

Summer 2016 Volume 03, Number 03

# Northwestern Medicine

A publication for the alumni and friends of Northwestern University Feinberg School of Medicine,  
Northwestern Memorial HealthCare and the McGaw Medical Center of Northwestern University

## Magazine



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## Inspired by Nature

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advance medicine

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Stopping  
diabetes in  
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Reducing brain  
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Initiative unites  
health records



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DANIELLE CHUN AND JASON CHODAKOWSKI JOINED 145 OF THEIR PEERS AT THE MEDICAL SCHOOL'S 157TH COMMENCEMENT IN MAY. THE MD CLASS OF 2016 WAS THE FIRST TO COMPLETE FEINBERG'S NEW INTEGRATED CURRICULUM.



# Northwestern Medicine

SUMMER 2016

Magazine

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## INSPIRED BY NATURE

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COVER ART: Crystal structure of an *Escherichia coli* ribosome. Northwestern synthetic biologists are re-purposing the ribosome to manufacture novel therapeutics and new materials previously impractical, if not impossible, to produce by other means.

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MAGAZINE.NM.ORG: Additional Content Online Image Slideshow Video

# Northwestern Medicine Leadership

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In 2015, Feinberg garnered \$402.7 million from the National Institutes of Health (NIH) and other sponsors to support faculty research, the most in the medical school's history. It's an impressive achievement, all the more so considering the unevenness of the nation's current funding climate. In the current academic year, we estimate yet another 10 percent growth. This is clear recognition of the outstanding and innovative ideas from our investigators.

In July, President Obama and the NIH announced that Northwestern has been selected as one of four regional medical centers to lead a consortium of local institutions in a landmark precision medicine initiative. The program aims to enroll at least 1 million Americans to improve disease prevention and treatment measures based on individual differences in lifestyle,

environment and genetics. The consortium grant will mean \$51 million over five years to Northwestern and our partners.

Northwestern was chosen as a leader for this important initiative because we have not only the research talent, the infrastructure and the clinical affiliates to support it, but also because we know that the future of medicine means finding new ways to bring discoveries to the bedside. We know that new technology has led to an incredible scientific revolution, but one that will only translate to patient care if our laboratories and clinics work together. The Northwestern Medicine Enterprise Data Warehouse, a joint initiative across Feinberg and Northwestern Memorial Healthcare that stores data on more than 8.4 million unique patients to facilitate research and health care, is just one example of this philosophy in action. Our new Center for Diabetes and Metabolism is another, integrating patient care with research spanning from biology to prevention interventions to clinical trials testing new therapies.

The medical school's basic scientists are also at the forefront of discovery, pioneering novel strategies and technologies that could fundamentally reshape our approach to diseases and their treatment. Synthetic biology is one field with incredible promise to forge clever new innovations, using tools and concepts from physics, engineering and computer science to build biological systems. Scientists, including Milan Mrksich, PhD, director of Northwestern's Center for Synthetic Biology and a professor of Cell and Molecular Biology, are reprogramming cells to take on new properties for generating advanced biomaterials and targeted therapeutics.

In other sectors of our portfolio, I'd like to recognize the stellar accomplishments in our research programs related to patient-centered outcomes. Investigators like David Cella, PhD, chair of Medical Social

Sciences, and faculty in his department are refining the way we can measure and interpret patient outcomes in the clinical setting. We hope these efforts, as they are validated, will allow us to strengthen our electronic medical record in ways that advance clinical care.

Finally, the National Cancer Institute's (NCI) Outstanding Investigator Award, given to four Feinberg faculty members to date, has been a notable honor acknowledging the medical school's leadership in the scientific community. Navdeep Chandel, PhD, professor of Medicine in Pulmonary and Critical Care Medicine, Marcus Peter, PhD, professor of Medicine in Hematology/Oncology, Ali Shilatifard, PhD, chair of Biochemistry and Molecular Genetics, and Maciej Lesniak, MD, chair of Neurological Surgery, have each received seven-year, \$6.4 million grants from the NCI for their significant contributions to the field of cancer biology and to support projects with great potential to move the field even further forward.

Learn more about synthetic biology, our Center for Diabetes and Metabolism, Enterprise Data Warehouse and new precision medicine grant in this issue of *Northwestern Medicine Magazine*, and keep in mind these projects are just a few examples of Feinberg's commitment to progress. The many new awards from our funding agencies enable us to continue to make transformative contributions to the field of medicine.

With warm regards,

Eric G. Neilson, MD  
Vice President for Medical Affairs and Lewis Landsberg Dean, Northwestern University Feinberg School of Medicine

# Newest MD Grads Celebrate Commencement

WRITTEN BY: Sarah Plumridge

See the graduation video and slideshow  
online at [magazine.nm.org](http://magazine.nm.org).



As Grant Senyei, '16 MD, '16 MBA, donned his regalia for medical school commencement on May 23, he looked forward to seeing his peers graduate and having his father, Drew Senyei, '79 MD, hood him during the ceremony at Chicago's Navy Pier Grand Ballroom.

"I feel a great sense of accomplishment, and I'm excited to see everyone graduate," says Grant Senyei. "The ceremony is a symbolic act to enter into the profession."

At the start of the ceremony, the 157th in Feinberg's history, Eric G. Neilson, MD, vice president for Medical Affairs and Lewis Landsberg Dean, greeted guests and addressed students. "This is your special day — you are the first class to finish our new revised curriculum and you accomplished this with great distinction."

Daniel Linzer, PhD, provost of Northwestern University, shared his hopes for the Class of 2016. "Research, learning and teaching. Those are the core activities of Northwestern," says Linzer. "And my wish for you then, is to take those core activities — to take Northwestern — with you and continue to make them part of your approach to medicine in the years ahead."

Commencement speaker Paul Rothman, MD, dean of medical faculty and vice president for Medicine at Johns Hopkins University and chief executive officer of Johns Hopkins Medicine, discussed the role of physicians in the community. He encouraged graduates to harness the power of technology without undermining the doctor-patient relationship and emphasized the importance of addressing health inequities.

Class speaker Patrick Hurley, '16 MD, urged his peers to reflect on how much they've accomplished over the past four years and to think about their future.

"We have Feinberg to thank for pushing us along this journey of passion and caring. We as a class have had access to scores of brilliant professors and dedicated administrators," says Hurley. "We arrived here in Chicago in 2012 as eager students with a lot

FOUR YEARS OF HARD WORK CULMINATES WITH JOY, LAUGHTER, TEARS AND THOUGHTFULNESS ABOUT WHAT EXCITING TIMES STILL AWAIT THE GRADUATING CLASS OF 2016.

to learn, and we leave this auditorium today as caring, passionate, well-trained physicians.

As the commencement ceremony finished, the 147 graduates recited the Declaration of Geneva — the Physician's Creed, which is the same oath they took as first-year medical students.

Twenty-five of this year's graduates were inducted into the Alpha Omega Alpha medical honor society. Seven graduates received magna cum laude in *Scientia Experimentalis* and six received cum laude in *Scientia Experimentalis*. Nine graduates received summa cum laude, six received magna cum laude and seven received cum laude.

Students earning joint degrees included 13 with a Master's Degree in Public Health, two with a Master's Degree in Medical Humanities and Bioethics, one with a degree in business administration and 12 graduates who completed a PhD degree in the Medical Scientist Training Program. **M**



# Physician Assistant Graduates Embark on Careers

WRITTEN BY: Sarah Plumridge

Twenty-nine members of the Physician Assistant Class of 2016 received their Master of Medical Science degrees and celebrated with peers, family and faculty at their graduation ceremony on May 14.

"It feels great to be graduating," says [John Adamson, '16 MMS](#). "This has been one of the hardest things that I have done in my life. It is so fulfilling to see how far we have all come as a class." Adamson began working at a community health center in Rockford, Illinois, this summer.

"Our education has given us the tools to make a huge difference in the world," he adds. "We just have to go out there and apply what we've learned."

At the start of the ceremony, [Diane B. Wayne, '91 MD](#), vice dean for Education, congratulated the fifth graduating class of PA students at Feinberg and shared her thoughts on the meaning of professionalism.

"It is a great privilege to have the ability and responsibility to provide care for patients in their time of greatest need," says Wayne. "Meeting professional challenges may not always be easy, but doing so will give you the satisfaction of being a professional in the very best sense of that word."

Justine Strand de Oliveira, DrPH, PA-C, DFAAPA, vice chair for education and professor in the Duke University Physician Assistant Program, gave the commencement address, sharing her experiences as a physician assistant, a history of the profession and advice. "As PAs we can make a difference patient by patient," says Strand de Oliveira. "You can eliminate waste by not repeating tests that have already been done ... learn quality improvement and make yourselves indispensable in your practice."

During the commencement, Michael MacLean, MS, PA-C, director of the PA Program, and Kristine Healy, MPH, PA-C, assistant professor of Medical Education, presented [Abigail Peters, '16 MMS](#), with a physician assistant program award for her academic achievements.

[Lauran DeCeault, '16 MMS](#), gave the commencement address. "Define your own meaning in your work and what it means for you to practice medicine as a physician assistant," says DeCeault. "I wish you fulfilling careers and everlasting relationships."

The ceremony concluded with a reception.

"Although I am going to miss my classmates who have been on this journey with me, I'm excited that I'll be able to finally call

myself a PA and start working as an integral part of the healthcare team," says [Russell Avelana, '16 MMS](#). "I'm looking forward to applying what I have learned through my clinical training here at Feinberg."

When choosing where to do her PA education, [Claire Hughes, '16 MMS](#), was drawn to Feinberg's emphasis on evidence-based medicine and small group learning. "Problem-based learning provided me with the toolset to be able to work within the greater medicine team," says Hughes, who accepted a position at Fairview Health Services in St. Paul, Minnesota. "These skills will be invaluable for the remainder of my career." **M**

**WITH A TURN OF THEIR TASSLES, FEINBERG'S PA CLASS OF 2016 TRANSITION FROM EAGER MASTER'S CANDIDATES TO PROUD GRADUATES.**



# PT Class of 2016 Receives Life Lessons

WRITTEN BY: Anita Chase

See the graduation slideshow online at [magazine.nm.org](http://magazine.nm.org).



IMAGES CLOCKWISE: NEW PT GRAD SCOTT HEINICHEN JUMPS FOR JOY WITH FAMILY AND FRIENDS; MORGAN MCCARDEL ENJOYS A GOOD LAUGH WITH HER FELLOW CLASSMATES; AND STUDENT SPEAKER DANIEL TAFELSKI SHARES TIPS FOR "GREATNESS" AS THE GRADUATES LAUNCH THEIR CAREERS.

This year's Physical Therapy and Human Movement Sciences (PTHMS) graduates transitioned from students to doctors of physical therapy (DPT) on April 15 in Chicago's Navy Pier Grand Ballroom.

Julius Dewald, PT, PhD, professor and chair of the Department of PTHMS, opened the ceremony, welcoming 87 graduating students and their supporters. He congratulated the graduates and then introduced Rex Chisholm, PhD, vice dean for Scientific Affairs and Graduate Studies, who encouraged them to strive for excellence and be good examples for their profession.

The podium was then turned over to Zohar Kapasi, PT, PhD, MBA, associate professor and director of the Division of Physical Therapy in the Department of Rehabilitation Medicine at Emory University School of Medicine. In his commencement speech, "The Road Thus Traveled & Lessons Learned," Kapasi gave the assembly five life lessons to help them succeed both professionally and personally.

Kapasi was followed by Babette Sanders, PT, DPT, MS, FAPTA, associate professor of PTHMS and assistant chair for Curriculum Affairs, and Marjorie Johnson Hilliard, PT, MS, EdD, associate

professor of PTHMS and associate chair for Professional Education, who conferred diplomas to the class. Three graduates received awards: **Mary Cheng**, the Clinical Education Award; **Kimberly Sipple**, the Leadership Award; and **Dimitrios Simeakis**, the Community Engagement Award. In addition, two other graduates, **Stephen Antos** and **Emma Baillargeon**, were recognized as Dean's Feinberg DPT/PhD Scholars, dual degree students in the PTHMS Program and the McCormick School of Engineering.

Student speaker **Daniel Tafelski**, wrapped up the formal ceremony with a story about preparing for his first career as a professional clown. At the end of his training, the master clown told him there are only four steps to greatness: believe, behave, become and behold.

Tafelski revealed to his classmates how these steps could translate to PT: "We have already believed we could do this, behaved as if we belong here, became what we set out to be — and here we are now. Behold a group of women and men with the knowledge, skills and dedication to serve countless individuals." **M**

# Faculty Awards and Honors

More Awards and Honors are online at [magazine.nm.org](http://magazine.nm.org). 



INAUGURAL AWARD GOES TO CANCER INVESTIGATOR GUANG-YU YANG.

This year the Harold E. Eisenberg Foundation presented the first Harold E. Eisenberg Research Scholar Award. It provides Robert H. Lurie Comprehensive Cancer Center scientists with the resources and protected time needed to ask novel research questions and explore new ideas relating to GI cancers. In April, **Guang-Yu Yang, MD, PhD**, the Joseph C. Calandra Research Professor of Pathology and Toxicology and director of both Surgical Pathology and the Surgical Pathology/Gastrointestinal Pathology Fellowship, was named inaugural recipient of the award.

**Michael Terry, MD**, was formally invested as the Charles and Leslie Snorf Professor of Orthopaedic Surgery on May 24.

Research prizes for basic science, education, clinical research and public health and social sciences went to myriad Northwestern Medicine faculty members during the 12th Annual Lewis Landsberg Research Day held April 7. Notable award winners included:

- » Tripartite Legacy Faculty Prize: **Melina Kibbe, MD, '03 GME**, Edward G. Elcock Professor of Surgical Research and vice chair of Research in the Department of Surgery
- » Medical Faculty Council Mentors of the Year: **Diane Wayne, '91 MD**, vice dean for Education and Dr. John Sherman Appleman Professor of Medicine and Medical Education, and **Kenzie Cameron, PhD, '08 MPH**, research associate professor of Medicine in the Division of General Internal Medicine and Geriatrics

**Lifang Hou, MD, PhD**, chief of Cancer Epidemiology and Prevention in the Department of Preventive Medicine, has been named a member of a Blue Ribbon Panel of scientific experts, cancer leaders and patient advocates who will inform the scientific direction and goals of Vice President Joe Biden's National Cancer Moonshot Initiative to accelerate cancer research.



Two Feinberg scientists, **Jeffrey Savas, PhD**, assistant professor of Neurology – Ken and Ruth Davee Department Medicine, Neurological Surgery and Pharmacology, and **Arun Sharma, PhD**, research assistant professor, Department of Urology, are winners of the 2015 Hartwell Individual Biomedical Research



Awards. Savas won for a project to correct hampered synapses in autism spectrum disorder. Sharma will use his award to develop new treatments for Crohn's disease in children.

The Class of 2016 nominated **Patricia Garcia, MD, MPH, '91 GME**, professor of Obstetrics and Gynecology and of Medical Education, as the Harry N. Beaty Honors Day Speaker.

**Margaret Chapman, MD**, instructor of Medicine in the Division of Hospital Medicine, received the Michael M. Ravitch Award for her outstanding teaching in a small-group setting.

Several other exceptional faculty members were acknowledged at Honors Day. The George H. Joost Outstanding Teaching Awards went to:

- » **James Paparello, MD**, associate professor of Medicine in the Division of Nephrology, for outstanding teaching in a large-group setting for the first year of medical school curriculum.
- » **Ajit Paintal, MD**, assistant professor of Pathology, for outstanding teaching in a large-group setting for the second year of medical school curriculum.
- » **Thomas Corbridge, MD**, professor of Medicine in the Division of Pulmonary and Critical Care and of Physical Medicine and Rehabilitation, for excellence in the clinical teaching of medical students.

**Navdeep Chandel, PhD**, David W. Cugell Professor of Medicine in the Division of Pulmonary and Critical Care Medicine, has received the National Cancer Institute's Outstanding Investigator Award.

**Nicholas Volpe, MD**, chair of Ophthalmology and George and Edwina Tarry Professor of Ophthalmology, was accepted into the American Ophthalmological Society for his achievements in ophthalmic science and clinical practice.



**Joel Press, MD, '88 GME**, medical director of the Spine and Sports Rehabilitation Center at the Rehabilitation Institute of Chicago, was appointed chair of the Department of Physiatry and physiatrist-in-chief. He will step into this new post in September.

**Pembe Hande Ozdinler, PhD**, assistant professor of Neurology — Ken and Ruth Davee Department, was selected as one of the 30 most influential Turkish American Women in the United States. A representative from the White House delivered a letter of recognition from President Obama.

**Ryan Drenan, PhD**, associate professor of Pharmacology, received the American Society for Pharmacology and Experimental Therapeutics Neuropharmacology Division Early Career Independent Investigator Award.



**Amy Paller, MD, '83 GME**, Walter J. Hamlin Professor of Dermatology, chair of Dermatology and director, Northwestern University Skin Disease Research Center, recently received two awards: The Clarence K. Livingood Award from the American Academy of Dermatology and the Rose Hirschler Award from the Women's Dermatologic Society.

**Joseph Feinglass, PhD**, research professor of Medicine in the Division of General Internal Medicine and Geriatrics and of Preventive Medicine, and **Borko Jovanovic, PhD**, associate professor of Preventive Medicine in the Division of Biostatistics, are the recipients of the Program in Public Health Mentor of the Year Award for 2015-16.

**Santhanam Suresh, MD, '91 GME**, Arthur C. King Professor in Anesthesiology at

Feinberg and chair of Anesthesiology and director of the Pain Management Team at Ann & Robert H. Lurie Children's Hospital of Chicago, was awarded the American Society of Regional Anesthesia and Pain Medicine Distinguished Service Award.

**Al Benson III, MD**, associate director for Cooperative Groups at the Robert H. Lurie Comprehensive Cancer Center of Northwestern University, was elected president of the National Patient Advocate Foundation's Executive Board.

**D. Mark Courtney, MD, '10 MS**, associate professor of Emergency Medicine and Medical Social Sciences has been appointed president-elect of the Society for Academic Emergency Medicine.



**Demetrios "Jim" Kyriacou, MD**, professor of Emergency Medicine and Preventive Medicine, is now senior editor of *JAMA*.

**Mark Adler, MD**, associate professor of Pediatrics in the Division of Emergency Medicine and of Medical Education, won the Society for Simulation in Healthcare Program Innovations Award for his article: "Approach to Confederate Training within the Context of Simulation-Based Research."

**Alan Hauser, MD, PhD**, professor of Microbiology-Immunology and of Medicine in the Division of Infectious Diseases, has been elected to fellowship in the American Academy of Microbiology.



**Tadanori Tomita, MD, '80 GME**, professor and vice chair of Neurological Surgery at Feinberg, and the Yeager Professor and Division Head of Pediatric Neurosurgery at the Ann & Robert H. Lurie Children's Hospital of Chicago, founded the *Journal of Neurosurgery Imaging and Techniques* — a new open access international peer reviewed scientific journal.

**C. David James, PhD**, professor of Neurological Surgery and of Biochemistry and Molecular Genetics, was appointed associate editor of *Science Advances*, the recently launched journal from the American Association for the Advancement of Science (AAAS). It is the first and only open access journal of the AAAS.

**Paul Greenberger, MD, '78 GME**, professor of Medicine in the Division of Allergy/Immunology, received the 2016 American Academy of Allergy Asthma and Immunology Distinguished Clinician Award for outstanding contributions toward clinical care for allergic disease.



**Benjamin Singer, '07 MD, '10 GME**, assistant professor of Medicine in the Division of Pulmonary and Critical Care, has been chosen by the Respiratory Cell and Molecular Biology Assembly Award Selection Committee to receive the ATS Assembly on Respiratory Cell and Molecular Biology Jo Rae Wright award. This award is given in recognition of outstanding scientific achievement by a young investigator. **M**



# Northwestern Participates In White House-Led Precision Med Study

WRITTEN BY: Kristin Samuelson



In collaboration with four local institutions, Northwestern University will receive \$4.3 million in fiscal year 2016, via the National Institutes of Health's (NIH) Illinois Precision Medicine Consortium grant, to help launch the Cohort Program of President Obama's Precision Medicine Initiative (PMI).

The PMI Cohort Program is a landmark longitudinal research effort that aims to engage 1 million or more U.S. participants to improve disease prevention and treatment measures based on individual differences in lifestyle, environment and genetics. The Northwestern collaboration's goal is to enroll 150,000 Illinois participants in the study.

"The big excitement here is the opportunity to improve the way we predict, prevent and eventually treat disease," says Philip Greenland, MD, Harry W. Dingman Professor of Cardiology at Feinberg and a principal investigator of the award. "Just the scope of it — 1 million people — is beyond anything that anybody in the U.S. has ever done. This could be a game changer."

Northwestern is one of four regional healthcare provider organizations to receive an award from the NIH for this study. Over five years, the Northwestern collaboration, which includes sub-grantees Ann and Robert H. Lurie Children's Hospital of Chicago, the University of Chicago, the University of Illinois at Chicago and the Alliance of Chicago Community Health Services, LLC, expects to receive \$45,011,162 in the consortium grant.

In addition to funding for participation enrollment, the NIH will also support a data and research support center, of which

Northwestern is a subawardee, and a participant technologies center to help build the PMI Cohort Program, totaling \$55 million in awards in fiscal year 2016.

NIH plans to begin initial enrollment this year, with the aim of meeting its 1 million participants goal by 2020. One of the most ambitious research projects in history, the program will set the foundation for new ways of engaging people in research. PMI volunteers will be asked to contribute a wide range of health, environment and lifestyle data: to answer questions about their health history and status, share their genomic and other biological information through simple blood and urine tests and grant access to their electronic health records. Mobile health devices and apps will provide lifestyle data and environmental exposures in real time.

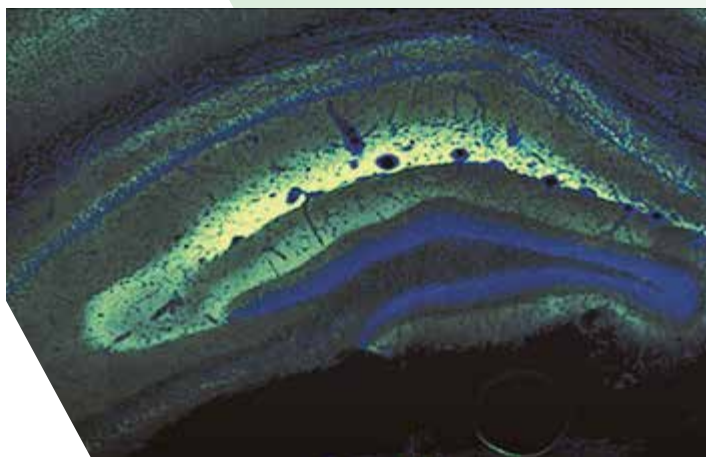
This all will be accomplished using essential privacy and security safeguards. As partners in the research, participants will have ongoing input into study design and implementation and access to their individual and aggregated study results.

"This range of information at the scale of 1 million people from all walks of life will be an unprecedented resource for researchers working to understand all of the factors that influence health and disease," says NIH director Francis Collins, MD. "Over time, data provided by participants will help us answer important health questions, such as why some people with elevated genetic and environmental risk factors for disease still manage to maintain good health, and how people suffering from a chronic illness can maintain the highest possible quality of life." **M**



# Research Briefs

More details on these research studies are online at [magazine.nm.org](http://magazine.nm.org).



## New Antidepressant Target Discovered

Northwestern Medicine scientists have demonstrated how manipulating a novel target in the brain using gene therapy could lead to new treatments for depression.

In a recent study published in *Molecular Psychiatry*, the investigators showed that decreasing a set of proteins called HCN channels reduced depression-like behavior in mice. If replicated in humans, the findings could inform fresh therapies for millions of patients who do not respond to existing treatments for depression.

"Drugs currently available for treating depression help most patients, but they stop working for some patients and don't work from the get-go for others," says senior author Dane Chetkovich, MD, PhD, professor of Neurology and of Physiology. "There is a real need for new therapies to help patients desperate for alternatives to the available therapeutic options."

Most existing antidepressants affect mood and emotions by increasing levels of neurotransmitters called monoamines, namely serotonin, dopamine and norepinephrine. But the fact that these drugs are not effective for many patients suggests there are additional mechanisms underlying depression yet to be uncovered that could be targeted with new therapies.

"This work not only identifies a totally new treatment target for depression, it provides a detailed molecular description of the structures that need to be manipulated for it to act as an antidepressant and develop viral tools to do so," says Chetkovich. **M**

*This research was supported by National Institutes of Health grants 2R01NS059934, R01MH106511, R21MH104471 and 2T32MH067564, Brain Research Foundation grant SG 2012-01 and Chicago Biomedical Consortium grant HTS-004.*

## Indoor Air Pollution Linked to Heart Disease

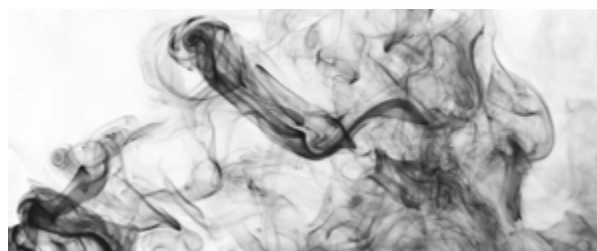
Long-term exposure to household air pollution from burning kerosene and diesel fuel indoors was associated with an increased risk of heart disease death in a recent study.

The findings, published in *Circulation*, have important implications for residents of low- and middle-income countries where high-pollution fuels are still commonly used for lighting, cooking and heating.

"Up until this point, exposure to household air pollution was thought only to contribute to cardiovascular risk factors," says lead author Sumeet Mitter, MD, a fellow in the Advanced Heart Failure and Heart Transplant program in Cardiology. "In our study, we were able to show a link with all-cause, total cardiovascular and ischemic heart disease mortality with longer durations of kerosene and diesel burning over one's lifetime."

The investigators examined data collected during a span of 10 years from more than 50,000 people living in the Golestan province of northeastern Iran. They discovered that participants who burned kerosene or diesel had a 6 percent higher risk for all-cause mortality, an 11 percent higher risk for cardiovascular death and a 14 percent higher risk for ischemic heart (coronary artery) disease death. Participants in the study who used natural gases (liquefied petroleum gas) had a 6 percent lower risk of cardiovascular death, compared to other fuels. **M**

*Mitter and colleagues used data from the Golestan Cohort Study, which was funded by Tehran University of Medical Sciences grant 81/15, Cancer Research UK grant C20/A5860, the Intramural Research Program of the U.S. National Cancer Institute and through various collaborative research agreements with the International Agency for Research on Cancer in Lyon, France.*





## Brain May Trump Injury for Causing Chronic Pain

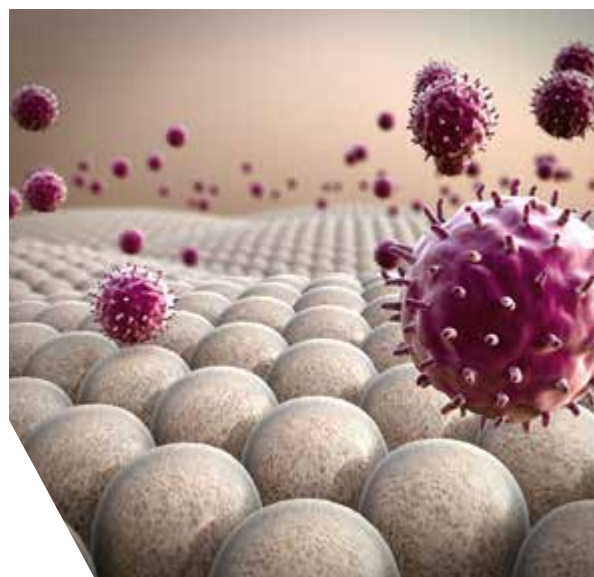
Why do some people develop chronic pain following an injury while others do not? The question has long puzzled scientists and doctors alike. Now, a new study led by researchers at Feinberg and the Rehabilitation Institute of Chicago (RIC) has found that certain anatomical properties of the brain, and not the initial injury, determine the most risk of a patient developing chronic pain. The findings were published in the journal *Brain*.

Chronic pain is deemed an epidemic in the United States, affecting 100 million Americans. It is commonly believed that a condition such as chronic back pain is the consequence of either ongoing inflammation of the back muscles or a manifestation of injury to major peripheral nerves of the spine.

"While simple, the logic of addressing problems at the site of an injury to remove pain has resulted in only limited success," says senior study author [Marwan Baliki, '09 PhD, '12 GME](#), assistant professor of Physical Medicine and Rehabilitation at Feinberg and research scientist at RIC.

The researchers conducted the first longitudinal brain imaging study tracking patients following an acute injury to the back. They followed 159 patients for three years as their pain either ceased or persisted and found that patients who developed chronic pain had a smaller hippocampus and amygdala compared with those who recovered and healthy subjects. These regions also showed differences in connections to the rest of the brain, particularly to the frontal cortex, an area involved in judgment. [M](#)

*The study was supported by the National Institute of Neurological Disorders and Stroke grant NS035115; the Canadian Institutes of Health Research; Swedish Council for Working Life and Social Research grant 2011-0627; and Uppsala University.*



## 'Trojan Horse' Nanoparticle Halts Asthma

In a novel approach to treating asthma and allergies, a biodegradable nanoparticle acts like a Trojan horse, hiding an allergen in a friendly shell to convince the immune system not to attack it, according to new Northwestern Medicine research. As a result, the allergic reaction in the airways is shut down, preventing an asthma attack.

The research, published in the *Proceedings of the National Academy of Sciences*, tested technology that can be applied to food allergies as well. The nanoparticle is currently being tested in a mouse model of peanut allergy.

"The findings represent a novel way to treat and potentially 'cure' patients with life-threatening respiratory and food allergies," says senior author Stephen Miller, PhD, Judy Gugenheim Research Professor of Microbiology-Immunology.

It's the first time this method for creating tolerance in the immune system has been used in allergic diseases. [M](#)

*The research was supported by grant EB-013198 from the National Institute of Biomedical Imaging and Bioengineering and grant NS-026543 from the National Institute of Neurological Disease and Stroke, both of the National Institutes of Health (NIH), the Dunard Fund and a predoctoral fellowship TL1R000108 from the NIH National Center for Research Resources and the National Center for Advancing Translational Sciences.*



## Residents Reveal Flaws in Device Approval

Some high-risk medical devices used in obstetrics and gynecology were approved by the Food and Drug Administration (FDA) based on flawed data, according to a recent study conducted by Northwestern Medicine residents.

The investigators assessed the regulation of women's health devices approved by the FDA in the last 15 years. The authors suggest that their results, published in the journal *Obstetrics and Gynecology*, indicate that the agency's approvals should be based on clinical studies more rigorous than currently required, both before and after the devices go to market.

"Devices are a huge part of the medical care that we provide women on a daily basis," says study first author Jessica Walter, MD, a resident in Obstetrics and Gynecology. "We found that there's an opportunity to increase the burden of proof required for a device to be approved for public use."

The team identified 18 high-risk devices approved by the FDA from 2000 to 2015, most of them for endometrial ablation (reducing menstrual flow), contraception and fetal monitoring. Four of the devices – 22 percent – were approved even though they failed to demonstrate efficacy in clinical trials. Six of the



devices – 33 percent – were not required to undergo post-market studies to survey ongoing safety. Three devices were eventually withdrawn from the market after approval.

"Despite this being the most stringent pre-market approval process, and despite the fact that we've had multiple safety issues connected to OB-GYN devices affecting millions of women worldwide, the evidence leading to approval has a lot of weaknesses," says senior author Steve Xu, MD, a resident in Dermatology. [M](#)

## New Gene Shown to Cause Parkinson's Disease

Northwestern Medicine scientists have discovered a new cause of Parkinson's disease – mutations in a gene called TMEM230. This appears to be only the third gene definitively linked to confirmed cases of Parkinson's disease.

In a study published in *Nature Genetics*, the scientists provided evidence of TMEM230 mutations in patients with Parkinson's disease from North America and Asia. They also demonstrated that the gene is responsible for producing a protein involved in packaging the neurotransmitter dopamine in neurons. Loss of dopamine-producing neurons is a defining characteristic of Parkinson's disease.



Taken together, the study's findings provide new clues to explain how Parkinson's disease develops in the brain. Those clues may inform future therapies for the disorder, which currently has no cure and few known causes.

"Previous research has associated Parkinson's disease with various factors in the environment, but the only direct causes that are known are genetic," says principal investigator Teepu Siddique, MD, Les Turner ALS Foundation/Herbert C. Wenske Foundation Professor of Neurology and of Cell and Molecular Biology. "Many genes have been claimed to cause Parkinson's disease, but they haven't been validated. We show that mutations in this new gene lead to pathologically and clinically proven cases of the disease." [M](#)

*This study was supported by the American Parkinson's Disease Association; the National Institutes of Health grants NS074366, NS37167, NS078287, NS094564, AG043970, AG10133 and NS095972; National Natural Science Foundation of China grants 81271921, 81430023 and 81471300; the Les Turner Foundation/the Herbert C. Wenske Foundation Professorship; the Les Turner ALS Foundation; the George Link Jr. Foundation; and The Foglia Family Foundation.*

# Media Spotlight

## 1 THREE MED STUDENTS SAVE MAN'S LIFE

CHICAGO TRIBUNE — APRIL 28, 2016

As Carla Berkowitz joined Feinberg classmates Jessica Quaggin-Smith and Max Kazer one beautiful afternoon at Lake Shore Park, not far from Northwestern Memorial Hospital, she noticed a shirtless man leaning back on a nearby bench with his head tilted back. "His mouth was open, and he was just in a really awkward position," she recalls. "Something didn't feel right to me." The first-year students rushed over to him and began administering CPR — on their first live person. At one point, two more students Sneha Goswami and Krish Suresh assisted, and the students all took turns doing chest compressions. Paramedics took the man to Northwestern Memorial.

## 2 STORK WORKING OVERTIME FOR OLDER DADS

MEN'S HEALTH — MAY 12, 2016

The average age for first-time dads is just over 25, according to the Centers for Disease Control and Prevention. But from 1980 to 2014, there was a 58 percent increase in the number of men 35 and older who brought home a new baby. In most cases, the increasing age is not really a cause for concern. The majority of these older dads don't have fertility problems and father babies without serious physical or developmental problems, says Robert Brannigan, MD, professor of Urology at the medical school.

## 3 BRIGHT LIGHT ALTERS METABOLISM

SCIENCE DAILY — MAY 18, 2016

A new study finds that bright light exposure increased insulin resistance compared to dim light exposure in both the morning and the evening. In the evening, bright light also caused higher peak glucose levels. Over time, excess blood glucose can result in increased body fat, weight gain and a higher risk for diabetes. "These results provide further evidence that bright light exposure may influence metabolism," says Kathryn Reid, PhD, research associate professor of Neurology — Ken and Ruth Davee Department at Feinberg.

## 4 BOXING TRAINING IMPROVES PARKINSON'S

U.S. NEWS & WORLD REPORT — JUNE 15, 2016

Former Indiana prosecutor Scott Newman, who was diagnosed with Parkinson's disease at age 40, began training with a boxing coach. He noticed dramatic improvements in his health. In 2006, Newman founded Rock Steady Boxing to help people with Parkinson's. A decade later, the program has spread to more than 150 gyms nationwide. "This is noncontact boxing; [the participants] are not fighting each other," notes Danny Bega, MD, assistant professor of Neurology. Instead, they hit the mitts of an instructor to improve their coordination. They stretch to counter muscle rigidity. And they jump rope and do core exercises to strengthen their muscles.

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## Feinberg Welcomes New Associate Dean for Admissions

WRITTEN BY: Sarah Plumridge

Roopal Kundu, '01 MD, '02 GME, is the new associate dean for admissions effective September 1, succeeding Warren Wallace, MD, '79 GME, assistant professor of Medicine in the Division of General Internal Medicine and Geriatrics.

"We are excited to welcome Roopal to her new position," says Eric G. Neilson, MD, vice president for Medical Affairs and Lewis Landsberg Dean. "Her leadership and extensive experience in medical education will no doubt have a lasting impact on the next



## 5 BLOOD DONATIONS: ORLANDO RENEWS DEBATE

CHICAGO READER — JUNE 15, 2016

The FDA's policy bans gay or bisexual men who have had sex with another man in the past 12 months from donating blood. Although there was an outpouring of blood donations after the Orlando nightclub tragedy, in the past few years there have been numerous public requests for blood donations due to shortages. Brian Mustanski, PhD, director of Northwestern's Institute for Sexual and Gender Minority Health and Wellbeing, associate professor of Medical Social Sciences, Psychiatry and Behavioral Sciences at Feinberg and co-director of the Third Coast Center for AIDS Research, says, "In the wake of the shooting, many members of the LGBT community were trying to service their community, and donating blood is a really concrete way to help."

## 6 PARTNERING FOR SKIN CANCER CHECKS

HEALTH DAY — JUNE 29, 2016

A partner trained to spot potential skin cancers can be a lifesaver for melanoma survivors, a new study shows. "Skin check partners help melanoma patients to see areas they cannot easily see by themselves," explains June Robinson, MD, research professor of Dermatology at Northwestern. Robinson's team assigned 494 melanoma patient-partner pairs to one of two groups: standard care or special training in skin self-examination. Two years later, 66 of the patients developed a new melanoma. However, 43 of those melanomas were spotted by the skin check teams in the skin self-examination training group, compared to zero among those patient-partner pairs who hadn't gotten the training.

## 7 CAN A CUP OF JOE PREVENT DIABETES?

DIABETES FORECAST — JUNE 29, 2016

Studies examining the links between diet and diabetes risk have shown that coffee drinkers have a slightly reduced risk of cardiovascular disease, cancer, Parkinson's disease and Type 2 diabetes. Of all the foods we consume, "coffee has the most potential to prevent Type 2," says Marilyn Cornelis, PhD, assistant professor of Preventive Medicine in the Division of Nutrition. "With diabetes, the more coffee the better, according to epidemiological studies." With the help of a grant from the American Diabetes Association, Cornelis is beginning to investigate why that might be. She thinks other substances in coffee could be at play.

## 8 CARDIAC MORTALITY RATES FLATTEN OUT

THE WALL STREET JOURNAL — JUNE 30, 2016

After four decades of dramatic progress, the public health battle in the United States against the ravages of heart disease may have hit a wall. Since 2011, the annual decline in heart disease death rates among Americans has essentially remained flat at less than 1 percent, a contrast to some 40 years of continuous and much steeper annual reductions. Donald Lloyd-Jones, MD, ScM, senior associate dean for Clinical and Translational Research, chair and Eileen M. Foell Professor of the Department of Preventive Medicine and of Medicine in the Division of Cardiology, and director, Northwestern University Clinical and Translational Sciences Institute at Feinberg, says that "there is every reason to think that obesity is a major driver of what we're seeing."

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generation of physicians, and will enhance the medical school's ability to attract students of the highest caliber. We also thank Dr. Wallace for his years of dedicated service."

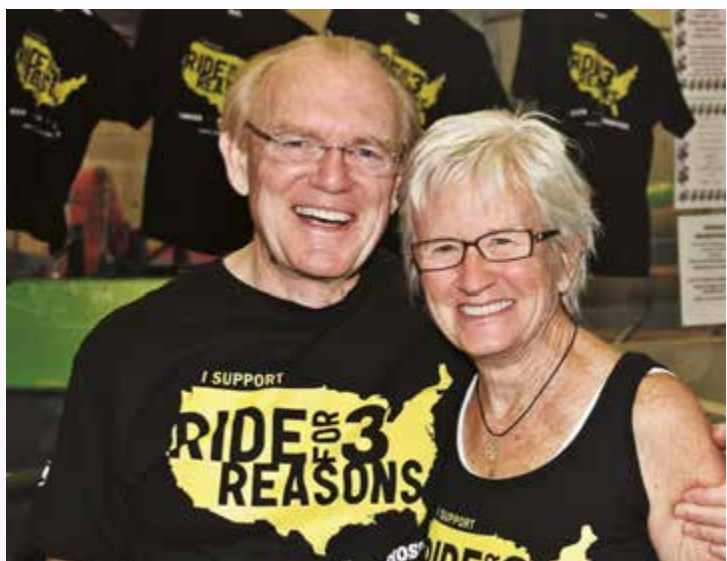
After earning her medical degree at Feinberg and doing her preliminary internship year at the McGaw Medical Center of Northwestern University, she completed her dermatology residency training at the University of Illinois Hospital.

Kundu served on the faculty of New York University from 2007 to 2010 before returning to Northwestern as a junior faculty member and associate residency program director for Dermatology. Later, she became program director of the dermatology residency program and joined the medical school admissions committee. Her research focuses on the study of dermatological disease entities and biological and structural differences in skin.

An associate professor of Dermatology and Medical Education, Kundu looks forward to her new role. "I have always been impressed by how much thought goes behind the scenes to the care and culture of teaching here at Northwestern for all of our learners," she says. "I hope we can show prospective students how dynamic our curriculum is and how engaged we are in early clinical experiences."

"As a graduate of the school, Kundu has a deep connection to student life. Her expertise, leadership skills and judgment have been shown by her inspired leadership of the dermatology residency program at Feinberg," says [Diane B. Wayne, '91 MD](#), vice dean for Education and [Dr. John Sherman Appleman](#) Professor of Medicine and Medical Education. [M](#)

BOB LEE (TOP PHOTO) RIDES FOR A PURPOSE: TO RAISE MONEY TO HELP OTHERS. HE HAS COMPLETED THREE SOLO RIDES WITH THE SUPPORT OF HIS WIFE, ANNE (BELOW LEFT) AND MANY OTHERS. IN 2017, JAN GIERLACH (BELOW RIGHT) WILL PEDAL FROM COAST TO COAST FOR RIDE FOR 3 REASONS.





# A Ride across America

## Benefits Northwestern

WRITTEN BY: Cheryl SooHoo

People ride bikes for many reasons. When Bob Lee of Barrington, Illinois, pedals he does it for three: to support ALS research, hospice care and cancer studies. And he rides in a big way: not around the block but across the country. Since 2001, this now 74 year old has completed three trips – close to 12,000 miles altogether – and raised \$1.35 million. For the next “Ride for 3 Reasons” campaign, Lee is passing the torch to another cyclist, who will make a coast-to-coast journey from San Diego to St. Augustine, Florida, in February 2017.

From the beginning, Ride for 3 Reasons has supported the Les Turner ALS Foundation – a longstanding partner of Northwestern Medicine – to advance ALS research. Next year, charitable dollars from the nonprofit organization will again support Les Turner as well as the National Hospice Foundation. And, for the first time, the Robert H. Lurie Comprehensive Cancer Center of Northwestern University will be the beneficiary of the ride’s third focus, cancer research.

“We need to be thoughtful stewards of our donors’ contributions,” says Lee. “The Lurie Cancer Center tells a passionate story of excellent patient care and innovative research based on developing specific treatments for each individual’s particular tumor type and needs. We are very impressed by this approach.”

### TOGETHER WE ARE STRONGER

In 1999, Lee retired from a successful executive career. He lasted about three weeks before “redirecting.” “I woke up one day and said, ‘What am I doing with my life? What’s my purpose?’” While not exactly a hardcore cycling enthusiast, he soon found three missions that would give him the “pedal power” to ride solo over tall mountains and into deep valleys in all kinds of weather for charity.

Before leaving the corporate world, Lee read the book *Tuesdays with Morrie* by Mitch Albom. The memoir features the author’s former professor who had ALS, a progressive and ultimately fatal neurodegenerative condition. “I didn’t know anyone with the disease, but I gave the book to my neighbor,” recounts Lee. “Five months later, he was diagnosed with ALS.” Lee became passionate about raising awareness and funds for ALS. He eventually served on Les Turner’s board of directors for 14 years; he gave up his seat on the board this summer to focus on the 2017 ride.


Lee’s interests in hospice care and cancer research are also personal: Lee’s mom peacefully died under the care of “hospice

angels” who he couldn’t thank enough for their compassion. Ride for 3 Reasons’ support of hospice care led to the creation of “Be@Ease,” an advanced care planning program. And Lee understands that cancer touches many: He is a colon cancer survivor and his wife of 51 years, Anne, overcame breast cancer in 2008.

Managing three charitable causes at once has proven “interesting” at times but Lee believes, “If we all work together, we can be stronger.” To avoid fostering a competition between the organizations designated to benefit from the ride, a Pacesetter Challenge Pledge Fund has been established. For every dollar donated, another two dollars are unlocked via matching funds. Remarks Lee, “Every charity benefits equally.” To raise the money for the matching fund, Lee seeks the support of individuals or foundations willing to commit \$100,000 each. So far, the fund is up to \$400,000. Ride for 3 Reasons must raise at least 50 percent or more than the Pacesetter fund or otherwise return the matching funds to donors.

Lee completed his last trip in 2012 and wasn’t really thinking about another until earlier this year when a Barrington teenager contacted him. Jan Gierlach first learned about the ride when Lee came to his third-grade class to give a presentation. Although the two didn’t meet formally at that time, 9-year-old Gierlach made it his dream to follow Lee’s path. Now 18, Gierlach will finish high school a semester early. Taking over for Lee, he will make the upcoming Ride for 3 Reasons his own solo journey. Losing a grandfather to cancer and a family friend to ALS and having a grandmother who received hospice care, Gierlach has embraced the campaign’s missions, stating on the campaign’s website that “these three reasons are just as much mine, as they are Bob’s and they are all of yours.”

While Lee hasn’t given up the idea of making another ride himself someday, he is beyond happy to have sparked a sense of purpose in young Gierlach. Says Lee, “You never know who is listening and whose lives you are impacting.” Indeed, very true and fitting for the many individuals and their families who will benefit from the generosity of Ride for 3 Reasons for years to come.

Learn more about Ride for 3 Reasons and follow Gierlach’s journey across America by visiting [www.ridefor3reasons.org](http://www.ridefor3reasons.org). 

Cell-free biosynthesis

On-demand  
enzyme  
production

Yeast-based  
biosensors

Accelerated drug development



# Inspired by Nature

Despite all that humankind has created, the natural engineering of biological systems never ceases to amaze. The human brain continues to outmatch manmade machines when it comes to pattern recognition: Finding the elusive “Where’s Waldo” is a breeze for us but not so much for artificial intelligence. And plants found in nature – simple organisms capable of making complex molecules – remain the basis for many drugs used today.

While drawing inspiration from “living” technology is far from new, building novel biological systems is here and now. An emerging discipline, synthetic biology brings together concepts from engineering, physics and computer science to create artificial biological processes to harness or improve on nature’s original design. Much of the work in this fledgling field has centered on reprogramming cells by modifying their genetic code (or DNA) to serve specific purposes. Scientists are exploring innovative “synbio” processes that offer less expensive and faster methods for developing novel products, from environmentally-friendly fuel to reengineered immune cells that fight cancer.

The excitement of synthetic biology – only a decade old – has steadily mounted with advances in gene editing. Northwestern University has been an early force in this nascent field, with investigators in the Feinberg School of Medicine, McCormick School of Engineering and Weinberg College of Arts leading the charge. This year, the University took its commitment to a higher level by launching a new Center for Synthetic Biology. The center will make

Northwestern one of the top three U.S. destinations for research and education in this area, creating a much needed Midwestern hotspot for synthetic biology activity.

“The multidisciplinary nature of synthetic biology calls for an infrastructure to provide an intellectually vibrant ‘community’ where we can build critical mass and compete for large national projects,” says the center’s director, Milan Mrksich, PhD, Henry Wade Rogers Professor of Biomedical Engineering, Chemistry, and Cell and Molecular Biology. “This center will be a place for us to recruit the best faculty, foster collaboration across campuses, encourage active exchanges with leading scientists from around the world and train students at all levels – from undergraduate and medical students to postdoctoral fellows.”

The new center’s faculty will double in the next several years. In the meantime, it will serve as home for the half dozen Northwestern researchers already making great strides in the field. For example, McCormick assistant professors Keith Tyo, PhD, and Joshua Leonard, PhD, are working on engineering yeast-based biosensors as inexpensive, easily accessible diagnostics for patients in resource-poor countries. Computational biologist Neda Bagheri, PhD, devises algorithms to map out cellular systems to better understand how mutations in genes or cells cause disease. This work could lead to more targeted therapeutic interventions.

“Synthetic biology is a new enterprise where we are learning every day how to reprogram the living world in ways that benefit society,” says center co-director Mike Jewett, PhD, associate professor of Chemical and Biological Engineering “To that end, more than half of our work is focused on the medical arena: We’d like to impact that space with meaningful contributions.”

Jewett’s own work includes re-conceptualizing approaches to synthesizing human therapeutics and vaccines to improve unprecedented access to medicines – especially critical in limited-resource areas.

## ACCELERATING DRUG DISCOVERY

The development of new medications often takes many years of trial and error before a drug ever reaches clinical testing. At the new center, a rare combination of cutting-edge synthetic biology techniques and tools – cell-free biosynthesis, high throughput compound screening and computational modeling – has come together to significantly ramp up the drug discovery process.

The first part of the equation: Cell-free synthetic biology activates basic cellular processes without using live intact cells. Pioneers in cell-free *in vitro* translation, Jewett and colleagues were among the first to literally create proteins in test tubes in an

economical and scalable fashion. Gone are the limitations of needing to use live cells. This capability to liberally design cellular processes allows for on-demand production of 100s of enzymes a day that could more quickly point to promising drug candidates. Enter the second part of the equation: Mrksich joined Northwestern in 2011, bringing with him a high-tech tool he invented known as SAMDI (self-assembled monolayers desorption ionization). Contained within small thin metal plates, this technology allows researchers to cost-efficiently run more than 6,000 experiments an hour to measure enzyme reactions to new drug compounds.

**“Synthetic biology is a new enterprise where we are learning every day how to reprogram the living world in ways that benefit society.”**

Investigators can also study protein function in organs to predict and detect disease. The third part of the equation: Predictive modeling helps to identify patterns in generated data to make the entire drug discovery process more efficient and effective.

“These approaches are revolutionary,” says Mrksich, who launched start-up company SAMDI Tech, Inc., five years ago. The contract research firm offers services using the proprietary technology to pharmaceutical and biotech clients. “Our leadership in these areas is unique to Northwestern and the centerpiece of our new center.”

### BUILDING ‘SUPER’ ANTIBODIES

Another biological wonder, the body’s immune system is a natural disease-fighting machine. It wards off microorganisms, from viruses to bacteria, by producing antibodies. Antibodies bind to specific proteins on harmful antigens and either disrupt the disease process or call in reinforcements such as white blood cells to dispense with the invaders.

Invented in 1975, manmade monoclonal antibodies (mAbs) were soon enlisted as soldiers in the war – waged from the inside out – against human disease. Designed for particular tasks, these antibodies could be programmed to direct the immune system into attacking specific “enemies” such as tumor cells. Today potent new mAb drugs are progressively becoming routine practice for treating cancer and immune system disorders. These antibody-based therapies are a high growth area, with rapidly increasing numbers of disease targets being added and tested in clinical trials. For synthetic biologists, the opportunity to engineer even more effective antibodies is too good to pass up.

Northwestern scientists currently have a patent application pending on new technology for developing “MegaMolecules” that boost the power of a type of antibody molecule called Immunoglobulin G. The typical Y-shape of this antibody dictates that it has two arms. Investigators in the Center for Synthetic Biology have

come up with a way to make branched molecules with multiple arms: essentially more weapons to attack target antigens.

“Would you rather have an antibody with just a couple arms or many arms to go after cancer cells?” poses Mrksich, who is also associate director for research technology and infrastructure at the Robert H. Lurie Comprehensive Cancer Center of Northwestern University. “Not only do these MegaMolecules have the potential to speed up the immunotherapeutic response, but they may also be able to form more specific and tighter binding with their partner antigen for more effective treatment.” Testing in animal models has yielded strong results, showing that the MegaMolecules are active and working as intended.

Souped-up antibodies are just one of many technologies imagined and brought to life by synthetic biology innovations. With the establishment of the new center, the possibilities for developing novel therapies and transforming care are endless. Mrksich’s leadership within both the Center for Synthetic Biology and the Lurie Cancer Center, in particular, will allow for close collaboration and, ultimately, acceleration of groundbreaking cancer therapies.

“The aims of the new center will have a tremendous impact on how we develop innovative therapies for our cancer patients,” says Leonidas Platanias, MD, PhD, director of the Lurie Cancer Center. “The novel biological systems and data the synthetic biologists generate will make a big difference in building the foundation of our cancer research and treatment. The Center for Synthetic Biology is a very good match for our efforts.” **M**



Mike Jewett, PhD  
Co-director, Center  
for Synthetic  
Biology



Milan Mrksich, PhD  
Director, Center  
for Synthetic  
Biology





Effective, affordable interventions  
key to halting this health epidemic

WRITTEN BY: Nora Dunne

# STOPPING DIABETES IN ITS TRACKS

About 29 million people in the United States have Type 2 diabetes. But perhaps more alarming is that another 86 million have prediabetes: higher than normal blood sugar levels likely to accelerate and become full-fledged diabetes in the next five to 10 years unless someone intervenes. The consequences aren't just medical; they're financial, too. Diabetes and prediabetes cost Americans an estimated \$322 billion in 2012, according to the American Diabetes Association.

For the last decade, Northwestern Medicine investigator Ronald Ackermann, MD, MPH, has worked on implementing a method to halt diabetes that is both effective for patients and affordable for insurers. He and colleagues have

focused on adapting an intervention called the Diabetes Prevention Program (DPP), which involves making small dietary changes, finding practical ways to increase physical exercise and receiving one-on-one encouragement and troubleshooting from a professional lifestyle coach. When first developed, the program was shown to cut diabetes progression in half, but at a cost of about \$1,500 per patient. Ackermann's group designed and evaluated an inexpensive – and therefore more feasible – version of the DPP delivered at community YMCAs for an annual cost of only about \$200 to \$300 per person.

"Our intervention is based on the best evidence for how you help people lose weight,"



29

MILLION PEOPLE  
IN THE U.S. HAVE  
TYPE 2 DIABETES

86

MILLION PEOPLE  
IN THE U.S. HAVE  
PREDIABETES

38

PERCENT OF ADULTS  
IN THE U.S. ARE  
CONSIDERED OBESE

17

PERCENT OF TEENS  
IN THE U.S. ARE  
CONSIDERED OBESE



**\$1,500**

COST PER PATIENT OF  
THE ORIGINAL PROGRAM



**\$200-300**

COST PER PATIENT OF  
ACKERMANN'S INTERVENTION

● = \$100

says Ackermann, co-director of Northwestern's new Center for Diabetes and Metabolism. "We changed the program by offering it at the Y in a group format. Participants still have face-to-face coaching to keep them on track to meet their goals and to guide them through stumbles and falls."

With funding from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), the investigators proved that their program worked in a series of studies at Ys in Indianapolis. The positive results led to a partnership between YMCA of the USA, health insurance company UnitedHealth Group and the Centers for Disease Control and Prevention, which rolled out the program nationally. Over the last five years, Ackermann has led a study at Northwestern evaluating this partnership, comparing the healthcare expenditures of people across the United States who participated in the program with those who didn't.

The data from all this work contributed to a huge milestone reached this spring: Medicare, which spends a third of its funding caring for people with diabetes, announced it would cover the Y intervention, as well as other similar programs recognized by the Center for Disease Control's National Diabetes Prevention Program.

"The Medicare policy follows a study conducted by the Center for Medicare and Medicaid Innovation and Medicare's lead actuary, which concluded that the program was likely to be cost-neutral or cost-saving," explains Ackermann, who is also a professor of Medicine in the Divisions of General Internal Medicine and Geriatrics and Endocrinology. "We shared our own research with the Medicare team, helping to demonstrate that if insurers pay for this Y program, they can recover their investment because people have better health — over time they don't have to go the doctor as much or take as many medications."

With half of the Medicare population considered to have prediabetes, the Y program has the potential to assist an enormous number of patients. But Ackermann acknowledges that this intervention won't reach everyone.

"We need to divide the prediabetes population further to find out who is most likely to benefit from this program and who may need another intervention," says Ackermann. "We need to become smarter about offering the right interventions to the right people."

Thanks to a contract Northwestern has with UnitedHealth Group, Ackermann has access to a database of more than 20 million patients, containing information about everything from their hospitalizations to lab tests to medication history, and enabling analysis of subgroups of people.

"At Northwestern, we're developing special skills and methods that allow us to analyze huge data sets to do natural experiments that inform not only policy decisions about health insurance coverage but also better health care," he says.

Matthew O'Brien, MD, assistant professor of Medicine, and Namratha Kandula, MD, MPH, associate professor of Medicine, both in the Division of General Internal Medicine and Geriatrics, are also exploring how versions of the DPP lifestyle intervention could benefit subgroups of patients. O'Brien concentrates on Latinos in the United States and Kandula, on South Asians.

Meanwhile, Bonnie Spring, PhD, director of the Center for Behavior and Health and a professor of Preventive Medicine, develops innovative interventions using technology such as cell

**"We showed that if insurers pay for this Y program, they can recover their investment because people have better health — they don't have to go the doctor as much or take as many medications."**

phones and wearable devices to reduce unhealthy habits. Mercedes Carnethon, PhD, associate professor of Preventive Medicine, conducts epidemiologic studies to understand how factors like race/ethnicity, neighborhood resources and sleep affect cardiovascular risk factors like obesity and diabetes.

Combatting societal norms is a challenge for all of these investigators. Ackermann points to





**Joseph Bass, MD, PhD**

**Ronald Ackermann, MD, MPH**



the limited availability and higher costs of healthy foods, perceptions about what is considered “good” food, large portion sizes and using food as a social medium as examples of how the environment perpetuates diabetes in our country.

“The biggest challenges we face in adult primary care today are related to chronic diseases like diabetes,” he explains. “Chronic diseases are tightly linked to behavior — smoking, physical inactivity, unhealthy diet. People know this, but actually changing their behavior is another thing, particularly when the world around them isn’t supporting healthier choices. Our research is about providing a supportive structure, accountability and a behavioral scheme to help them live healthier lives now. Until the world changes, we need programs that can help people succeed.”

### **UNITING RESEARCH SYSTEMS**

While the environment is a big factor behind diabetes, genetics is another. As Ackermann and his colleagues focus on behavior, policy and costs in clinical settings to prevent the disease from developing, another set of Northwestern Medicine scientists is at work in labs trying to understand the internal pathways that predispose people to diabetes, knowledge that can apply to prevention. All of this work — and more — is united within the Center for Diabetes and Metabolism spearheaded by Ackermann and Joseph Bass, MD, PhD, chief of Endocrinology in the Department of Medicine.

“We’re a leading diabetes center in the Midwest, integrating patient care with a broad spectrum of research, extending from the

biology of the disease to community-based interventions to clinical trials testing new therapies,” says Bass.

Bass’ own research centers on circadian and metabolic gene networks and their role in diabetes and obesity. A recent study pinpointed the genetic pathways an internal body clock in the pancreas takes that affect insulin production and the control of blood sugar. These findings could inform new therapies for people with diabetes.


Among the many basic scientists involved in the center, Grant Barish, MD, assistant professor of Medicine in the Division of Endocrinology, studies the molecular mechanisms that control metabolism. He’s already made the surprising discovery that a transcription repressor called BCL6 can prevent the fatty buildup that plugs arteries in atherosclerosis. A new grant will support further exploration on how this “gene switch” can control body fat distribution to reduce the morbidity of obesity and Type 2 diabetes.

With more than 70 members, the scope of the center extends far beyond prevention, from developing new treatments to managing the care of current patients. But nipping diabetes in the bud remains a crucial goal.

“About one in three adults have prediabetes. Somewhere in the neighborhood of 30 percent of those people will develop diabetes in the next five to seven years,” stresses Ackermann. “If we don’t act, we’re going to have a lot more Type 2 diabetes in the health system in the next decade.” **M**

Charles W. Hogue Jr.,  
MD, new chair of the  
Department of  
Anesthesiology

# Brain Trust

A portrait of Charles W. Hogue Jr., MD, a middle-aged man with short, light-colored hair, wearing a dark blue pinstripe suit, a white shirt, and a striped tie. He is smiling slightly and looking towards the camera. The background is a light, neutral color.

Heart surgery has become safer and safer over the past four decades. "The survival rates are exceptional today, especially when you consider the age and complexity of the patients undergoing cardiac surgery," notes Charles W. Hogue Jr., MD, a specialist in cardiovascular and thoracic anesthesiology.

But some patients suffer short-term and rarely, lasting neurological complications. Strokes occur in approximately 1 percent to 2 percent of higher-risk patients after cardiac surgery, says Hogue. Less severe but still-troubling problems occur more frequently, such as post-operative delirium that can last for days and impaired cognition that can linger for several months.

Feinberg's and Northwestern Memorial Healthcare's new chair of Anesthesiology, Hogue is a leading clinical investigator developing methods to predict, monitor the risk of and prevent such complications. "Our work in the past 10 years has focused on



## Improving cerebral blood flow during cardiac surgery

WRITTEN BY: Carolyn Schierhorn  
PHOTOGRAPHY BY: Bruce Powell

ways of monitoring cerebral blood flow autoregulation,” says Hogue, who comes to Northwestern from the Johns Hopkins University School of Medicine in Baltimore. There, he served as chief of the Adult Division of the Department of Anesthesiology and Critical Care Medicine.

Hogue, who assumed his new position on July 1, has been the principal investigator of 25 studies funded by several sources, including the National Institutes of Health (NIH); NIH National Heart, Lung, and Blood Institute (NHLBI); American Heart Association; and pharmaceutical and medical device manufacturers. He brings with him to Northwestern a nearly \$1.69 million NHLBI grant to investigate continuous cerebral-autoregulation monitoring as a means of reducing brain injury. The evidence quality of this clinical study is strengthened by the randomization of patients who undergo cerebral blood-flow monitoring during their cardiac operations.

The investigation builds on Hogue’s earlier studies. “We worked with a group of collaborators at the University of Cambridge in the United Kingdom and developed some methods for monitoring cerebral blood flow noninvasively,” he shares. In the current project, he uses near-infrared spectroscopy, a type of functional neuroimaging that measures brain activity via hemodynamic responses associated with neuron behavior.

“Noninvasive sensors are placed on the patient’s forehead during surgery to monitor the oxygen saturation in the superficial layer of the brain,” elaborates Hogue. His team then observes any changes resulting from adjustments to the patient’s blood pressure. “This whole process allows us to individualize where we keep the blood pressure during surgery rather than keeping everybody at the same level.”

Hogue also aims to reduce the risk of other cardiac surgical complications such as kidney damage. “Our research has shown that if blood flow is too low for brain autoregulation, blood flow to the kidneys may also be compromised, increasing the risk for acute kidney injury,” he says. “Our data suggests that if we better ensure blood flow to the brain and kidneys during surgery, patients will have an enhanced recovery and less risk of complications.”

Hogue is optimistic that cerebral blood-flow monitoring could become the standard of cardiac surgical care in three to five years. “Our results are encouraging,” he says. “People are starting to

inquire about the process, and there doesn’t seem to be a downside to it.” In addition, medical device manufacturers are starting to develop monitors specifically for cerebral blood flow measurement.

It’s not easy to obtain government funding for clinical research, yet Hogue’s studies are continuously funded. Hogue’s curriculum vita lists almost 100 peer-reviewed original science publications. He also has written numerous book chapters, case reports and editorials and has co-authored three books.

“Chuck is an exceptional clinical investigator, and he is well-known and respected in the field of cardiac anesthesia,” emphasizes Roger A. Johns, MD, MHS, a professor of anesthesiology and critical care medicine at Hopkins.

### COMING HOME

Hogue grew up in Edwardsville, Illinois, a town of 26,600 located near St. Louis. After earning a bachelor of science degree in biology in 1982 from Southern Illinois

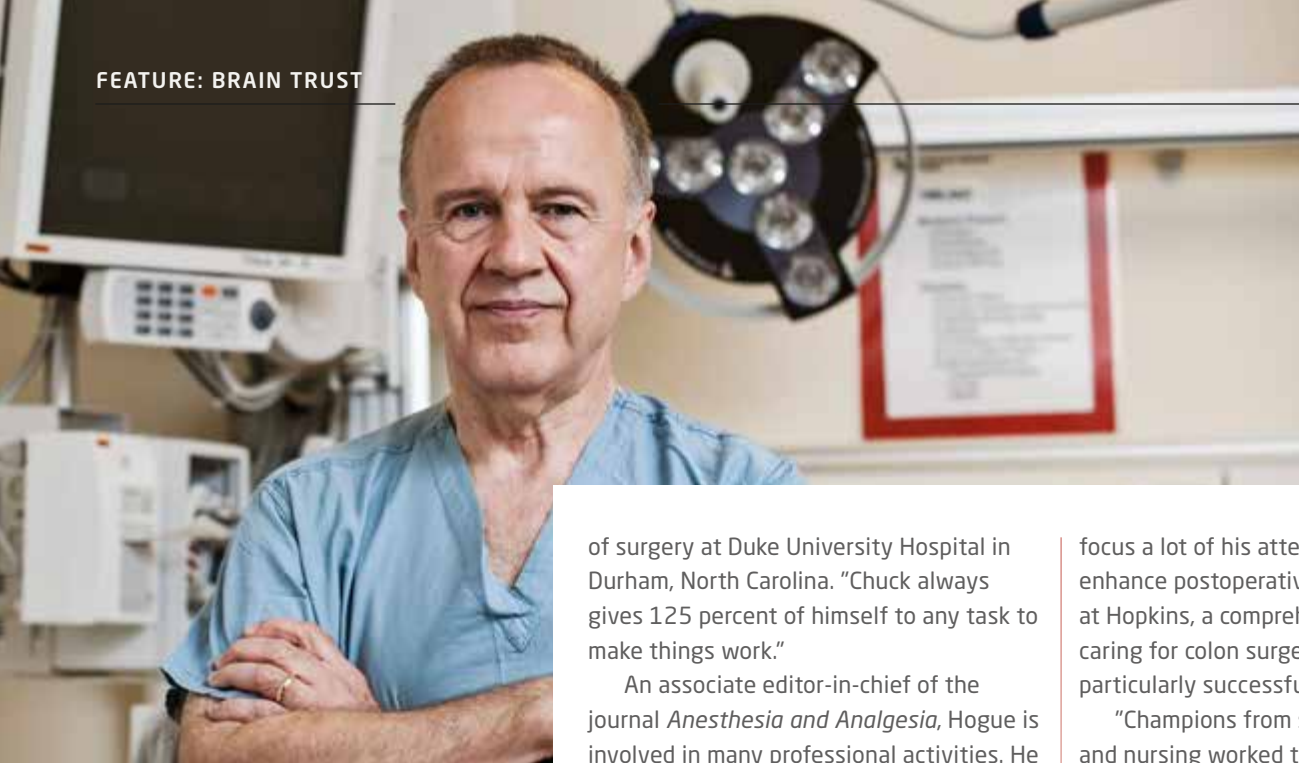
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Studies Hogue led as principal researcher

\$1.69M

NHLBI grant to study cerebral-autoregulation monitoring





University — Edwardsville, he attended medical school at the University of Illinois at Chicago. He graduated with an MD degree in 1986. Because the Feinberg campus is in Chicago, he says “coming to Northwestern is returning home in a sense.”

As a third- and fourth-year medical student on rotation, Hogue enjoyed his exposure to many different specialties but fell for anesthesiology. “I knew this was something that I would love to do,” he remembers. “Anesthesiology combines critical care and operating room care. You take care of patients with complex diseases. It is very rewarding.”

Hogue completed his anesthesiology residency at Harvard Medical School’s Massachusetts General Hospital in Boston, followed by simultaneous three-year clinical and research fellowships through Harvard. In 1990, he joined the faculty at Washington University School of Medicine in St. Louis, where he rose through the ranks. He became an associate professor of anesthesiology and chief of the university’s cardiothoracic anesthesia division in 1998. In 2005, Hogue joined Johns Hopkins as an associate professor of anesthesiology.

Another Mass. General trainee, Jerrold H. Levy, MD, has been impressed with Hogue over the years. “We’ve collaborated on many projects,” says Levy, a professor of anesthesiology and an associate professor

of surgery at Duke University Hospital in Durham, North Carolina. “Chuck always gives 125 percent of himself to any task to make things work.”

An associate editor-in-chief of the journal *Anesthesia and Analgesia*, Hogue is involved in many professional activities. He has given more than 70 invited lectures over the years, for example.

But he has always prioritized his work with trainees, according to Johns. “Chuck is a great educator and teacher,” he says. “He has also been a wonderful mentor for young faculty members, engaging them and moving them forward toward their own independent careers.”

Hogue emphasizes that Northwestern already has a superb Department of Anesthesiology. “Some very talented clinicians are working in many areas — pediatrics, intensive care, neurosurgery, and general and cardiac surgery, for example,” he says. “So I am very excited about joining this team.”

#### GOALS AND OBJECTIVES

Among his many objectives, Hogue intends to foster goals in research. He also plans to

focus a lot of his attention on programs to enhance postoperative care. For example, at Hopkins, a comprehensive approach to caring for colon surgery patients has been particularly successful.

“Champions from surgery, anesthesia and nursing worked together to develop processes of care,” he explains. “One of the goals was to minimize opioid use because these agents slow the return of a patient’s bowel function. So we used a multimodal approach to postoperative pain control, combining regional analgesia and other medicines that are not opioids.”

Similar initiatives have started at Northwestern, and Hogue wants to ensure that they come to fruition, as well as expand them throughout the network. He notes that Northwestern already has implemented better preoperative management of patients to eliminate unnecessary blood testing and minimize cancellations on the day of surgery. “I want to support and maximize the potential of that program,” Hogue says.

Johns knows that Hogue is ready for his new responsibilities. “Chuck will do a great job for Northwestern,” he says. “We’re going to miss him a lot at Hopkins.” **M**

**“ANESTHESIOLOGY COMBINES CRITICAL CARE AND OPERATING ROOM CARE. YOU TAKE CARE OF PATIENTS WITH COMPLEX DISEASES. IT IS VERY REWARDING.”**

CHARLES W. HOGUE JR., MD

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## United health record system gets everyone on the same electronic page

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WRITTEN BY: Ed Finkel

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# EHR REDEFINED

Patient care, research and teaching throughout Northwestern Medicine will benefit on countless fronts starting in 2018. That's when Project One, a unified electronic health record (EHR) system initiative, goes "live."

Currently in the planning and input gathering stage, the ambitious undertaking will bring about greater clinical collaboration and patient engagement, seamless sharing of reliable clinical and administrative data and a streamlined revenue cycle to improve financial performance.

"This is an amazing opportunity for us to really shift health care in our region," says [Nancy Sassower, MD, '97 GME](#), a Project One physician leader. "Our patients will be blown away by what they're going to see over the next couple of years."

When Northwestern Medicine formed as a system, leaders quickly saw the need for an integrated electronic platform, explains Jay Anderson, senior vice president of quality and performance.

"Project One is creating a space where clinicians and operating teams work together to build an integrated academic health system where patients come first," he says. "Bringing all health system data into one place forms a powerful tool for patients and caregivers, essential to achieving our vision for world-class clinical care and the advancement of medical science and knowledge."

### EPIC PROPORTIONS

Project One will build off the existing Epic inpatient and outpatient EHR systems. Put in place during the 2000s, these then-revolutionary tools transitioned the traditional recordkeeping system from paper to electronic records. After several years of experience, doctors, researchers and patients soon learned what they really want to see in an EHR system.

Phillip Roemer, MD, vice president and chief medical officer for Northwestern Medical Group, routinely describes Project One as EHR 2.0. "Everyone is now up to speed on how an electronic health record works," he says. "This allows us to spend more time on making the patient experience more effective and efficient."

The more seamless system hopefully will quell some of the backlash against EHRs from physicians and patients not just at Northwestern Medicine but also throughout the medical field. Says Roemer, "One of our many guiding principles is to improve the caregiver experience."

So far Project One has pulled together several advisory groups spanning inpatient clinical, procedural, ambulatory, plus revenue cycle and other health information management concerns and interests.

"We have gone through sessions of scaffolding what the future state is going to be," says Tom Moran, MD, vice president, chief medical information executive and Project One physician leader. "We're bringing our experts to the table and asking what they want in a unified system."



Nancy Sassower,  
MD, '97 GME  
~  
Physician Lead



Phillip Roemer, MD  
~  
Vice President and  
Chief Medical Officer



Jay Anderson  
~  
Senior Vice President  
of Quality and  
Performance

### ALL TOGETHER NOW

Patient care is perhaps the most obvious area of benefit for the new unified system, with charts available instantly to all physicians and other clinicians. "Currently it's not uncommon for a patient to provide information [as an outpatient] and be admitted to the hospital only to find that much of the information is not available there," explains Roemer. "Patients have to start over."

A unified system across the entire Northwestern Medicine network — from the flagship hospital in downtown Chicago, to Lake Forest in the northern suburbs, to DeKalb out west — the system will create greater efficiencies within and across facilities, predicts Jennifer Bloomquist, director of information services. "Today if patients come to see one of our providers and gets a lab test at a hospital, even though it might be one floor away, they might be asked to give their information all over again."

The efforts of Project One should help improve caregiver effectiveness, allowing more time for face-to-face patient and co-worker interaction and less time spent on stenography. "How do we make the record tell the story of the patient more effectively?" says Anderson. "We're making sure we minimize double documentation. If a fact already exists in the health record, it doesn't need to be re-entered."

Patients entering a doctor's office will no longer need a clipboard of forms to write down all their key information, which then has to be scanned or keyed in by office staff. "It's miserable and not as accurate because of the chance for error," adds Anderson. "Patients will be able to fill out [online forms] on their couch at 7, 8 o'clock at night. We will be empowering patients."

Patients also will be able to access their own records on the system, says Lea Ann Arnold, DNP, MS, RN, informatics nurse leader and a Project One leader. "As a patient, I can go in and request appointment times, view my labs and communicate electronically with my physician. Other technology software allows me to see how busy the urgent care



is," she says. "I will be able to watch the handoffs between people who are guiding me through the continuum of care."

Moran notes that physicians, pharmacists and lab technicians will be on the same page when it comes to patients taking antibiotics, for example. "We want to make sure we have the right patient with the right identified infections and the right antibiotic," he says. "So we don't overuse the antibiotic, don't escalate it too far and increase [bacterial] resistance, but, at the same time, give patients what they need to overcome their infection."

## POOLING DATA

The ability to capture individual patient data and pool it with that of many others will enhance the research enterprise at Northwestern Medicine and ensure that patients have access to the latest cutting-edge treatments. Simply making it easier for providers to know what research projects are being conducted and the eligibility requirements for patient enrollment will be a huge first step.

"While the unified system won't change how research is being done here, it will change how we communicate with one another," says Moran. "Once a patient is in the program, everyone who touches that patient can see that they're in a research project."

"Our patients will be blown away by what they're going to see over the next couple of years."

Rex Chisholm, PhD, associate vice president for research and Feinberg vice dean for scientific affairs, says he's excited by the prospect of the system's enterprise data warehouse connecting into a single, system-wide database that also links to the campus-wide clinical research study tracker. "That will give us much better integration with the hospital to facilitate new types of research and improved efficiency for compliant research study billing," he says.

Project One will enable researchers to pool data from different locations and have

a much deeper well from which to draw.

"When researching management of chronic care for diseases like diabetes or hypertension," says Sassower, "we will be able to better manage our extensive patient data, enabling us to better identify patient populations, as well as more easily provide long-term treatment plans and management for such populations."

Among the future research scenarios, the unified system will help to further accelerate precision medicine, especially in drug development. "It will give us access to much more data," explains Chisholm. "We've developed genomics-based clinical record information tools to improve the precision of medication prescriptions, or dosage, depending on patients' genetic makeup."

## EHR GENERATION

On the medical education side, new doctors will learn how to interact with a state-of-the-art EHR system. Residents as well as medical, nursing and pharmacy students training at Northwestern will gain real-life instruction in how to best use the system. And the system will stay on top of the learning process by tallying clinical procedures a student or resident has participated in, such as number of appendectomies.

Project One's working groups always have medical education in mind when making decisions on how the system will look. "Education infuses into everything," says Sassower. "We have carved out a workflow to make it easy for students and residents to focus on their medical education."

"It truly takes a village," adds Arnold, describing the monumental task ahead. "It comes down to every single team leader, plus our patients, weighing in on how we can do this better. Something of this magnitude will position us to better serve and provide care for our patients and our communities. That's what it's all about." **M**



Lea Ann Arnold,  
DNP, MS, RN  
~  
Informatics Nurse  
Leader



Rex Chisholm, PhD  
~  
Associate Vice  
President for  
Research and Feinberg  
Vice Dean for  
Scientific Affairs



Tom Moran, MD  
~  
Vice President, Chief  
Medical Information  
Executive

## Alumni President's Message



Dear Fellow Alumni:

What's a terabyte? No – not a creature from the next Jurassic Park sequel.

Rather, a terabyte equals 1,024 gigabytes and represents less than 5 percent of the data stored in the Northwestern Medicine® Enterprise Data Warehouse (NMEDW). A joint initiative sponsored by the Feinberg School of Medicine and Northwestern Memorial HealthCare, NMEDW is a single, comprehensive, fully integrated, highly secure and rapidly growing repository of all clinical and research data sources on the medical campus. It includes data on more than 8 million unique patients and is designed to facilitate research, quality of care, healthcare operations and medical education.

Comprehensive medical databases are an invaluable resource in helping us to understand human disease and design innovative approaches to improve outcomes. It is an odd paradox that the most comprehensive medical databases in the United States generally reside with organizations such as Oakland, California-based Kaiser Permanente, an integrated managed-care consortium, which is widely recognized for excellence in healthcare delivery, instead of academic medical centers, which we depend on for innovative clinical research. At many medical schools, innovation in clinical research is hamstrung not only by lack of clinical informatics but also by traditional academic organizational models that tend to foster “siloeing” rather than sharing of information. With the help of the Northwestern University Clinical and Translational Sciences (NUCATS) Institute, Feinberg is emerging as a powerful and internationally visible exception.

For the last several years, I've had the privilege of serving on the External Advisory Board of NUCATS. A member of the

**NORTHWESTERN  
MEDICINE  
ENTERPRISE DATA  
WAREHOUSE BY THE  
NUMBERS:**

**35TB**

–  
TOTAL DATA STORED  
IN THE WAREHOUSE  
(35,840 GB)

**75.8M**

–  
OUTPATIENT VISITS  
IN DATA WAREHOUSE

**529M**

–  
LAB RESULTS SINCE  
1998

**14.7M**

–  
DATA ELEMENTS  
UPDATED EACH DAY  
IN DATA WAREHOUSE

**44.5M**

–  
PRESCRIPTIONS  
SINCE 1996

**19.2M**

–  
INPATIENT  
ADMISSIONS IN DATA  
WAREHOUSE

NIH-funded Clinical and Translational Science Award consortium, NUCATS is charged with accelerating translational innovation by providing research teams with consultative resources and expertise.

In 2013, the Galter Library and NUCATS joined forces. The benefits of this one-of-a-kind partnership have been immediate and powerful – enabling the library to meet the research needs of the campus community like never before by providing software tools for data analysis, robust systematic review and clinical informatics. And the impact of NUCATS is not limited to Northwestern's Chicago campus. NUCATS has helped catalyze collaborations between medical school scientists downtown and McCormick School of Engineering investigators in Evanston to enable innovative medical applications of Northwestern's nanotechnology program.

We live in an era when scientific publications are no longer the sole measure of research success. Instead, Americans increasingly need and demand that public investment in medical research translate into innovative advances that help patients and improve outcomes. Northwestern Medicine is at the forefront of remarkable advances in genomics, proteomics and biosynthetics. The real payoff from these advances represents their application to human health and disease, and NUCATS and NMEDW will help accelerate the emergence of Feinberg as a top-tier research institution.

If you joined us in Chicago for Alumni Weekend 2016, you had an opportunity to see some of the remarkable initiatives underway at our alma mater. If you were not able to attend, please try to visit. I think you'll be impressed by what you see and be very proud.

Sincerely,

**Bruce Scharschmidt, '70 MD (HPME)**  
Medical Alumni Association Board President

# Progress Notes

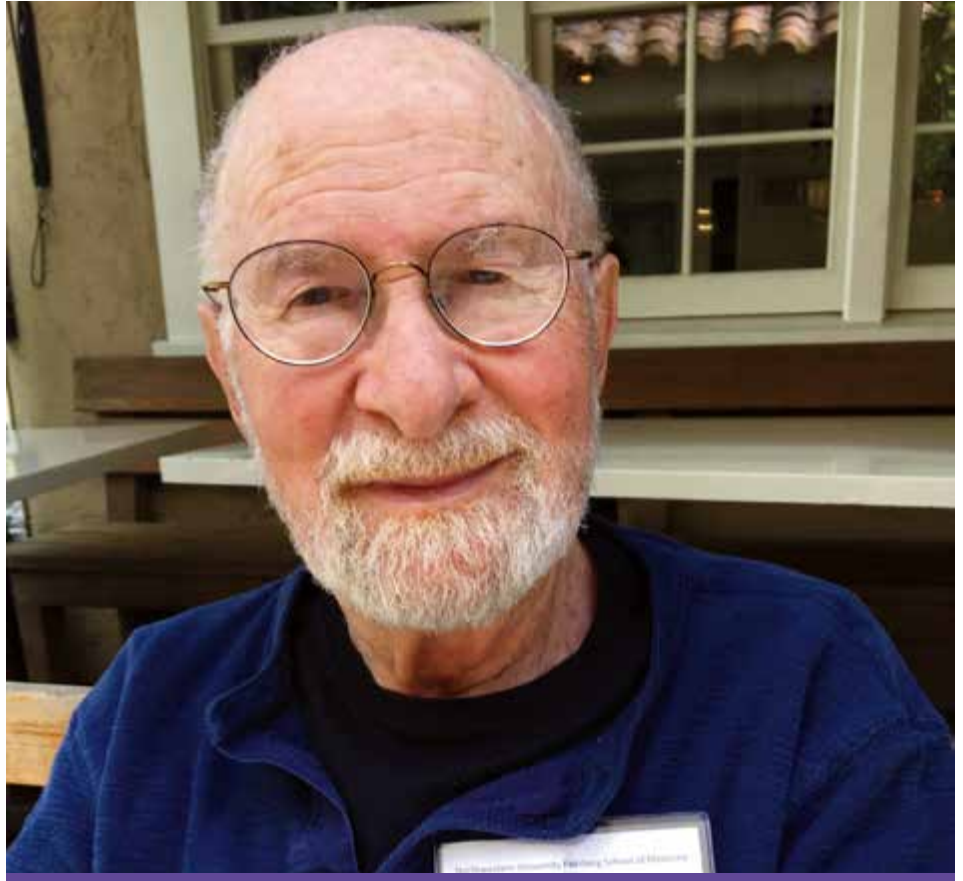
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## '50s

Donald L. Schmidt, '54 MD, writes: "My wife, Sandi, and I share our homes, living between San Diego – where I practiced for 38 years in the winter – and spending the summer in Sandi's ancestral home in Bremerton, Wash., on the shores of Puget Sound. We were formerly active but are becoming couch potatoes. Hello to the classes of '53 and '54 who might remember me. I was a late bloomer who didn't marry until 60, but I enjoy a tranquil life."

Peter Barglow, '56 MD, submitted an essay, "Impressions of the Last 'Round-up," after attending his 60-year class dinner at this year's Alumni Weekend:

As the sole psychiatrist present, I was oddly nervous in spite of having matured somewhat. Don't think I looked any older, but maybe I had aged during the six decades since I last saw my 16 classmates. Many came with wives and children who had shared with admirable fortitude the uncertainties, hope and joy of a medical career. The event reminded me of my pre-med childhood days in Colorado, where I always cherished the excitement of the annual cattle "round-up."



PETER BARGLOW, '56 MD, SO ENJOYED ATTENDING ALUMNI WEEKEND THIS SPRING THAT HE PENNED AN ESSAY TO SHARE HIS IMPRESSIONS OF THE REUNION.

Eleven years after the end of WWII, military service still over-shadowed many of our classmates' early practice commitments. I was assigned to the Great Lakes Naval station. At dinner, I heard about an emergency abdominal surgery aboard an unsteady war ship by a classmate trained in a non-surgical specialty. There were only a handful of women in our class of 135 students, (including Dr. Joan Short who was at the recent reunion). Today, females are in about half of all entering classes. And the Feinberg School is proud of its successful outreach to women and ethnic minorities in undergraduate and residency training programs. Memorization now is left to ubiquitous computers, and there is an emphasis on small-group shared learning,

with an indistinct separation between academic and clinical years... *(Read the full essay online in the Progress Notes section)*

## '60s

Michael J. Moore, '62 MD, shares, "Since our last medical school reunion, I have spent four more wonderful years living with Ellen, the greatest blessing of my life. We are both fortunate in continuing to enjoy excellent health.

In 2011, I retired as clinical professor of neurology at Boston University School of Medicine but continue to teach weekly seminars in neurology for the third- and fourth-year medical students. Young, smart



people are such a pleasure to be with; I would never have made it into medical school competing with most of them.

In addition, I will be starting my 44th year in the private practice of neurology at Emerson Hospital in Concord, Mass., but I have cut back to half time, with no more emergency department coverage." *(More information online.)*

**Allen South, '66 MD**, recently retired after 45 years of practice as an obstetrician-gynecologist. He remains active teaching third-year medical students from the University of Washington. He has been married to wife Nancy for 54 years. They live in Kirkland, east of Seattle on Lake Washington.

**Stephen L. Seagren, '67 MD, '68 GME**, is serving as a surveyor for the Commission on Cancer (CoC) for the ninth year. The CoC was organized by a cooperative project of the American Cancer Society and the American College of Surgeons (ACS) in the 1920s.

Headquartered at the ACS, the Commission creates and enforces standards for institutional cancer care: more than 1,500

institutions are accredited. Seagren writes, "Surveyors are all oncologists of some flavor — surgical, medical or radiation. It's been a fun and an interesting way for me to stay involved post-retirement."

**Howard S. Young, '67 MD**, hails from a long line of Northwestern physicians. His grandfather, Alben Young, was an 1889 graduate of the Chicago Medical College, a precursor to Northwestern's medical school, and his father, **Richard Hale Young, '30 MD**, was the longest serving dean of the medical school from 1949 until 1970. His brother, **Irving Young, '68 MD**, also is an alumnus. Their great uncle, Irving S. Cutter, MD, served as dean of the medical school from 1925 until 1941.

Howard Young and his wife, **Elaine P. Young, '67 MD, '74 GME**, believe his father would have been thrilled to know that he made a difference in the history of the medical school. Recently, the couple made a gift in his honor to establish the Dean Richard H. Young and Ellen Stearns Young Professorship at Feinberg. Pictured below, the Youngs (center and right) celebrated the investiture of Jonathan Fryer, MD, on April 27.



## '70s

**William E. Kobler, '74 MD**, has been re-elected to the American Medical Association (AMA) board of trustees. A board-certified family physician in Rockford, Ill., Kobler was first elected to the AMA's board in June 2012 and has been an AMA delegate since 2000, serving in many capacities, including as a member of the AMA Council on Medical Service and as its chair from 2010 to 2011. At the state level, he was elected a trustee of the Illinois Medical Society and served as president from 2003 to 2004. In 2010, the governor of Illinois appointed him to serve on the Illinois Health Information Exchange Authority Board. Kobler is married with two sons and five grandchildren.

## '80s

**Helain Landy, '82 MD**, is professor and chair of obstetrics and gynecology at MedStar Georgetown University Hospital, where she practices maternal-fetal medicine. Happily living in the D.C. suburbs, she enjoys weekends on the Chesapeake Bay. She recently celebrated the college graduation of her daughter and the high school graduation of her son.

**Mark J. Sontag, '83 MD**, of Portola Valley, Calif., president and founder of ReMeDy Medical Group, celebrated the 25th anniversary of his multidisciplinary medical group specializing in sports, spine and pain medicine. He has been a team consultant for the San Jose Sharks for 25 years. Read an interview with Sontag published in Northwestern Magazine: <http://www.northwestern.edu/magazine/spring2016/alumnulife/mark-sontag-hockey-doc-san-jose-sharks.html>.



**Joseph Morris, '84 MD**, of Evans, Ga., retired in June 2015 after 31 years in the U.S. Army Medical Corps. His career

culminated with his position as chief of medicine and chief of the Infectious Disease Service at Madigan Army Medical Center, located at Joint Base Lewis-McChord in Tacoma, Wash. At his retirement ceremony, he received the distinguished Legion of Merit. Morris now works in specialty care and infectious disease at the Charlie Norwood Veterans Affairs Medical Center in Augusta, Ga.

**Matthew Klein, '86 MD**, chief of anesthesia at North American Partners Anesthesia headquartered in Melville, N.Y., was a featured speaker at the 2016 Becker's Hospital Review 7th Annual Meeting held April 27-30 in Chicago.

**Jordan Perlow, '86 MD**, director of maternal-fetal medicine in the Department of Obstetrics and Gynecology at Banner University Medical Center Phoenix and clinical professor at the University of Arizona School of Medicine, is beginning his 25th year as a partner at Phoenix Perinatal Associates. This full-service, high-risk pregnancy care practice provides critical care management and delivery service for women throughout the state of Arizona.

Recently, he created a center of excellence for the care and treatment of pregnant women with placenta accreta. A life-threatening complication caused by an abnormally adherent placenta, this condition is thought to contribute to the recent increase reported in the U.S. maternal mortality rate. Additionally, he has organized a bariatric high-risk pregnancy program to serve the needs of pregnant women with BMI's greater than 50, who are at profoundly greater risk of adverse pregnancy outcomes. Perlow also serves on the Arizona Department of Public Health Task Force on the Zika Virus, in anticipation of the potential impact on the pregnant population in the state.

Perlow writes, "I have just completed a two-year term as leader of the Society of Maternal-Fetal Medicine's annual meeting scientific sessions on obesity and pregnancy. I recently published a chapter on the unique aspects of labor and delivery

management for the *obese gravida* in a 2016 textbook on labor. I serve on the board for the Jewish Genetic Diseases Center of Greater Phoenix, providing presentations regarding the importance of preconception screening. I have also participated in a medical mission trip to Maceio, Brazil, where we served hundreds of patients in need with a team of diverse medical and lay volunteers."

**Edie Zusman, '87 MD**, chief of neurosurgery at Sutter Medical Center, Sacramento, was appointed neurosurgeon at NorthBay Medical Center.

**Darren Wethers, '88 MD**, chief medical officer for the Blue Cross Blue Shield of Arizona Advantage Medicare HMO, shared his story about transitioning to his current role after more than two decades as an internist in St. Louis. In the article "From the Exam Room to the Board Room," which appeared in *Round-up* (Maricopa County Medical Society, Phoenix), Wethers discusses his career trajectory and the changing marketplace in health care.

## '90s

**Raymond F. Akers Jr., '90 PhD**, co-founder and executive chair of Akers Biosciences, Inc., has transitioned to chief scientific officer of the company located in West Deptford, N.J.

## '00s

**Lizbet (Langseth) Ronning, '01 MD**, and Kristian Ronning welcomed a baby boy, Espen, on December 15.

**Joe Pazona, '02 MD, '08 GME**, and Nicole Schechinger Pazona of East Wenatchee, Wash., celebrated the birth of Reed Edward on November 27. Reed joins siblings Grady and Amelie.

**Lindsay Rhodes, '08 MD**, writes, "I have such great memories from medical school and



**RUPAL SHROFF JURAN, '07 MD**, RECENTLY BECAME A PARTNER IN HER PRACTICE. BASINSKI & JURAN MDS SPECIALIZES IN LAPAROSCOPIC AND ROBOTIC GYNECOLOGIC SURGERY. SHE ALSO SERVES AS VOLUNTEER CLINICAL FACULTY FOR THE INDIANA UNIVERSITY SCHOOL OF MEDICINE. JURAN AND HER HUSBAND WELCOMED THEIR FIRST BABY, MALLIKA, IN DECEMBER.

think so highly of my classmates. I am currently an assistant professor of ophthalmology at the University of Alabama at Birmingham and was awarded a K23 Mentored Patient-Oriented Research Career Development Award from the National Eye Institute in April. The five-year project is entitled 'Using telemedicine to improve glaucoma care: An emerging eye care delivery model' and seeks to develop a novel health-care model to improve the ability of routine eye exams to detect glaucoma at an earlier stage. This will help provide a platform to



REBECCA HARRIS, '11 PHD, '13 MD, '15 MA, AND ANDREW KETTERER, '13 MD, '16 MA, MET DURING THEIR THIRD YEAR OF MEDICAL SCHOOL AND WERE MARRIED ON MAY 30, 2015.



manage glaucoma in community-based clinics so that further vision loss is prevented."

## '10s

Michael Heller, '13 MD, married Katherine "Kacey" Albertine of San Francisco in Chicago on September 26, 2015.

A number of young alumni currently are serving as internal medicine chief residents. All were members of the Martin College at Feinberg:

- » Benji Derman, '13 MD – Rush University Medical Center
- » Andrew Harris, '13 – Case Western Reserve University
- » Ilya Karagodin, '13 MD – Medical College of Wisconsin
- » Jeff Lin, '13 MD – University of Wisconsin at Madison
- » Nicholas Macpherson, '13 MD – University of Pittsburgh
- » Atsuko Yamahiro, '13 MD, '13 MS – Yale Primary Care Program.

## GME

Raja K. Khuri, MD, MPH, '66 GME, served on Northwestern's faculty for more than 30 years. An alumnus of the American University of Beirut (AUB) Medical School, he traveled to Abu Dhabi in May to meet with Fadlo Khuri, MD, president of the AUB, and attend an alumni reception honoring the man.

He writes, "A few years back, my brother asked me to consult with a prominent oncologist at Emory University, Fadlo Khuri, MD. He was gracious with his time and helpful in his consultation. Later, he was elected president of AUB. Like all AUBites, I was elated."

Maria I. Weffer, MD, '84 GME, retired from Carabobo University Medical School in Valencia, Venezuela, as chief of the Nephrology Fellowship Program in South America.

Her son is an orthopaedic surgeon, one of her daughters is a special education teacher and the oldest is a journalist. Weffer has five grandchildren: two girls and three boys. She writes, "I am well relaxed and enjoying the second generation of grandkids."

Gregory Pearl, MD, '85, '86 GME, vascular surgeon at Texas Vascular Associates, was appointed medical advisor at Top10MD. Pearl will contribute to the Top10MD Medical Advisory Board as the company expands across the country.

Jeffrey Anderson, MD, '89 GME, partner and shareholder at Associated Anesthesiologists, was elected to the board of regents at Luther College in Iowa.

Bassel Kazkaz, MD, '99 GME, a board-certified psychiatry and neurology specialist, joined the medical staff at Silver Cross Hospital in New Lenox, Ill.

Alberto de Hoyos, MD, '03 GME, a cardiothoracic surgeon, joined the thoracic oncology team at the University of Kentucky Markey Cancer Center.

Jeanne Horowitz Huff, MD, '08, '09 GME, and Matthew R. Huff of Chicago, and their children, Tom Lev and Jessica Ziva, welcomed a new family member, Joshua Lazar, on November 16.





MARIA I. WEEFFER, MD, '84 GME, CELEBRATES THE GRADUATION OF ONE OF HER NEPHEWS.

Karl Bilimoria, MD, '08 MS, '10 GME, and wife Sheila of Wilmette, Ill., became the proud parents of Beckham Karl in July 2015. They have two other children: Mia Elise and Leila Claire.

PT

Visit [magazine.nm.org](http://magazine.nm.org) for updates from participants of the Class of 1976 reunion dinner held on April 30.

Katherine Block, '15 DPT, married Kyle Denlinger, '15 DPT, of Clarendon Hills, Ill., in Two Harbors, Minn., on September 6, 2015. **M**

## Progress Notes Awards and Honors

'60s

Eugene Bauer, '67 MD, co-founder and chief medical officer of Dermira, Inc., in Menlo Park, Calif., received a Presidential Citation award from the American Academy of Dermatology.

'70s

Gary Jay, '76 MD, '80 GME, chief medical officer at Raleigh, N.C.-based AdviseClinical, was recognized by Strathmore's Who's Who as Professional of the Year 2016 for his outstanding contributions and achievements in the field of drug development.

'80s

Larry Kwak, '83 MD, '84 PhD, director of City of Hope's Toni Stephenson Lymphoma Center, was awarded the 2016 Ho-Am Prize in Medicine, recognizing his research on immunology and therapeutic cancer vaccines.

J. Stuart Wolf Jr., '88 MD, became the inaugural associate chair for clinical integration and operations of the Department of Surgery and Perioperative Care at the new Dell Medical School, University of Texas at Austin.



## '90s

Barbara "Bobbie" Byrne, '93 MD, '96 GME, MBA, chief information officer at Edward-Elmhurst Health, was promoted to executive vice president and chief information officer.

Ramiro Sanchez, '94 MD, senior vice president of Global Clinical Development at Otsuka Pharmaceutical Development & Commercialization, received the 2016

International Society for CNS Drug Development Award for Leadership.

The award recognizes Sanchez's prolific record of leading the development of new treatments for patients with psychiatric and neurological disorders, as well as spearheading innovative approaches in pharmaceutical medicine.



Bollinger Parker, '95 MD, as president of ACEP. She begins her term in October. Parker has served in numerous leadership positions during her 20 years of membership with the organization including: chair of ACEP's board, of the Coding and Nomenclature Advisory Committee and of the Young Physicians Section. She also was president-elect/secretary/treasurer of the Illinois Chapter. She has two visions for ACEP: establishing emergency medicine as the nucleus of a new acute care continuum and fostering diversity and inclusion within the specialty.

Sandra L. Wong, '97 MD, MS, was named chair of surgery at Dartmouth-Hitchcock Medical Center (D-H) and the Geisel School of Medicine, and senior vice president of the surgical service line at D-H.

Wong came to Dartmouth from the University of Michigan Health System, where she was William W. Coon Professor of Surgical Oncology, associate chair of clinical affairs and associate chief of staff. She is a nationally recognized authority in the management of soft tissue sarcomas, melanoma, Merkel Cell carcinoma and gastrointestinal cancers.

## '00s

Keri Christensen, '08 MS, will serve as the National Committee for Quality Assurance's inaugural Phyllis Torda Health Care Quality Fellow for the 2016-17 year.

During her fellowship, Christensen will work on critical issues related to healthcare



quality, research and policy. Christensen graduated with the inaugural class of the HealthCare Quality and Patient Safety Master's program at Northwestern.

Kenneth Poole, '08 MD, recently became chair of diversity and inclusion for Mayo Medical School. At Mayo in Arizona, Poole co-leads the educational section on Health Policy, Economics and Technology; is on the Mayo Clinic Arizona medical school admissions committee; and sits on the Arizona Space and Capital Committee and the Mayo Clinic Health Information Coordinating Subcommittee. *(More information online.)*

## GME

Wayne N. Burton, MD, '77 GME, received the 2016 Centennial Kammer Merit in Authorship Award from the American College of Occupational and Environmental Medicine. The honor highlights his article, "The association of self-reported employee physical activity with metabolic syndrome, health care costs, absenteeism and presenteeism" published in the *Journal of Occupational and Environmental Medicine* as making an outstanding scientific contribution to the field.

Howard B. Chodash, MD, '95 GME, was re-elected speaker of the Illinois State Medical Society (ISMS) House of Delegates: his new term runs through April 2017. Chodash practices gastroenterology with Hospital Sisters Health System in Springfield, Ill. He has dual board certifications in internal medicine and gastroenterology and serves on the medical staffs at St. John's Hospital and Memorial Medical Center.



The American College of Emergency Physicians (ACEP) elected Rebecca "Becky"

A longtime member of ISMS, Chodash has served on numerous councils and committees including the Council on Education and Health Workforce, Council on Communications and as an Illinois delegate to the American Medical Association (AMA) House of Delegates. He is also a fellow with the American College of Physicians and the American Gastroenterological Association. Locally, he is a past president and

trustee of the Sangamon County Medical Society. Chodash is the past president of the Jewish Federation of Springfield.

In July, [Jeffrey Rothenberg, MD, MS, '96 GME](#), became executive director of medical education at St. Vincent Indianapolis. In this new role, Rothenberg will work to ensure quality medical education, service and adherence to best practices by


spearheading medical education and research initiatives aimed at enhancing quality, patient safety and clinical integration. This includes working with leadership at various medical schools, including Marian University, to fully implement clinical training affiliation agreements for medical students, residents and fellows. He plans to continue his gynecologic surgical practice. *(More information online.)*

**KENNETH POOLE, '08 MD, HEADS MAYO MEDICAL SCHOOL'S DIVERSITY AND INCLUSION INITIATIVES. WAYNE N. BURTON, MD, '77 GME, WAS HONORED FOR MAKING AN IMPACT IN THE FIELD OF OCCUPATIONAL AND ENVIRONMENTAL MEDICINE.**



## DDT

Nathan Birnbaum '72 DDS, of Waban, Mass., received the Lewis H. Millender Community of Excellence Award from the Combined Jewish Philanthropies' Health Professions Team last November. The honor recognizes the recipient's commitment to providing outstanding service to the health care and Jewish communities on the local, national and international levels.

[David P. Christensen '85 DDS](#), of Kaysville, Utah, a general dentist, was named president of the United States Dental Tennis Association in November. Christensen has practiced dentistry for 30 years in Davis County, Utah. His late father was [Robert J. Christensen '51 DDS](#). 





# One Healthcare System for All

Written By  
Cheryl SooHoo

A leader in public health policy and medical and social justice issues, Quentin D. Young, MD '48, started questioning the status quo as a youth growing up in Chicago's Hyde Park neighborhood. Supporting causes he felt advanced the common good, Young passionately championed issues ranging from ending racial bias against minority physicians to creating a universal, single-payer national healthcare system in the United States.

On March 7, the world lost this longtime advocate for social rights. Young passed away in Berkeley, California, at age 92.

The 2008 recipient of the Feinberg School of Medicine's Distinguished Alumni Award, Young was tireless in his efforts to bring affordable health care to all Americans throughout his long and storied life. Even at age 77, he hiked 167 miles across Illinois with former patient and friend Illinois Gov. Pat Quinn to promote universal health care. "His social consciousness was enormous," says Eric G. Neilson, MD, vice president for Medical Affairs and Lewis Landsberg Dean at Feinberg.

In 1951, Young founded the Committee to End Discrimination in Chicago Medical Institutions; more than a decade later he helped

## Curriculum Vitae

1951

Founded the Committee to End Discrimination in Chicago Medical Institutions

1981

Created the Health and Medicine Policy Research Group

2008

Received the Feinberg School of Medicine's Distinguished Alumni Award

## Notable Patients

**Martin Luther King Jr.**

**Mike Royko**

**Harold Washington**

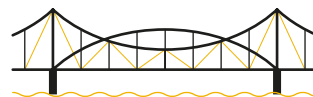
establish the Medical Committee for Human Rights, a group of physicians who provided medical services at civil rights marches and rallies. In the mid-'60s, he served as a personal physician to Martin Luther King Jr. during the reverend's time in Chicago. Other high-profile patients included Chicago Mayor Harold Washington and columnist Mike Royko. In 2008, he chatted up Barack Obama, a senator at the time, about his plans for improving healthcare coverage across the country.

"I wanted to know what his views were on the single-payer proposal," said Young in an article that appeared in the medical school's *Ward Rounds* in 2008. Although not shy in his efforts to lobby support from legislators, Young had known Obama years earlier, when he was a patient of a colleague physician in Young's Hyde Park clinical practice. Asked what he thought of Obama's healthcare platform at the time, Young said he thought it didn't go far enough. "In my opinion, it's bad because it maintains employer-based private insurance!" Even after the passage of the Affordable Care Act or "ObamaCare," Young still contended in various media interviews that more needed to be done.

Young completed his residency training at Cook County Hospital in 1952. He served as the hospital's chair of internal medicine during the '70s and early '80s and helped establish Cook County's Department of Occupational Medicine. In 1981, Young created the Health and Medicine Policy Research Group, a nonprofit advocacy institute to promote universal coverage as well as other health policy issues. Former president of the American Public Health Association, Young also served as national coordinator of Physicians for a National Health Program (PNHP) for many years.

In 2008, Young remarked that the PNHP was once considered irrelevant because its mission was unfeasible. "That's over now," he had said. "There have been enough victories and public discussion so that we have become the undesirable alternative. Doesn't sound like much, but that's upward mobility."

Given the single-payer platform of popular Democratic presidential candidate Bernie Sanders during his bid for the nomination this election season, it seems Young's strong spirit for justice lives on. **M**



# *A FAMILY LEGACY* *of* MEDICINE *in* WISCONSIN

WRITTEN BY SARAH PLUMRIDGE

The fourth generation of physicians in his family, Sigurd “Sig” Gundersen III, ’83 MD, works in the family business, so to speak. His great-grandfather, Adolf Gundersen, traveled from Norway 125 years ago to start a clinic in La Crosse, Wisconsin. That venture now has grown to become the Gundersen Health System, one of the largest employers in the county.

A pediatric and vascular surgeon, Gundersen has spent the last 30 years practicing at the physician-led and not-for-profit health-care system that bears his family’s name. When Gundersen first started practicing, surgeons were just starting to subspecialize. His interests in pediatrics and vascular surgery aligned with the needs of the hospital.

“I like pediatric surgery because children are truly the next generation,” says Gundersen. “If we can improve their health and well-being, our country and humanity can do better.”


Throughout his career, Gundersen has also participated in the health system’s trauma program. He has also enjoyed having the opportunity to get engaged on the administrative side of the hospital and recruit young physicians and surgeons.

## FROM OFF SHORE TO ON SHORE

Gundersen transferred to Northwestern as a third-year medical student after completing his first two years of medical school in the Dominican Republic. He recounts his time on the Chicago campus to be a remarkable adventure. Before starting his clinical rotations, Gundersen remembers completing an eight-week course on diagnosing patients and practicing hands-on patient exams to get “up to snuff” with the rest of the students.

“I owe Northwestern a great debt,” he says. “Early on, many of us recognized that the clinical training was going to be weak overseas. The medical school had the foresight that many of us would have successful careers.”





Gundersen applauds Feinberg for continuing to provide opportunities for medical students. "Northwestern understands how to train the physicians we will need in the future and realizes there are many different ways to be outstanding physicians, if students are given the chance," he says. "I'm excited about the medical school's goal of a tuition-free program. I really want to encourage people to pay it forward on the education."

After earning his MD degree from Northwestern, Gundersen attended St.

hometown of La Crosse to join his father and uncle at the Gundersen Health System.

"Going home gave me the opportunity to practice broadly and it was a setting where I could focus on the care of my patients," he explains. "Also, I could teach and pass on the skills and knowledge I had gained."

#### GLOBAL PARTNERSHIPS

Since his experiences in the Dominican Republic, Gundersen has had an interest in global health. Gundersen and his wife have been active participants in the Gundersen

relations with leadership and people overseas to try to help them accomplish their goals."

The Gundersens have participated in the Ethiopia partnership, which is a collaboration with Project Mercy, an Ethiopian-based NGO. While in Ethiopia, Gundersen had the opportunity to practice and teach surgical and nursing techniques in the Yetebon community. While Gundersen's wife is not a physician or surgeon, she has been able to help assist him on surgeries in Ethiopia, which he describes as "absolutely wonderful."

The two of them also participated in a project to help the community repair surgical scissors. The first year they traveled to Ethiopia, they learned that while surgeons have a lot of equipment, many times they don't have a way to make repairs, especially surgical scissors, which are often left dull. When the Gundersens returned to Wisconsin, they spent time learning how to sharpen scissors so the following year they could go back and teach the surgeons. Gundersen plans to participate in the Nicaragua trip in 2017.

"Opportunities will come along in your career to expand your boundaries. The key is to remain open and flexible," he says. "Change is inevitable and flexibility may be the hardest thing to incorporate in our lives." **M**

*"We have a responsibility as global citizens to give back, and our Global Partners program improves the health of global communities."*

Joseph's Hospital in Milwaukee and the University of New Mexico in Albuquerque, New Mexico, for his general surgery residency. "Surgery is a neat combination of scientific skill set and a humanitarian skill set," he says. "Medicine is based in a science, yet each individual is different in his or her needs — it's a challenge and it's exciting. It's great when you can connect with your patients."

Upon completing his training, this appreciative alum returned to his

Global Partners program, which was started 10 years ago by the CEO of Gundersen Health System, Jeff Thompson, MD. The program partners with communities in Nicaragua and Ethiopia, in addition to fostering a relationship with the Indian Health Service in Pine Ridge, South Dakota.

"We have a responsibility as global citizens to give back and our Global Partners program improves the health of global communities," says Gundersen. "We have a long-term commitment to develop

# In Memoriam

Ernest T. Ajax, MD, '55 GME, of Salt Lake City, died Aug. 16, 2015.

Bruce P. Anshutz, '88 DDS, of Terre Haute, Ind., died March 16, 2015.

Richard H. Bick, '49 MD, of Eden Prairie, Minn., died April 26, 2016.

Sidney L. Bronstein, '52 DDS, of Vancouver, Wash., died Dec. 4, 2015.

Paul B. Brown, '48 MD, of Stockton, Calif., died Feb. 12, 2016.

James M. Carhart, '52 MD, of Mount Vernon, Ohio, died Feb. 19, 2016.

Donald James Carnow, MD, '86 GME, of Wilmette, Ill., died March 21, 2016.

Robert J. Casey, '46 MD, of Great Falls, Mont., died March 17, 2015.

James B. Conner, '55 MD, '61, '63, '64 GME, of Sun City West, Ariz., died Feb. 15, 2015.

Mary McEwen Doll, '66 MD, of Cleveland, died Aug. 28, 2015.

Arthur S. Evelev, '48 MD, of Long Beach, Calif., died Jan. 21, 2015.

Larry J. Fundell, '72 MD, of La Crosse, Wis., died Oct. 20, 2015.

Gregory M. Gullahorn, '86 MD, of San Diego, died March 9, 2016.

Alex "Scott" N. Gunn, '62 MD, of Sacramento, Calif., died March 11, 2016.

Harlan W. Haimes, '72 DDS, of Highland Park, Ill., died Nov. 7, 2015.

Jay R. Heiner, '56 MD, of Center Harbor, N.H., died April 13, 2016.

David J. Hosbein, '55 MD, of Grass Valley, Calif., died March 20, 2016.

Robert V. Jones, '51 MD, of St. Charles, Ill., died March 30, 2016.

Albert J. Josselson, '45 MD, '46 GME, of Newport Beach, Calif., died Feb. 20, 2016.

Roy J. Korn, '46 MD, '48 GME, '52 GME, of Lombard, Ill., died Nov. 18, 2015.

Ruth P. Lacey, '56 BSPT, of Indianapolis, died April 18, 2016.

Herbert J. "Tim" Louis, '54 MD, of Phoenix, died Feb. 16, 2016.

Laird D. McRae, '55 MD, of Kelso, Wash., died March 25, 2016.

Robert C. Murphy, '44 MD, of Quincy, Ill., died March 2, 2016.

Delano M. Pfeifle, '59 MD, of Riverside, Calif., died Feb. 3, 2015.

John E. Power Jr., '47 MD, of Duluth, Minn., died April 29, 2016.

C. Gary Pramhus, '69 MD, of Pelican Rapids, Minn., died Nov. 5, 2015.

Edward C. Saltzstein, '57 MD, of El Paso, Texas, died March 9, 2016.

Paul Philip Scheerer, '58 MD, of Phoenix, died March 27, 2016.

Michael I. Sorkin, '66 MD, '72 GME, of Vernon Hills, Ill., died March 3, 2016.

Ted J. Waller, '66 MD, of Boone, N.C., died April 27, 2016.

John C. Worley Jr., '52 MD, of Logan, Utah, died March 24, 2016.

# Upcoming Events

SEP

SEPTEMBER 30-OCTOBER 1, 2016

3rd Annual Chicago CSI: Case-Based Coronary & Structural Heart Intervention Update

Gallery at GreenRiver, Lavin Pavilion, 18th Floor, 259 E. Erie Street, Chicago.

For more information, call 312-503-8533.

OCT

OCTOBER 6, 2016

International Institute for Nanotechnology Symposium

Hilton Orrington — Grand Ballroom, 1710 Orrington Avenue, Evanston.

For more information, call 847-467-2530.

OCTOBER 7, 2016

Regulation of the Cardiac Sodium Current By Direct S-Nitrosylation of SCN5A — Implication for Inherited and Acquired Disease

Robert H. Lurie Medical Research Center, Searle Seminar Room, 303 E. Superior Street, Chicago.

For more information, call 312- 503-0344.

OCTOBER 15, 2016

Parkinson's Disease Patient & Family Autumn Symposium

Northwestern Memorial Hospital, Feinberg Pavilion, Room A, 251 E. Huron Street, Chicago.

For more information, call 312-926-8400.

OCTOBER 20, 2016

Opioids: An Interdisciplinary Symposium

Levy Mayer Hall Lincoln Hall, Room LM104, 357 E. Chicago Avenue, Chicago.

For more information, call 312-503-1473.



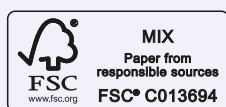
MORE EVENTS AT  
**MAGAZINE.NM.ORG**





## A Mover and 'Shaper' of Healthcare Policy

When Alan R. Nelson, '58 MD, graduated from Northwestern, he returned to his home state of Utah to embark on a busy career as an internist specializing in endocrinology. An idealist, though, he was not content to simply practice medicine: Nelson soon became a moving force in helping to shape national healthcare policy. In 1971, he was chosen to head a Utah Medical Association (UMA) committee to develop a quality assurance mechanism for state medical care — resulting in a grant to develop a statewide peer review program. In 1989, he became president of the American Medical Association (AMA). During his one-year term, he led the development of several initiatives including the Health Access America Program — an initiative of the AMA to improve access to affordable, high-quality health care. Since that time, the health coverage of all Americans continues to evolve thanks to Nelson and other pioneers in the field. Read more about this notable alumnus in the magazine's history blog at [magazine.nm.org](http://magazine.nm.org).



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## Download Feinberg's New Mobile App

Feinberg has gone mobile! Released in January, a new Feinberg app features detailed campus maps, a school directory and directions to all of the medical school and hospital campus' buildings, as well as information about nearby dining and lodging options. Developed to support the mobile experience, the free app allows users to explore Feinberg in myriad ways: from reading up on the latest research and educational news to connecting with the medical school's social media channels.

The Feinberg app is available for iPhone and Android phones. Dive in to learn more about the medical school's history, curriculum and compelling on-campus events. Download the native applications in the iTunes App store and the Android Marketplace.



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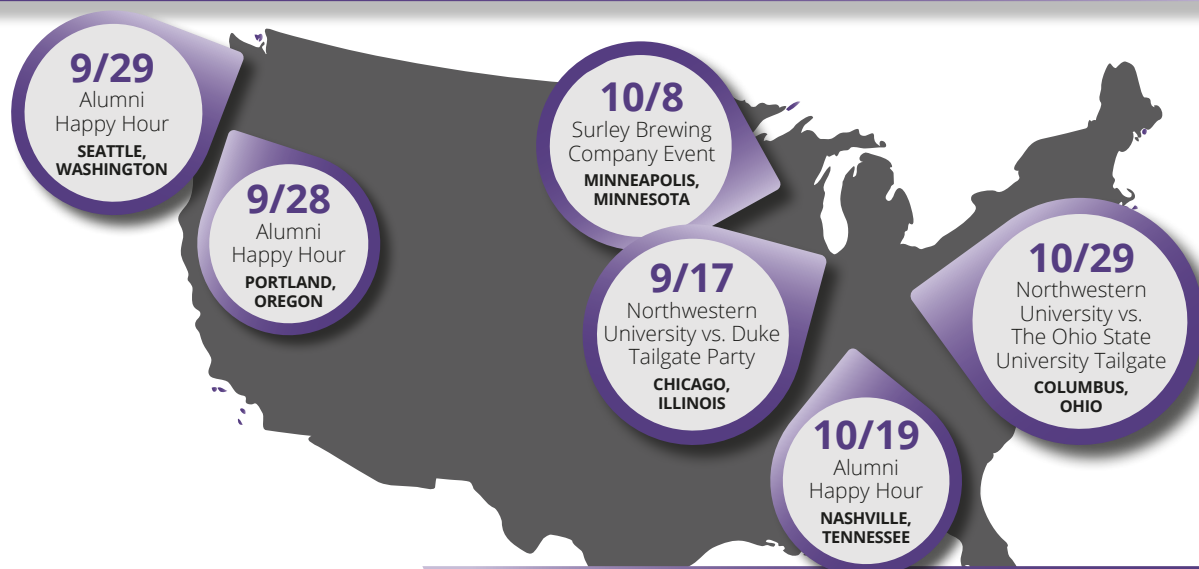
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