

Breakthroughs

Feinberg School of Medicine Research Office

February 2019



Clyde Yancy, MD, MSc, chief of Cardiology, with colleagues in the clinic.

Rewriting Cardiovascular Care Guidelines

By Anna Williams

In the effort to strengthen bench-to-bedside research, there has been much focus on bridging the gap between a basic science finding and clinical investigation. Equally important, however, is a final step in the pipeline: ensuring that the resulting discoveries, tests and treatments are implemented into clinical practice — where they can truly impact patient health.

It's the reason why many Northwestern faculty have dedicated a significant segment of their careers to creating national cardiovascular guidelines.

"For me, doing research is critical — but it's not enough," explained [Philip Greenland, MD](#), the Harry W. Dingman Professor of [Cardiology](#), who has both led studies that inform guidelines and served on writing committees. "In medicine, there are lots of areas where we don't have an answer. But there are also a lot of areas where we do. And if we don't figure out how to make those findings applicable in practice, then it's like all that research never happened."

Writing the Manual

In November, the American Heart Association (AHA) and the American College of Cardiology (ACC) released much-anticipated new [guidelines](#) on the management of blood cholesterol. The guidelines, which called for a more personalized treatment approach, were produced by a writing committee of 24 leading experts in the field — a team that included Northwestern's own [Neil Stone, '68 MD, '74 '75 GME](#), the Robert Bonow, MD, Professor of Cardiology, as committee vice chair, and [Donald Lloyd-Jones, MD, ScM](#), senior associate dean for Clinical and Translational Research, as a committee member.

This was just the latest example in a long history of Northwestern faculty helping to translate scientific evidence into cardiovascular guidelines for the nation's clinicians. [Clyde Yancy, MD, MSc](#), chief of Cardiology, the Magerstadt Professor and vice dean for Diversity and Inclusion, has also long been a leader in guidelines for heart failure management, while [Robert Bonow, MD](#), the Max and Lilly Goldberg Distinguished Professor of [Cardiology](#), has served on the committee dedicated to heart valve disease guidelines for more than 20 years, including a full decade as chairman.

Cardiovascular Care *(continued from cover page)*

Stone, in fact, has been involved in national cholesterol guidelines since they were released for the first time in 1988. “I enjoy the challenge of finding the best evidence to guide clinical practice,” he said.

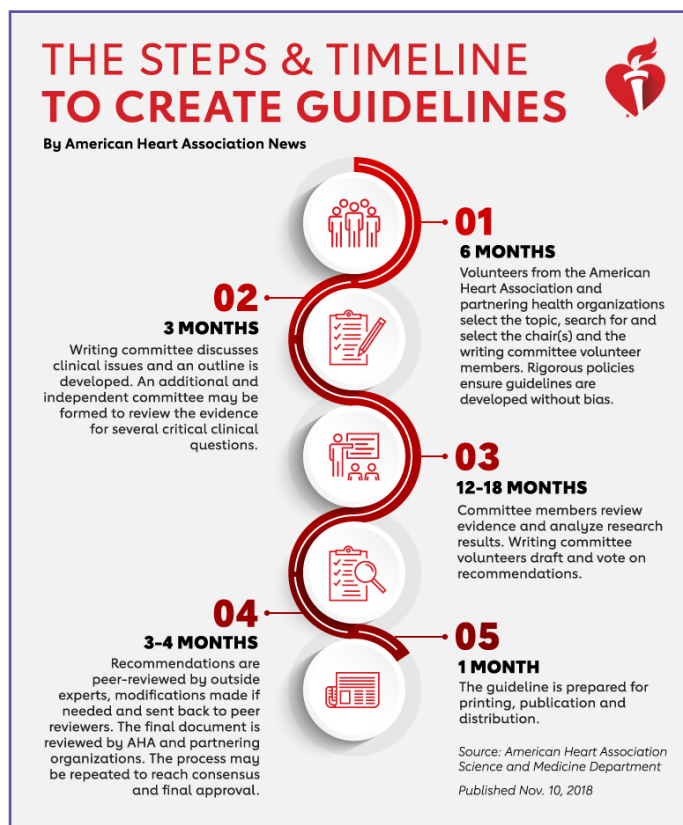
That process is rigorous and comprehensive. In the area of cardiovascular disease, the AHA and ACC partner to produce what are considered some of the nation’s highest-quality guidelines. To do so, the organizations form a committee of top scientific and medical experts to address a major question or topic. Committee members, who all serve as unpaid volunteers, are carefully chosen to include a variety of perspectives and backgrounds. There are also strict rules governing members’ potential conflict of interests and relationships with industry.

The committee members initiate an extensive process of evidence gathering and literature review, where each scientific publication is analyzed carefully to ensure guidelines are driven by the highest standards of research. “There is a very well-established and serious process to make sure we’re not omitting any important data,” Bonow said.

The committee discusses the available evidence and votes on recommendations. After a lengthy peer-review process, the guidelines are published and disseminated.

Not all recommendations are equal, explained Lloyd-Jones in a recent *Breakthroughs* [podcast](#). Writing committees [use two descriptors](#) to qualify recommendations for clinicians: class of recommendation and level of evidence. Class of recommendation suggests how likely a patient is to benefit in proportion to any risk, ranging from Class I — indicating a strong recommendation for the intervention, treatment or testing — to Class III, indicating strong evidence that it is *not* beneficial or is even potentially harmful.

“We also try to provide a sense to the practitioners of just how much good evidence is behind each of these recommendations,” said Lloyd-Jones, the Eileen M. Foell Professor and chair of [Preventive Medicine](#). For example, Level A indicates that the recommendation was based on data



Source: American Heart Association

from multiple randomized controlled trials, Level B indicates moderate-quality data, and Level C indicates that there is limited data, but a consensus of expert opinion.

Thus, as the quantity of scientific evidence has increased over the years, so has the quality of clinical guidelines.

It’s a progression Bonow has personally witnessed in heart valve disease guidelines. “When we first started, there were very little data in valve disease, and so the initial guidelines were pretty much based upon a consensus of the committee,” Bonow explained. “But as the field has evolved and the knowledge base has grown exponentially, 20 years later we now have more randomized clinical trials. Now as we update the guidelines, we have stronger evidence to base our decisions on.”

Guiding Future Research

While new evidence encourages updated guidelines, the process can work as a feedback loop: new guidelines also stimulate more research.

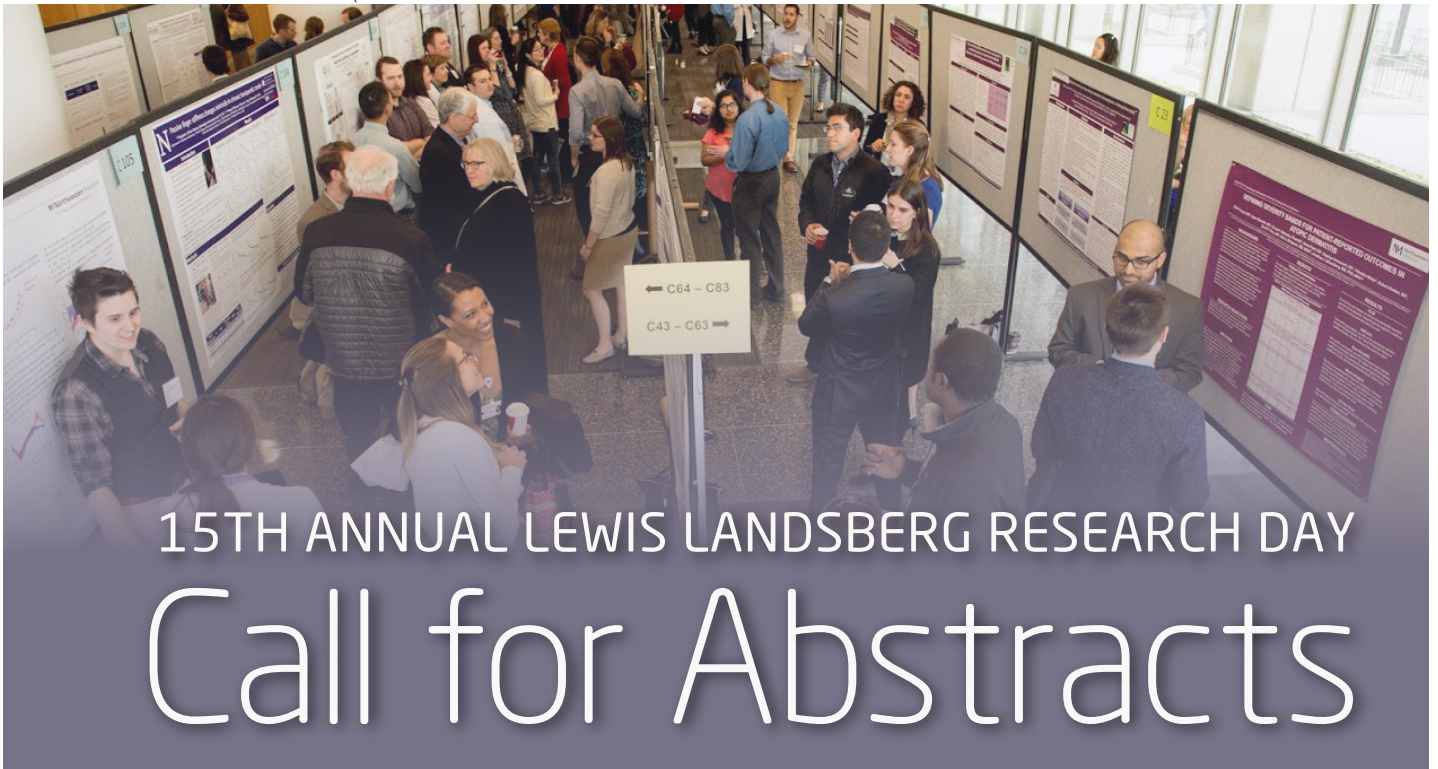
“One of the consequences of doing these very extensive literature reviews is sorting out where we don’t have answers. And once we do, we want to promote the development of research in that area,” Greenland said.

Much of that cardiovascular research is also led by Northwestern investigators. For example, Namratha Kandula, MD, MPH, associate professor of Medicine in the Division of General

(continued on page 11)

CONTENTS

Call for Proposals: Research Day 2019	3
Faculty Profile: Craig Horbinski, MD, PhD	4
Student Profile: Virginia Gallagher	5
Staff Profile: Ashlee Drawz	6
In the News and NUCATS Corner	7
Sponsored Research and New Faculty	8
Funding	9
Galter Library Connection	10
High-Impact Factor Research	11
Events and NIH News	12



15TH ANNUAL LEWIS LANDSBERG RESEARCH DAY

Call for Abstracts

Submission Deadline

Friday, March 8 at 11:59 p.m.

Research Day is Thursday, April 4 from 1 to 5 p.m. on the Chicago campus.

This event features a poster competition open to researchers in the following categories:

- Faculty
- Graduate students
- MD-PhD students
- Medical students
- Postdoctoral researchers and fellows
- Clinical residents and fellows
- Research staff

Those interested in participating in the 2019 event must submit an abstract online no later than **11:59 p.m. on Friday, March 8** at feinberg.northwestern.edu/abstracts

Space is limited and will be assigned on a first-come, first-serve basis.

For more information, please contact the Feinberg Research Office, 312-503-1499 or researchday@northwestern.edu

A New Kind of “Social Scientist”

Craig Horbinski, MD, PhD, associate professor of Pathology and Neurological Surgery



[Craig Horbinski, MD, PhD](#), associate professor of [Pathology](#) and [Neurological Surgery](#), is not just a physician, scientist and expert on brain tumors. He's also a minor [Twitter celebrity](#).

In 2017, a colleague recommended Horbinski join the micro-blogging website to network and broadcast his research to a wider audience. It turns out, posting pathology slides and asking other users to guess the diagnosis was popular.

However, Horbinski is busy with much more than his Twitter account: He has an active clinical practice in neuropathology, with a focus on molecular diagnostics. He's authored over 100 peer-reviewed publications, is the principal investigator of his own NIH-funded research lab, directs the research histology core for the [Robert H. Lurie Comprehensive Cancer Center](#), serves as director of Northwestern's [Nervous System Tumor Bank](#) and leads the Biospecimen Core in the new NCI P50 Specialized Program of Research Excellence (SPORE) [grant](#) focusing on brain tumors.

Q&A

What are your research interests?

My primary research focus is on gliomas, the most common tumor arising within the brains of adults. Most of these tumors are unfortunately incurable, although some subtypes are less malignant than others.

Within gliomas, I've been studying why tumors with a mutation in a gene called IDH1 are less aggressive than tumors without that mutation. I am also developing a new line of research into meningiomas, another common tumor that arises in the membranes covering the brain. Although most meningioma patients have better outcomes than glioma patients, some meningiomas can be quite aggressive — recurring and invading the brain despite repeated surgery and radiation — and are terribly debilitating.

What is the ultimate goal of your research?

I'm hoping we can come up with better ways of managing the care of patients with gliomas, by learning why some are more aggressive than others. For meningiomas, currently all we have to offer are surgery and radiation. It would be great to come up with another treatment option for those tumors.

What types of collaborations are you engaged in across campus (and beyond)?

As the director of the Nervous System Tumor Bank at Northwestern, I'm heavily involved in many projects, both at Northwestern and elsewhere. We collect a lot of common and rare brain tumors using strict quality control, and have a full-service histopathology research lab.

In the last three years, we've supported over 80 projects from nearly 30 investigators and supplied anonymized biospecimens for several large-scale, multi-institutional endeavors. Skills in bio-banking and advanced tissue-based analysis are relatively scarce commodities in cancer research, so I'm always glad to help.

How did you become interested in this area of research?

Originally, I was drawn to the neurosciences, specifically neurodegeneration. But as I progressed through my neuropathology training at the University of Pittsburgh, I became more fascinated with gliomas.

At the time, molecular diagnostics was growing as a newer field. It was remarkable how two different tumors, looking virtually identical under the microscope, could produce such radically different patient outcomes because their genotypes were different. And, because most brain tumor outcomes aren't great, it seemed like an area ripe for improvements in therapy.

What do you enjoy about teaching and mentoring young scientists in the lab?

The best thing is seeing my trainees thrive and advance their own careers. I owe a lot of people over my entire life, dating all the way back to grade school, for helping me along this path. It's gratifying to repay society, so to speak, by training the next generation of pathologists and scientists. After all, their success is my success.

(continued on page 9)

Understanding Head Trauma in Athletes

Virginia Gallagher, Clinical Psychology PhD Program



Virginia Gallagher, a fourth-year student in the [Clinical Psychology PhD Program](#), studies the risk factors, protective factors and consequences of head trauma sustained by athletes in the laboratory of [James Reilly, PhD](#), associate professor of [Psychiatry and Behavioral Sciences](#).

Q&A Where is your hometown?

I grew up in the Washington D.C. area.

What are your research interests?

My research aims to understand the neurobiological and psychological risk factors, protective factors and consequences of head trauma sustained by athletes. Recent projects in my lab have focused on female-specific factors, such as how oral contraception or menstrual cycle phase are related to head trauma outcomes. (Read our recent [study](#) that found that female sex and hormonal contraceptive use can affect concussion outcomes.) We also have multiple ongoing projects where we use eye movement testing, a lab-based measure of cognitive and sensorimotor abilities, to detect change following concussion (i.e., blows to the head that cause clinical symptoms) and subconcussive hits (blows to the head that are repeatedly sustained by athletes who engage in collision sports like ice hockey, football, rugby and soccer that do not cause immediate symptoms but may have adverse long-term consequences).

What exciting projects are you working on?

I am currently immersed in my dissertation work, which is comprised of two main projects. The first project aims to determine whether eye movement testing has adequate sensitivity to detect cognitive and sensorimotor change based on exposure to subconcussive impacts. To test this hypothesis, I am conducting eye movement testing pre-season and post-season with athletes engaged in collision (ice hockey, rugby and soccer) versus non-collision sports (cross country, swimming). Some neuroimaging markers have been sensitive to change pre-season versus post-season in collision sport athletes who sustained repeated blows to the head but there are no clinical measures that have demonstrated adequate sensitivity thus far. Eye movement testing has been sensitive to subtle neurocognitive change in other clinical populations when other measures, such as traditional clinical neuropsychological tests, have not, so we are excited to investigate the use of this tool in collision sport athletes. This project was recently funded by the National Institutes of Health, National Institute of Neurological Disorders and Stroke through the F31 fellowship grant mechanism.

The second project, led by [Amy Herrold, PhD](#), research assistant professor of [Psychiatry and Behavioral Sciences](#), and [Yufen Chen, PhD](#), research assistant professor of [Radiology](#), aims to understand how concussion affects the female brain and cognition. In this project, we have controlled for the effects of the menstrual cycle and hormones at the time of neuroimaging, as these factors are often overlooked in female athlete studies and may have important implications on outcomes.

We have been fortunate to work closely with clinicians at Northwestern Health Services and Northwestern Athletics in Evanston on these projects. This close collaboration has been integral to the success of our research.

What attracted you to the PhD program?

When I applied to graduate school in 2014, my ideal program was one housed in an academic medical center in which scientists and clinicians worked closely together and had strong training in both clinical and research domains. I also wanted to specialize in neuropsychology and continue engaging in head trauma research. The clinical psychology PhD program at Feinberg was the perfect fit with these goals in mind!

What has been your best experience at Feinberg?

The best part has been working with my research mentor, James Reilly. He strikes the perfect balance of providing sound guidance and expertise based on his years of experience as a clinician and scientist in neuropsychology but also allows, and encourages me, to pursue my own hypotheses and work with a sense of independence. He also has been wonderful at teaching me how to strive for work-life balance while pursuing ambitious short- and long-term professional goals.

How would you describe the faculty at Feinberg?

The faculty I have had the pleasure of interacting with at Feinberg are distinctly passionate about training the next generation of psychologists/neuropsychologists. Faculty members in my department often have clinical responsibilities in addition to their research, teaching, mentorship and administrative responsibilities. Despite being pulled in many directions, they are always available to students and trainees and commit a significant amount of time to training and education.

What do you do in your free time?

Staying actively connected with family and friends is very important to me, so I try to make plenty of time for those relationships. In my free time, I also enjoy staying physically active and, perhaps most of all, eating delicious food. In the summer, I love being outside in Chicago, whether that's biking along the lake shore or having a picnic at the beach. In the winter, I enjoy more indoor activities like yoga and cooking up new recipes!

Helping Physician-Scientists Untangle the Rules and Regulations of Research

Ashlee Drawz, MRSC, CCRC, Director of Research Oversight and Compliance,
Robert H. Lurie Comprehensive Cancer Center of Northwestern University



Q&A

Where are you originally from?

I grew up in Southern Illinois but have been living and working in and around Chicago since 2001.

What is your educational background?

My undergraduate degree is in biology and I earned a Master of Science in regulatory compliance

with a focus on clinical research and regulatory administration from Northwestern's School of Professional Studies. I am also a certified clinical research coordinator with the Association of Clinical Research Professionals.

Please tell us about your professional background.

My career at Northwestern began as a technician in the central lab at Northwestern Memorial Hospital, and I got into research as a volunteer for a pulmonary embolism study in the emergency department. After this, I began working as a clinical research coordinator for the breast cancer surgery team with the Lurie Cancer Center in 2006 and moved to scientific review coordinator for the center in 2009. In 2010, I helped create the role of medical writer. In 2013, I took on a research administrator role with the Northwestern Medicine Developmental Therapeutics Institute and helped oversee protocol development and activation of early-phase research studies. I became logistics operations manager in 2016. In my current role, I oversee teams responsible for regulatory affairs, protocol development, trial registry and reporting, and the NCI-mandated protocol review and monitoring system.

Why did you choose to work at Northwestern?

I grew up in an academic family and have always been drawn to the setting. I like having the opportunity to be involved in research as well as education, and I especially love that Northwestern supports ongoing education for staff and their immediate families.

How do you help scientists and research students at the medical school?

Research can present a lot of hurdles with complicated systems, overlapping requirements and vaguely-worded regulations that make it feel cumbersome to get anything done. I think of my role as helping physician-scientists untangle the web of rules and requirements so they can get their proposals moving and get them approved as quickly as possible, while still ensuring compliance with institutional, state and federal regulations. My team's goal is to help streamline the process so that faculty can see their ideas turn into actual clinical studies faster, and,

ultimately, we will be able to impact the lives of more patients, now and in the future.

I also enjoy opportunities to meet with and help research students, residents and fellows. I believe the more practical training and assistance you can offer to someone early in their career, the better suited they will be to conduct their own research in the future. I also feel strongly that understanding the "why" behind the different regulations and processes is critical, as it helps reduce frustration and improve compliance.

What is your favorite part of the job?

I enjoy reading and hearing about new advances in basic science and then seeing those findings translated into clinical trials. Like any field, advances and changes in the science bring about challenges in regulatory management — some people find change difficult or frustrating, but I find it interesting.

I also like knowing that at the end of the day, even if I'm not the one administering the treatment or performing the surgery or talking to the patient's family, the work I'm doing on the administrative side impacts patients, ultimately helping make those treatments and interventions safer and more effective. I like knowing that I'm helping change lives. My grandmother passed away from cancer in 2008. I might not have been able to prevent her death, but I can help prolong the life of someone else's grandparent, sibling, spouse or child.

What exciting projects are you working on?

CAR-T therapy is becoming a big deal, and we are opening more and more trials in different cancer types. I've also been involved with a phase 0, first-in-human trial of a compound that was developed and underwent preclinical testing at Northwestern. It is unique and exciting for an academic center like ours to also get to conduct the first human trials of such a compound, and helping navigate the regulatory and logistical components of that process has been extremely interesting and rewarding.

What do you like to do in your spare time?

I have young children who keep me busy. As a family, we enjoy outdoor activities like hiking, swimming, camping and skiing. I also like to read when I can find the time, and we are almost always remodeling something in our home. We enjoy traveling — both domestically and internationally — and last year my husband and I took a trip of a lifetime to Iceland.

Anything else we should know about you?

I cannot survive without coffee and cheese, and humor is my coping mechanism for life. If you can't laugh at yourself or the situation, then what's the point?

Connect with Ashlee on [LinkedIn](#).

Research in the News

U.S. News & World Report, December 14

[Crohn's, Colitis May Be Tied to Prostate Cancer](#)

Shilajit Kundu, MD, was quoted.

► This research was also featured in *HealthDay* and *WebMD*.

HealthDay, December 21

[Some Diabetes Drugs Linked to Higher Heart Risks](#)

Matthew O'Brien, MD, was quoted.

► This research was also featured in *U.S. News & World Report* and *WebMD*.

The New York Times, January 4

[One in 10 Adults Have a Food Allergy. Many More Say They Have One.](#)

Ruchi Gupta, MD, MPH, was quoted.

► This research was also featured in *CNN*, *U.S. News & World Report*, *ABC News*, *USA Today*, *Reuters*, *WebMD* and others.

CNN, January 15

[Stem Cell Therapy for Relapsing MS Proves Effective and Safe, Study Finds](#)

Richard Burt, MD, was quoted.

► This research was also featured in *U.S. News & World Report*, *HealthDay*, *Fox News*, and *WebMD*.

Associated Press, January 17

[Nearly One in Four Antibiotic Prescriptions Were Unnecessary in Study of Privately Insured Patients in 2016](#)

Jeffrey Linder, MD, was quoted.

► This research was also featured in *U.S. News & World Report*.

The New York Times, January 18

[Your Sweat Will See You Now](#)

John Rogers, PhD, was quoted.

HealthDay, January 21

[Diet or Exercise — or Both?](#)

► This research was also featured in *U.S. News & World Report*.

WTTW, January 25

[Study Accurately Predicts Severity, Length of Postpartum Depression](#)

Sheehan Fisher, PhD, was quoted.

[More media coverage available online.](#)

Northwestern University

NUCATS

Clinical and Translational Sciences Institute



NUCATS Corner

Optimize Your Research

Galter Health Sciences Library & Learning Center ([Galter](#)) supports the information needs of Northwestern University Feinberg School of Medicine. Galter serves all of Feinberg and is organizationally positioned within NUCATS to facilitate important research, clinical and education synergies on campus. Galter carries out this mission through an array of innovative services and programs, including:

- Enhanced literature searching and [systematic review](#) support for investigators
- Robust support for compliance, including assistance with [NIH Public Access Policy](#) compliance, myNCBI and research reporting guidelines
- The [Metrics and Impact Core](#) provides services and support for maintaining an impactful online identity, assessing and communicating research impact, guidance for dissemination and NIH biosketch format requirements
- A [clinical informationist service](#) provides support for patient care discussions and collaboration with campus partners on journal clubs, seminars and other clinically focused projects
- Expanded informatics and data science consultation services and training is available through the [Galter DataLab](#), including support for self-service clinical data acquisition, analysis and visualization
- Support for transparency and reproducibility best practices, such as methods reporting in manuscripts, data management workflows and guidance for making datasets and other research object broadly discoverable

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Your Ideal Heart Health with Donald Lloyd-Jones, MD, ScM. Listen [here](#).



Finding the Internal Fountain of Youth in Amish Country with Douglas Vaughan, MD. Listen [here](#).

Sponsored Research



PI: Derek Walsh, PhD, associate professor of Microbiology-Immunology

Sponsor: National Institute of Allergy and Infectious Diseases

Title: Nuclear Rotation and Cellular Reorganization During Cytomegalovirus Infection

Human Cytomegalovirus (HCMV) is a beta-herpesvirus that establishes life-long infection in over 60 percent of the world population. While innocuous in most healthy individuals, HCMV is the leading infectious cause of congenital birth defects ranging from hearing or vision loss and cognitive impairment, to severe developmental disabilities, microcephaly and death. In adults, HCMV is a leading cause of restenosis and coronary problems, has been linked to some cancers, and causes major complications in immunosuppressed transplant recipients or AIDS patients.

There is no vaccine or cure and unique aspects of its unusual replication cycle remain poorly understood. Walsh's group has developed innovative new live cell imaging approaches that for the first time reveal the remarkably dynamic nature of cellular remodeling, which includes extensive rotation of the nucleus during HCMV infection and design of small peptides that target this process to suppress infection. In this proposal, his team will determine the mechanistic details of these events, the understanding of which has the potential to identify new antiviral targets and strategies.

[Read more about this project.](#)



PI: Kazuaki Homma, PhD, assistant professor of Otolaryngology – Head and Neck Surgery

Sponsor: National Institute of Deafness and Other Communication Disorders

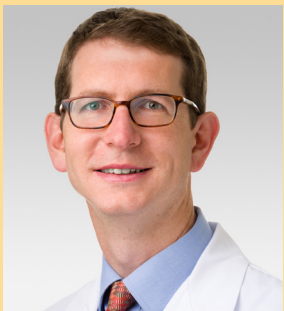
Title: Defining the Pathological Mechanisms of Hereditary Hearing Loss

Numerous mutations associated with hereditary hearing loss (HHL) have been identified in many genes. Defining the physiological roles of HHL genes and the pathological mechanisms of mutations found in these genes is important for the development of remedies against HHL. This study will determine the pathogenicity and pathological mechanisms of mutations found in two HHL genes, SLC26A4 and SLC26A5. SLC26A4 encodes an anion transporter, pendrin. Alterations of this gene are one of the common causes of hereditary hearing loss, and over 300 missense mutations identified in this gene. SLC26A5, meanwhile, encodes a membrane-based motor protein, prestin, which is abundantly expressed in outer hair cells. Its voltage-driven motor activity is essential for normal cochlear amplification, but it remains unclear how this electromotility is used in the amplification process.

Functional characterization of disease-associated mutations is not only important for assessing their pathogenicity, but also beneficial for appreciating the normal physiological roles of genes and defining the molecular mechanisms of the gene products.

[Read more about this project.](#)

Welcome New Faculty



[David VanderWeele, MD, PhD](#), joins us as assistant professor of [Medicine](#) in the Division of [Hematology and Oncology](#). His research focuses on characterizing the heterogeneity and evolution of the cancer genome and finding ways in the clinic to personalize therapy based on genomic changes. VanderWeele earned his MD and PhD from the University of Chicago Medical Scientist Training Program and completed residency and a fellowship in hematology-oncology at the University of Chicago Medical Center. Most recently, VanderWeele was an assistant clinical investigator in the Center for Cancer Research at the National Cancer Institute. He has published numerous peer-reviewed papers and is currently principal investigator on grants through the Department of Defense and the Prostate Cancer Foundation. He has received many awards and honors for his research and academic achievements.

Horbinski*(continued from page 4)*

Tell us about how you got involved with social media. Do you have any tips for other physicians or scientists interested in doing the same?

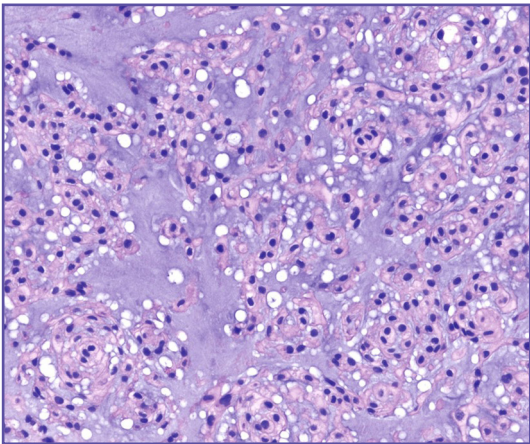
It's interesting, because I haven't been a fan of social media as a rule. I had a Facebook account years ago, deleted it, and haven't missed it at all. But, in 2017, Justin Lathia, a colleague of mine from Cleveland Clinic, encouraged me to sign up for [Twitter](#) as a way to advertise postdoctoral fellow openings in my lab. Then Cassandra Peck, the social media coordinator at Northwestern Neurosurgery, convinced me of Twitter's ability to promote my "brand."

I didn't even know I had a brand to promote, but I soon discovered that Twitter is a great forum for showing [high-yield pathology images](#) and having people guess the diagnoses. I've always put a lot of effort into taking good histologic photomicrographs for papers and presentations, so it's nice to share them with an even wider audience.

To other physicians and scientists, I recommend trying to create mini quizzes like I do, using eye-catching pictures whenever possible. They're very easy to set up on Twitter, and make social media more educational, while at the same time advertising one's expertise.



Tumor in the skull base. What's your diagnosis? (Hint: I'll pop the "bubbly" if you're right).



Horbinski lets other users make guesses, and after a day or two, provides the diagnosis, which in this case was chordoma: "The classic feature of a chordoma is vacuole-bearing cells that look like bubbles. The official term is "physaliferous" cells, which in Greek means "bubble-bearing."

Funding

Progression Markers for Cognitive Impairment in Parkinson's Disease Dementia (R01 Clinical Trial Not Allowed)

[More information](#)

Sponsor: National Institute on Aging

Submission Deadline: March 8

Amount: \$5M between five to seven awards

Synopsis: This grant seeks to identify biomarkers for onset and progression of cognitive impairment in patients with Parkinson's Disease, such as predictors of the development rate of cognitive impairment (i.e., gradual versus rapid progression) and psychotic symptoms characteristic of dementia.

Biology of Bladder Cancer (R21 Clinical Trial Optional)

[More information](#)

Sponsor: National Cancer Institute

Submission Deadline: Standard dates apply; earliest submission date: May 16

Upper Amount: \$275,000 over two years

Synopsis: Limitations exist in the understanding of biological processes of the normal bladder at the molecular, cell and organ levels. This funding will be used to gain knowledge of how molecular and cellular functions of the bladder are altered in cancer and inform interventions. A multidisciplinary team approach and use of clinical specimens are encouraged for both normal and cancer process investigations.

Women's HIV Epidemiology Cohort Studies (R01 Clinical Trial Not Allowed)

[More information](#)

Sponsors: Eunice Kennedy Shriver National Institute of Child Health and Human Development and National Institute of Dental and Craniofacial Research

Letter of Intent: March 4

Submission Deadline: May 14

Upper Amount: \$2.5M in direct costs

Synopsis: This funding will support new and innovative epidemiology research in reproductive-aged women living with HIV in order to help define and understand clinical outcomes over the course of young women's reproductive lives. A new epidemiology cohort of at least 2,000 participants will test a wide range of HIV research hypotheses. This will include research on the effects of antiretroviral treatment on pregnancies, post-partum and lactation periods – including but not limited to contraception, drug-drug interaction and pregnancy outcomes.

[View more funding opportunities](#)

2018 Highly Cited Researchers Roundup

By Patty Smith, Research impact Librarian

Each year, Clarivate Analytics releases [a list of highly cited researchers](#), selected for their “exceptional research performance, demonstrated by production of multiple highly cited papers that rank in the top 1% by citations for field and year in Web of Science.”

Here is a list of Feinberg faculty who made the list in 2018. Congratulations!

Please note that faculty may have more than one appointment.

Eileen Bigio, MD, Pathology
 Robert Bonow, MD, Cardiology
 David Cella, PhD, Medical Social Sciences
 Navdeep Chandel, PhD, Pulmonary & Critical Care
 Mihai Gheorgiade, MD, Medicine & Surgery
 Philip Greenland, MD, Preventive Medicine
 Mark Hersam, PhD, Pulmonary & Critical Care
 Donald Lloyd-Jones, MD, ScM, Preventive Medicine
 Gregory Miller, PhD, Psychology
 Chad Mirkin, PhD, Hematology & Oncology
 John Rogers, PhD, Neurological Surgery
 Karl Scheidt, PhD, Pharmacology
 Samuel Stupp, PhD, Endocrinology
 Clyde Yancy, MD, Cardiology

Alternative Metrics

The number of citations a paper receives is often used as an indicator of the impact a paper has. Citation counts are used to calculate the h-index, a metric that attempts to measure the productivity and citation impact of an individual investigator. However, it can take two to three years for a paper to accrue citations. Now, the use of alternative metrics is on the rise. Also known as altmetrics, alternative metrics track your research on the web in real time through mass media coverage, citations in policy documents, social media mentions, reviews on F1000 and many other outlets.

Since most 2018 papers do not have citations yet, it is difficult to find buzzed-about papers authored by Feinberg faculty using traditional metrics. But alternative metrics allow us to see how our peers, the public and other stakeholders are interacting with our work in different ways.

Let's take a look at some alternative metrics for research papers published in 2018.

Top Papers

[Altmetric.com](#) uses an algorithm to assign research outputs an Altmetric score. Below are the top five research papers authored by Feinberg faculty. The colorful

doughnut represents different types of interactions, e.g. red = news mentions, yellow = blog posts, etc. Click on the titles to view more details.



[Association of Coffee Drinking With Mortality by Genetic Variation in Caffeine Metabolism](#)

Northwestern authors: Cornelis MC



[Associations between chronotype, morbidity and mortality in the UK Biobank cohort](#)

Northwestern authors: Knutson KL



[The vermiform appendix impacts the risk of developing Parkinson's disease](#)

Northwestern authors: Thomas P, Sikora JW



[Association of dairy intake with cardiovascular disease and mortality in 21 countries from five continents \(PURE\): a prospective cohort study](#)

Northwestern authors: Khatib, R



[Association of a Negative Wealth Shock With All-Cause Mortality in Middle-aged and Older Adults in the United States](#)

Northwestern authors: Pool, LR

Citations in Policy Documents

It can take years for papers to accrue citations, and it usually takes even longer for research to influence policies and guidelines. However, over 20 papers published by Northwestern authors in 2018 have already been cited in policy documents, including in reports by the CDC, U.S. Preventive Services Task Force, and in government reports from the Netherlands, Australia and the United Kingdom. This is a good indication that this work is impacting patient care and demonstrates the successful dissemination of this work to diverse audiences. One example is listed below:

[Discordance of Self-report and Laboratory Measures of HIV Viral Load Among Young Men Who Have Sex with Men and Transgender Women in Chicago: Implications for Epidemiology, Care, and Prevention](#); Northwestern authors: Mustanski B, Ryan DT, Remble TA, D'Aquila RT, Newcomb ME, Morgan E. Cited in: Centers for Disease Control and Prevention report, [“Evidence of HIV treatment and viral suppression in preventing the sexual transmission of HIV.”](#)

Learn More

The Metrics and Impact Core housed in Galter Health Sciences Library can help you track your work and learn more about metrics. Please contact Patty Smith to learn more about using these metrics to tell your science story.

– Patty Smith, Research Impact Librarian, patricia.smith@northwestern.edu (312-503-3679)

High-Impact Factor Research

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The Feinberg Research Office regularly tracks research published by Feinberg investigators. The citations are used on web pages, in newsletters and social media, for internal reporting and more. To more accurately track these journals, the Research Office asks that Feinberg investigators use the following institution name in the address field when publishing in peer-reviewed journals: "Northwestern University Feinberg School of Medicine."

Cardiovascular Care (continued from page 2)

Internal Medicine and Geriatrics, is a principal investigator of MASALA, the first longitudinal study to investigate heart disease specifically in South Asian communities. When the AHA/ACC released updated cholesterol guidelines in November, they cited findings from MASALA when recommending more personalized treatment plans for patients.

Once guidelines are put into practice, investigation also continues in other ways. For example, [a recent study](#) led by Lloyd-Jones was the first to assess cardiovascular risk using 2017 AHA/ACC guidelines that lowered the clinical definition for hypertension. The findings, published in *JAMA*, showed that the new guidelines may indeed help identify young adults at higher risk for cardiovascular events.

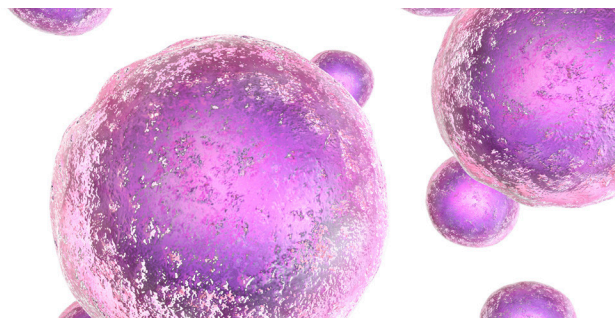
"The purpose of guidelines is to put out there what we understand, based on today's evidence, is best practice. And then if the system works, scientists poke and prod and they push and they do new studies to say, 'Does that really hold up?'" Lloyd-Jones said.

As Northwestern faculty continue their work in guidelines for cardiovascular care, they're faced with the difficult task of translating an increasing quantity of complex scientific data into clear strategies for a diversity of patients across the country.

"Medicine is getting much more complicated. We may have a guideline for someone who's had a heart attack, but patients being seen in practice today may also have kidney failure or other issues — and that's really difficult to codify into a guideline," Bonow said. "We're always looking to identify less-established investigators to serve on guidelines committees, as they may be able to point out what the next generation is looking for in terms of how to manage our patients."

Investigators in a range of departments are actively involved in ensuring that the best scientific evidence is implemented into practice. For example, [Maha Hussain, MD](#), is a leader in genitourinary oncology treatment; [Melissa Simon, MD, MPH, '06 GME](#), is a member of the U.S. Preventive Services Task Force ([USPSTF](#)); and [Judith Paice, PhD, RN](#), builds guidelines for chronic pain in cancer survivors.

Featured Core



Stem Cell Core Facility

This core facility aims to help scientists at Feinberg and Northwestern University conduct research using human embryonic and induced pluripotent stem cells (iPSCs). Patient-specific iPSCs offer unprecedented opportunities to study human developmental processes and develop disease models, using human stem cell-derived somatic cells such as neurons or cardiomyocytes under each person's unique genetic background. They also represent a source for cell replacement therapy and drug development.

The facility offers a variety of services including the reprogramming of primary skin fibroblast cells and peripheral blood mononuclear cells, as well as training in essential culture techniques for human pluripotent stem cells. The core is currently led by [Evangelos Kiskinis, PhD](#), who is the scientific director, and [Angel Alvarez, PhD](#), who is the manager and runs day-to-day operations.

[More information.](#)

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NIH News

Notification: NIH Closed on February 18

NIH, including help desks, will be closed on Monday, February 18, for a federal holiday. NIH policy states that if a grant application due date falls on a weekend or federal holiday, the application deadline is automatically extended to the next business day. For February 16 due dates (R03, R21, R33, R21/R33, R34, R36, U34, UH2, UH3, UH2/UH3), the due date shifts to Tuesday, February 19.

NIH Data Book Re-Launch

NIH is working to make data, reports and analytics more accessible to users. Recently, NIH launched a revamped edition of the [NIH Data Book](#) (NDB), an online resource equipped with infographics and tables about funding trends on grants and contract awards, success rates, peer review, the scientific workforce and other data. The NDB has also been updated with new FY2018 data, while featuring a new user experience for existing data. The new site offers more interactive visualizations and configuration options to make it easier to find information, as well as export options for charts and data.

The legacy version containing FY2017 and earlier data will be temporarily available [here](#) and will be retired in April 2019. Explore the latest edition of the data book [here](#). Feedback for the new site is welcomed and can be sent to RePORT@mail.nih.gov.

New Policy Changes in Effect

A reminder notice was released for several policy changes affecting grant application submission for due dates on or after January 25. The following policies have been revised and are in effect:

- NIH Policy and Guidelines on the Inclusion of Individuals Across the Lifespan as Participants in Research Involving Human Subjects ([NOT-OD-18-116](#))
- Review Criteria Updates (Fellowship – [NOT-OD-18-227](#); Research – [NOT-OD-18-228](#); Career Development – [NOT-OD-18-229](#))
- Changes to the NIH Academic Research Enhancement Award (R15) Program ([NOT-OD-19-015](#))
- Reinstatement of NIH SBIR Direct-to-Phase II Authority ([NOT-OD-19-019](#))
- New Funding Opportunity Announcements Targeting Basic Experimental Studies with Humans ([NOT-OD-19-024](#))
- Harassment and Discrimination Protections in NIH Training Applications ([NOT-OD-19-029](#))
- IH Implementation of the Final Rule on the Federal Policy for the Protection of Human Subjects (Common Rule; [NOT-OD-19-050](#))

For a list of key changes made to the aforementioned policies and how this may impact grant application submission, click [here](#).