. When we operate on these babies, the hope is that they will live longer than us. It's nice to know that's playing out," Bailey said. "Often when we start a case we thank the Almighty that He has put us in this position to help and that the outcomes will be according to His will."

Bailey and his team have operated on thousands of infants over the years, and he says approximately three or four former patients come for a visit each year as adults. Many more send letters and cards of thanks, often in the form of updates, such as graduations and wedding announcements.

Bailey, now 75 years old, works in the operating room up to four days a week.

Dr. Richard and Patti Catalano
Strategy: Gift of Real Estate



Powerful Strategies

FOR PEOPLE WHO CARE

Dr. Richard and Patti Catalano have been connected to Loma Linda University Health for most of their lives. Both graduates of Loma Linda University, Richard is a trauma surgeon at Loma Linda University Medical Center and Patti is an operating room nurse who works with the heart team. It was never a question if the Catalano's would leave a legacy at Loma Linda University Health, but more a question of how they would choose to leave one.

To support Loma Linda University Health's Vision 2020 Campaign, the Catalanos gave a gift of real estate — a unique way to make a powerful impact.

Let us help you discover your Powerful Strategy.

Office of Planned Giving

11175 Mountain View Avenue, Suite B, Loma Linda, CA 92354

909-558-4553 | legacy@llu.edu | lulegacy.org

To read more about the Catalano's story, visit lulegacy.org/ps.



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We **LIVE** to Encourage Healthy Living



Making healthy changes can seem overwhelming. We understand that it is easier when you have encouragement in those small changes. Taking a walk everyday or making a fruit smoothie are small changes that can lead to a healthier tomorrow. Loma Linda University Health has been exploring ways to live longer, healthier lives for over 100 years.

Let's make healthy choices together and motivate one another. For healthy choices for you, your family and the community, this is why we **LIVE to Encourage.**

Sign-up for our *Healthy Tomorrow* newsletter to learn more about healthy changes at lluh.org/subscribe.

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