

Nikias delivers 2013 address to the faculty

'USC's medical sciences research, health care delivery and policy efforts are assuming a central role in the life of our community.'

—USC President C.L. Max Nikias

By Ina Fried

This is the century of biology and medicine, and USC is reaping the results of aggressive investment in those fields, said USC President C. L. Max Nikias during his annual address to Health Sciences campus faculty. He spoke on Feb. 13 at Aresty Auditorium.

"USC's medical enterprise represents a significant 42 percent of our overall annual budget of \$3.4 billion," Nikias said. "USC's medical sciences research, health care delivery and policy efforts are assuming a central role in the life of our community."

Nikias gave a comprehensive update on the university's progress and thanked faculty members for their dedication and commitment to excellence.

In the medical arena, he pointed to improving numbers and other accomplishments:

- Over the past year, hospital admissions have increased 8 percent and surgeries 26 percent.
- The inpatient acuity



Amy Hamaker

USC President C. L. Max Nikias (right) converses with Peter Conti, director of the PET Imaging Science Center, at the Feb. 13 address to the Health Sciences campus faculty.

rate at Keck Hospital is the highest rate west of the Mississippi.

- Revenue at Keck Hospital of USC and USC Norris Cancer Hospital has surged from \$390 million to \$620 million over the past three years.
- USC-affiliated Children's Hospital Los Angeles ranks among the top five children's hospitals in the

nation.

- The footprint of the USC health system has expanded throughout Southern California with satellite locations and expanded affiliation with Hoag Hospital in Newport Beach.
- The process of merging a new hospital into the health system is under way, with the impending

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Farnham named to key graduate affairs post at Keck School

Peggy Farnham has been named associate dean for graduate affairs (doctoral programs) at the Keck School of Medicine of USC.

Farnham succeeds Debbie Johnson, professor of biochemistry and molecular biology, who has resigned to pursue new opportunities after serving as associate dean since 2003.

A respected educator and international leader in the field of genomics, Farnham holds the W. M. Keck Chair in Biochemistry in the Department of Biochemistry and Molecular Biology and USC Norris Comprehensive Cancer Center. As associate dean, she will provide oversight and management of all Ph.D. programs and the PIBBS access program, Office of Graduate Affairs, and graduate-level courses and curricula at the Keck School of Medicine.

Farnham said she was eager to begin her work, adding, "I am excited about the possibility of developing new Ph.D. programs that are closely aligned with the research strengths of our

outstanding faculty here at Keck."

In a memo to faculty and staff, Keck School Dean Carmen A. Puliafito said that Farnham "has a recognized, long-standing passion for and experience with mentoring students and faculty."

Farnham joined the Keck School in 2011 from the University of California, Davis, where she was professor of pharmacology, associate director of genomics at the UC Davis Genome Center,

and a member of the UC Davis Graduate Council, which oversaw all graduate programs at the university.

At the University of Wisconsin-Madison, where she was professor at the McArdle Laboratory for Cancer Research and chair of the Graduate Program in Cellular and Molecular Biology, she twice received "Outstanding Mentor" awards from the School of Medicine and Public Health. Farnham has trained 16 postdoctoral

fellows, 27 Ph.D. students, six M.S. students and 32 undergraduates. Her trainees have received more than 50 awards or fellowships while under her direction.

Farnham received her bachelor's degree in biochemistry from Rice University and doctorate in molecular biophysics and biochemistry from Yale University. She performed her postdoctoral training at Stanford University. She is an author or co-author of more than 130 peer-reviewed publications, of which more than 60 have been cited more than 60 times. In 2012, she won the prestigious Herbert A. Sober Lectureship from the American Society for Biochemistry and Molecular Biology.

Farnham's priorities as the new associate dean will include restructuring and reorganizing the Ph.D. graduate programs, with the goals of attracting the best and brightest students to work with faculty in graduate programs aligned with the school's current and developing research strengths.



Van Urtalian

As associate dean, Peggy Farnham will provide oversight and management of all Ph.D. programs and the PIBBS access program, Office of Graduate Affairs, and graduate-level courses and curricula at the Keck School of Medicine.

USC scientist's retinal implant wins FDA approval

By Robert Perkins

The U.S. Food and Drug Administration (FDA) has approved the Argus II retinal prosthesis system for use in the United States.

Mark Humayun, who holds joint appointments at the Keck School of Medicine of USC and the USC Viterbi School of Engineering, was a key member of the team that developed the device, which will be available to qualified patients at the Keck Medical Center of USC.

The Argus II, which received a unanimous recommendation for approval by the FDA's Ophthalmic Devices Advisory Panel in September, restores some visual capabilities for patients whose blindness is caused by Retinitis Pigmentosa (RP), an inherited retinal degenerative disease that affects about 100,000 people nationwide.

"It is incredibly exciting to have FDA approval to begin implanting the Argus II and provide some restoration of vision to patients blinded from RP," said Humayun, Cornelius Pings Professor of Biomedical Sciences and professor of ophthalmology, biomedical engineering, cell and neurobiology at USC. "In the patients that have been implanted to date, the improvement in the quality of life has been invaluable.

"The fact that many patients can use the Argus implant in their activities of daily living, such as recognizing large letters, locating the position of objects and more, has been beyond our wildest dreams," Humayun added, "yet the promise to the patients is real, and we expect it only to improve over time."

USC researchers elucidate human organ development

By Leslie Ridgeway

Using cutting-edge time-lapse photography, researchers at the Keck School of Medicine of USC have discovered clues to the development of the head at the cellular level, which could point scientists to a better understanding of how organs and birth defects form in humans.

A team of researchers at the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC has, for the first time, determined the role of two important molecular signaling pathways that help control the number and position of repeated units of cells that pattern the head and face.

Two members of a “Wnt” signaling pathway are instrumental in forming pharyngeal pouches that organize the structure of the head and face. Problems with forming the pouches can result in birth defects, including the rare DiGeorge syndrome, which causes an array of symptoms including an abnormal facial

appearance, cleft palate, congenital heart disease, and loss of the thyroid and thymus.

The research, “Wnt-Dependent Epithelial Transitions Drive Pharyngeal Pouch Formation,” was published Feb. 11 in *Developmental Cell*. Principal author is Chong Pyo Choe, research associate at the Keck School of Medicine.

The research, conducted over a five-year period, was accomplished by photographing live zebrafish embryos every 10 minutes for 36-hour periods with a sophisticated microscope, enabling the researchers to see the pouches forming in real time, said Gage Crump, assistant professor in cell and neurobiology, and corresponding author on the research.

“Zebrafish and humans are similar at the genetic level and the organ level,” Crump said. “They have almost all the same organs that we do, which makes the fish a very relevant system for understanding human



Gage Crump, assistant professor in cell and neurobiology, displays zebra fish whose study may point to a better understanding of how organs and birth defects form in humans.

health and disease.”

The pharyngeal pouches develop the gills in fish, and in human fetuses they also form gill-like structures, which later organize the head skeleton and organs such as the thymus and thyroid. Birth defects like DiGeorge syndrome can be traced back to malformations in the development of the pharyngeal pouches, Crump said.

Choe developed more than 100 different transgenic lines, transferring key genes to live zebrafish embryos where they could be studied

hope to be able to bioengineer these cells to make a particularly shaped organ,” Crump said. “What we’re learning in zebrafish by studying these pouches will be generally applicable, and we can pursue these basic principles to come up with new types of technology involving cellular therapy.”

The team is now studying other signaling pathways and their possible contributions to organ development and defects.

Funding for the research was provided by the California Institute for Regenerative Medicine (CIRM).

Also contributing to the research were Andres Collazo of the House Research Institute, Le A. Trinh of the Molecular and Computational Biology department at USC and Biological Imaging Center at the California Institute of Technology, and Luyuan Pan and Cecilia B. Moens of the Fred Hutchinson Cancer Research Center.

View a video of this research online at <http://tinyurl.com/aptraj3>.

USC scientists turn off the ability to feel cold

By Robert Perkins

USC neuroscientists have isolated chills at a cellular level, identifying the sensory network in the skin that relays the sensation of cold.

David McKemy, associate professor of neurobiology at the USC Dornsife College of Letters, Arts and Sciences, and his team managed to selectively shut off the ability to sense cold in mice while still leaving them able to sense heat and touch.

In prior work, McKemy discovered a link between the experience of cold and a protein known as TRPM8 (pronounced trip-em-ate), which is a sensor of cold temperatures in neurons in the skin, as well as a receptor for menthol, the cooling component of mint.

Now, in a paper that appears in *The Journal of Neuroscience* on Feb. 13, McKemy and his

co-investigators have isolated and ablated the neurons that express TRPM8, giving them the ability to test the function of these cells specifically.

Using mouse-tracking software program developed by one of McKemy’s students, the researchers tested control mice and mice without TRPM8 neurons on a multi-temperature surface.

The researchers found that mice depleted of TRPM8 neurons could not feel cold but still responded to heat. Control mice tended to stick to an area around 30 degrees Celsius (86 degrees Fahrenheit) and avoided both colder and hotter areas. But mice without TRPM8 neurons avoided only hotter plates and not cold—even when the cold should have been painful or was potentially dangerous.

The Weekly In Memoriam

Ricardo G. Hahn, who served as chair of the Department of Family Medicine from 1995 to 2006, died Feb. 2 in the ICU at the Keck Medical Center of USC surrounded by his family and closest friends. He was 68.

Hahn remained with the department as professor after stepping down as chair and maintained a full and active clinical practice that included obstetrics. He also served as the Medical Advisor for the Alfred Mann Institute (AMI) at USC.

The family is planning a memorial service at his ranch in Ojai, and the department will hold a service to celebrate his life in the upcoming weeks on the Health Sciences campus.

In lieu of flowers, donations may be made to Keck School of Medicine of USC, Department of Family Medicine, in memory of Ricardo G. Hahn, M.D., c/o Chiemi Lee, 1975 Zonal Avenue, KAM 300, Los Angeles, CA 90089.



James “Jim” Simon, Advanced Endodontics program director and the Wayne G. and Margaret L. Bemis Professor of Endodontics at the Ostrow School of Dentistry of USC, died on Feb. 3. He was 78.

A Boston native, Simon attended Phillips Exeter Academy in New Hampshire. After receiving his bachelor’s in biology from Bowdoin College in Brunswick, Maine, he earned his D.D.S. degree at Temple University School of Dentistry in Philadelphia.

In July 2001, Simon was recruited to USC and began serving as professor of clinical dentistry and director of the Advanced Endodontics program. During that time, he mentored and trained more than 110 advanced endodontic residents.

Simon published extensively in dental and endodontic literature, and in 2005 he received the Louis I. Grossman Award from the American Association of Endodontists. The award is given to an author for cumulative publication of significant research studies that have made an extraordinary contribution to the field.

He is survived by his wife of 53 years, Helen; three children; and five grandchildren.



The Weekly

Next Issue: March 1

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USC recruits renowned neurosurgeons to multidisciplinary spine care center

By Alison Trinidad

USC has recruited two esteemed spine surgeons who will play critical roles in expanding a multi-disciplinary, academic-based spine center at the Keck Medical Center of USC.

John C. Liu and Frank Acosta, previously practicing at Cedars-Sinai Medical Center, joined other neurosurgical and orthopaedic spine experts at USC and began seeing patients on Feb. 1.

Liu, a recognized leader and pioneer in minimally invasive surgical techniques for the spine, has been named professor of neuro-

surgery and director of the spine division at the Keck School of Medicine of USC. Acosta, a fellowship-trained neurosurgeon in complex spine deformity, has been named associate professor of neurosurgery at the Keck School. Both are experts in the clinical care of complicated spinal disorders and join USC from the Cedars-Sinai Spine Center.

“At the Keck Medical Center of USC, we are committed to ensuring that our patients have access to the best doctors,” said Tom Jackiewicz, senior vice president and CEO for USC Health. “Both Dr. Liu and

Dr. Acosta are tremendous additions to the medical center’s comprehensive spine program.”

Liu, a board-certified neurosurgeon, had been vice chairman of spine services and co-medical director of the spine center at Cedars-Sinai since January 2011. Prior to Cedars, Liu was director of spinal surgery at Northwestern University in Chicago. One of the country’s preeminent specialists in intricate and minimally invasive spine surgery, Liu is leading research to study innovative technologies and techniques for the treatment of conditions such as spinal

deformities, scoliosis and spinal cord injuries.

“The opportunity to join a team of doctors as distinguished as those at USC and help them build a premier academic spine center was difficult to turn down,” said Liu. “I am honored to have this opportunity.”

Acosta, who has published more than 70 peer-reviewed articles, led a clinical practice at Cedars-Sinai that focused on complex spinal reconstruction and spinal deformities. His research, which concentrates on the diagnosis and treatment of spinal disorders, has been funded by National Institutes of Health, Harvard Medical School and Howard Hughes Medical Institute grants and fellowships.

“I am very much looking forward to joining the USC family,” Acosta said. “I think the team approach that we will take in both the clinical and basic research settings will not only make USC’s spine program one of the best in the nation, but will ultimately improve the lives of patients suffering from spinal problems who seek treatment at USC.”

The Keck Medical Center of USC hosts physicians and surgeons with expertise in a range of neurological diseases and disorders, including minimally invasive surgical techniques, diagnostic tests and medicine.

Spinal diseases that change the structure of the spine or damage the vertebrae often cause pain and can limit movement. Treatment varies by disease, but USC has assembled a cadre of specialists to provide complete care for the patient with spinal problems.

“Collaborating with the doctors in USC’s Depart-

ment of Orthopaedic Surgery, we are building the leading spinal surgery program on the West Coast,” said Steven Giannotta, chair of the Department of Neurological Surgery. “Dr. Liu and Dr. Acosta, along with Dr. Patrick Hsieh and Dr. Thomas Chen, are integral in setting that initiative into motion.”

A lieutenant colonel of the United States Army Reserves, Liu has earned several honors including the Global War on Terrorism Service Medal, the Brooke Army Medical Center Commanding General Award for Excellence and the Army Achievement Medal for Meritorious Service. He earned his medical degree from the University of California, Los Angeles, and completed a surgical internship, a residency in neurological surgery and a fellowship in complex spine surgery and minimally invasive surgery at the Northwestern University Feinberg School of Medicine.

Acosta earned his bachelor’s degree in chemistry magna cum laude from Harvard College and his medical degree from Harvard Medical School. He completed an internship and neurosurgical residency at the University of California, San Francisco, and a fellowship in complex and reconstructive spine surgery at Northwestern University.

The spinal surgery program at the Keck Medical Center of USC is led by Patrick Hsieh, associate professor of neurological surgery; Thomas Chen, professor of neurological surgery and pathology; and Mark J. Spoonamore, assistant professor of clinical orthopaedic surgery.

NIKIAS: President lauds USC’s ‘audacious actions’

Continued from page 1

acquisition of Verdugo Hills Hospital in La Cañada-Glendale.

Nikias also discussed USC’s achievements as a research university. In spite of nationally escalating competition for limited resources, USC reached \$454 million in federal research expenditures last year, an 11 percent increase over the previous year. And the Health Sciences campus is well represented, as he said, “The five pillars of our federally funded research enterprise are the Dornsife College, the Viterbi School, the Keck School, the Ostrow School and the School of Pharmacy.”

He outlined impacts on the campus of the university’s major commitment to “first-rate facilities” for “a first-rate faculty and a first-rate student body.”

“Our USC Health Sciences campus receives one million visits a year from patients. We intend to

double that number,” Nikias said. “As such, the physical campus continues to undergo an overhaul worthy of what we expect to be the premier academic medical center of the Pacific Rim.”

Planning and design are moving forward for:

- the Norris Healthcare Consultation Center
- Healthcare Consultation Center IV
- a 450-student housing complex for medical students and residents
- a first-rate, 200-suite hotel.

In addition, he said, the university recently purchased a second structure at Soto Street that will provide space for several divisions of the Keck Medical Center.

To bring the university’s ambitious goals to fruition, Nikias reminded the audience that USC has undertaken a \$6 billion fundraising campaign.

USC has already raised \$2.4 billion, which will be used for endowment, transformative faculty hiring,

student scholarships, and infrastructure to support our mission.

More than half the money raised so far has come from 16 gifts of \$25 million or more, he reported. “What is even more remarkable is that the rest of the money has come from 180,000 women and men around the world, individuals who believe in USC and its mission. ... This university and our Trojan Family have been noticed, because of the successes we have enjoyed in just a brief period of time—and especially within this economic environment.”

Saying, “Destiny always bends in the direction of those who take risks,” Nikias noted that USC’s achievements signify the academic community’s risk-taking and “audacious actions.”

“This is our moment,” he said. “Let us recommit to working together. And let us go forward with passion, with confidence and determination.”

The Weekly NEWSMAKERS

A Feb. 11 report in *Science Daily* featured research by **Chong Pyo Choe**, research associate at the Keck School of Medicine, and **Gage Crump**, assistant professor in cell and neurobiology at the Keck School, that determines the role of two important molecular signaling pathways that help control the number and position of repeated units of cells that pattern the head and face. The research also was featured in Science Newline and Science Codex.

A Feb. 10 article in *The Manila Bulletin* (Philippines) quoted **Heather Volk**, assistant professor of preventive medicine at the Keck School of Medicine, about her research findings that link in-utero exposure to traffic-related air pollution to autism. “We’re

not saying traffic pollution causes autism, but it may be a risk factor for it,” Volk said.

A Feb. 8 broadcast on KPCC-FM highlighted research by **Nicole Bender, Penina Segall-Gutierrez, Sandy Najera, Frank Stanczyk, Martin Montoro** and **Daniel Mishell** of the Keck School of Medicine about Type 2 diabetes. Their study found that healthy, obese, reproductive-age women using long-term reversible contraception may have a slightly higher risk of developing the illness. The study was also covered by QMI Agency (Canada), *ScienceDaily*, *Asian News International*, *The Freepress Journal*, *Medical Xpress*, Health Canal, and News-Medical.net.

A Feb. 7 story by The Associated Press featured research by **Amytis Towfighi**, assistant professor of neurology at the Keck School of Medicine, finding that one in 12 stroke survivors thought about suicide, more often than those who have suffered other health problems like heart attacks or cancer. “When patients have their depression treated they’re more motivated to take their medication, do therapy and live a full life,” Towfighi said. Her research also was featured by *The Inquisitr*, *GlobalPost*, *RedOrbit*, *Science Codex*, *Medical Xpress*, CBS News and HealthDay News.

A Feb. 7 article by the *Los Angeles Daily News* reported that Verdugo Hills Hospital and the Keck Medical Center

of USC have begun merger discussions.

A Feb. 5 broadcast on MundoFox Los Angeles affiliate KWHY-TV featured the USC School of Pharmacy and the STAR Program, which gives local high school students hands-on experience in the field. **Cesar Armendariz**, director of USC Health Sciences Campus Community Outreach, said that the USC School of Pharmacy is seeking young Latino and minority students to come learn, because the need is very great. **Tatiana Melguizo** of the USC Rossier School said her research shows that minorities with degrees in science, technology, engineering and math fields earn significantly more than their peers. She added that many students aren’t aware of the potential salaries involved.

Calendar of Events

Monday, Feb. 18

Noon – 2 p.m. Center for Technology Innovation in Pediatrics Industry Roundtable. “Commercializing Pediatric Medical Devices: Turning Challenges into Opportunities,” various speakers. CHLA Stauffer A Conference Room, Anderson Pavilion. Info: (323) 442-7874

Tuesday, Feb. 19

10:30 a.m. Keck Hospital of USC Guild Speaker Series. “Brain Wellness—Saving our Brains from Arteriosclerosis,” Helena Chui, USC. DEI 3rd Floor Auditorium. Lunch immediately following. \$25. Info: (323) 254-0600

Noon. Cancer Center Grand Rounds. “Proteome Informed Molecular Cancer Medicine,” Eric Haura, Moffitt Cancer Center. NRT Aresty Auditorium. Info: (323) 865-0801

Noon. Broad Center for Regenerative Medicine and Stem Cell Research Seminar. “Characterizing Circulating Tumor Cells: Insights into Cancer Metastasis,” Min Yu, Harvard. BCC Seminar Room. Info: (323) 442-8080

5 p.m. Clinical Research Ethics Forum. “Can You Draw the Line Between ‘Innovative Treatment’ and Human Subjects Research?” Alexander Capron and Donna Spruijt-Metz, USC. NRT Aresty Auditorium. Info: (323) 442-8281

Thursday, Feb. 21

Noon. Cellular Homeostasis Lecture. “Role of Nuclear Receptor HNF4 in Cancer,” Frances Sladek, UC Riverside. MCH 156. Info: (323) 442-3121

Noon. USC Global Health Lecture Series. “Entrepreneurial Approaches to Global Health Challenges,” Jacqueline Novogratz, Acumen Fund. UPC: TCC 450. Info: (323) 865-0419

3:30 p.m. Diabetes & Obesity Research Institute Seminar. “Stem Cell Differentiation into Lean and Fat Cells: Implications for Prevention of Child Obesity,” Bernard Gutin, Medical College of Georgia. CSC 250. Info: (323) 442-2640

5:30 p.m. – 7 p.m. Orthopaedic Surgery Grand Rounds. “Influences: What Does It Take to Change Our Minds?” James Kellam, Carolinas Medical Center. NRT Aresty Auditorium. Reception: 5:30 p.m. – 6 p.m. Lecture begins promptly at 6 p.m. Info: (323) 226-7204

Friday, Feb. 22

8:30 a.m. Surgical Grand Rounds. “How to Inform and Engage Patients in Their Healthcare Decisions,” Dale Vidal, Dartmouth Hitchcock Medical Center. DOH 100. Info: (323) 442-9064

Noon. Center for Applied Molecular Medicine. “Can Cancer Be Reversed by Engineering the Tumor Microenvironment?” Donald Ingber, Harvard. CSC 250. Info: (323) 442-3849

1:30 p.m. KSOM Research Seminar. “The mTOR Pathways in Nutrient Sensing, Autophagy, Cell Growth, and Cancer,” KunLiang Guan, UC San Diego. NRT Aresty Auditorium. Info: (323) 442-7732

Saturday, Feb. 23

1 p.m. – 8:30 p.m. “Shadows: For the Sake of the Children,” Various speakers. IGM Art Gallery. RSVP: (626) 588-2945

Monday, Feb. 25

11:30 a.m. KSOM Research Seminar. “Using Genomics to Search for New Viral Causes and Treatments for Cancer,” Patrick Moore, University of Pittsburgh. NRT Aresty Auditorium. Info: (323) 442-7732

Tuesday, Feb. 26

Noon. Broad Center for Regenerative Medicine and Stem Cell Research Seminar. “Novel Insights into the Origin and Identity of Mammary Gland Stem Cells: Lineage Tracing Reveals a Dynamic Role for Wnt/beta-catenin Signaling,” Renee van Amerongen, Netherlands Cancer Institute. BCC Seminar Room. Info: (323) 442-8080

Notice: Deadline for calendar submission is 4 p.m. Monday to be considered for that week’s issue—although three weeks’ advance notice of events is recommended. Please note that timely submission does not guarantee an item will be printed. Send calendar items to *The Weekly*, KAM 400 or fax to (323) 442-2832, or email to eblaauw@usc.edu. Entries must include day, date, time, title of talk, first and last name of speaker, affiliation of speaker, location and a phone number for information.



Melding medicine and engineering to improve patient care—The Health, Technology and Education at USC (HTE@USC) interdisciplinary program brings together medical students and engineering students to solve health care problems using a patient-centered focus. A series of videos is now available to explain the program, what the students hope to accomplish, the challenges students face in learning to work with patients and each other, and the process of choosing a project to develop. The program is a joint collaboration between the Keck School of Medicine and USC Viterbi School of Engineering. Above, in a screenshot from the “Breaking Ground” video is HTE@USC academic director Terry Sanger, discussing how to facilitate communication between doctors and engineers. For more information, go to <http://hte.usc.edu>.

Study shows stroke survivors at risk for suicidal thoughts

Nearly one in 12 American stroke survivors may have contemplated suicide or wished themselves dead, according to a USC-led study presented at the American Stroke Association’s International Stroke Conference 2013.

The proportion of stroke survivors who contemplated suicide was striking, compared with patients with other health conditions, said Amytis Towfighi, lead author of the study and an assistant professor of clinical neurology at the Keck School of Medicine of USC.

In a nationally representative sample of the U.S. population, 7.8 percent of stroke survivors reported suicidal thoughts, compared to 6.2 percent of heart attack survivors, 5.2 percent of diabetes patients and 4.1 percent of cancer patients.

“Given the high prevalence of suicidal thoughts among stroke survivors, perhaps regular screening for suicidal ideation, in addition to depression, is warranted,” said Towfighi, who is also chair of the department of neurology at USC-affiliated Rancho Los Amigos National Rehabilitation Center.

About 7 million U.S. adults have a history of stroke, according to American Stroke Association statistics. About one third of stroke survivors develop depression, but there is little data on suicidal thoughts, Towfighi said.

Researchers investigated how many stroke survivors had recent suicidal thoughts, as well as the characteristics of these patients using data from the National Health and Nutrition Examination Surveys (NHANES) conducted from 2005 to 2010. During that time, an estimated 6.2 million U.S. adults were stroke survivors.

NHANES is an ongoing series of elaborate, cross-sectional surveys providing a snapshot of Americans’ health.

This study focused on participants’ responses to the following question: “Over the past two weeks, how often have you been bothered by thoughts that you would be better off dead, or of hurting yourself in some way?”

Stroke survivors were more likely to have suicidal thoughts if they had a higher depression score, were younger, had higher body mass index, lower education level, lower poverty index, were single and were women.

Among the stroke survivors, 17 percent suffered from depression. Depression is the most common psychological complication after stroke. “Post-stroke depression can be associated with poorer functional outcomes, worse quality of life, higher mortality, low psychological well-being, suicidal ideation and suicide,” Towfighi said.

The researchers haven’t calculated what percentage of all NHANES participants, stroke survivors or not, might be suicidal. But Towfighi cited previous studies that found an annual suicide rate that was nearly double the expected figure for the population as a whole.

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