$10.2 Million Grant Expands Feinberg Research on HIV Risk for Incarcerated Minorities

African Americans suffer disproportionately from HIV, says Linda A. Teplin, PhD, Owen L. Coon Professor and Vice Chair of Research in the Department of Psychiatry and Behavioral Sciences in the Northwestern University Feinberg School of Medicine.

“African Americans comprise about 13 percent of the United States population,” she explains. “So, if there were no inequities, 13 percent of all new HIV/AIDS cases would occur among African Americans. Instead, more than half of new cases of HIV/AIDS occur among African Americans; among females, that proportion is even higher.”

Teplin and her team consider incarceration one of the key, yet seldom investigated variables. Disproportionately incarcerated, African Americans comprise about 40 percent of youth and adults in jails and prisons. Moreover, HIV occurs four to six times more often in incarcerated populations.

“More than any other racial/ethnic group, African Americans are disproportionately incarcerated and suffer from HIV/AIDS,” notes Teplin.

The National Institutes of Health (NIH) recently awarded Teplin a new RO1 grant to investigate how disproportionate confinement of racial/ethnic minorities affects health disparities in the HIV/AIDS epidemic.
The five-year study, “Drug Abuse, Incarceration and Health Disparities in HIV/AIDS,” will examine how incarceration, release, and re-entry into the justice system affects drug use behaviors, HIV/AIDS sex risk behaviors and injection risk behaviors, and the relationship between patterns of drug use and disorder and HIV/AIDS risk behaviors. They examine variables not often included in prior studies, such as age incarcerated, number of incarcerations, length of incarceration, and the amount of time spent in the community after incarceration.

“To date, health researchers have focused on risky behaviors during incarceration, but our prior studies have found that risky behaviors are less common in correctional facilities than in the community,” explains Teplin, the study’s principal investigator. “We anticipate that the deprivations people suffer while incarcerated may increase subsequent risk-taking behaviors in the community, such as sharing needles or having unprotected sex.”

The $10.2 million grant provides funds to continue interviewing participants in the Northwestern Juvenile Project, the first large-scale longitudinal study of health needs and outcomes of delinquent youth. Many of the study’s more than 1,800 participants have remained part of the Northwestern Juvenile Project since the study began in 1995. In the next phase, the project will be called the Northwestern Project, since its subjects have aged to adults in their late 20s and 30s.

The grant marks the first project undertaken by Teplin’s new program in the Department of Psychiatry and Behavioral Sciences: Health Disparities and Public Policy. Formerly the Psycho-Legal Studies Program, Teplin says that the program’s new name reflects its current focus.

“Psycho-Legal Studies began in the late 1970s when we studied the consequences of deinstitutionalization,” she says. “Since then, the program has expanded to study a variety of psychiatric disorders and how they correlate with health outcomes.”

The program will continue to focus on the highest-risk populations often lost to follow-up in more mainstream studies. For example, school-based populations may exclude delinquent youth, who are often truant or not sampled if detained. Many longitudinal studies of patients lose participants when they become incarcerated.

“Ironically, the populations that have the poorest outcomes are often systematically excluded from research studies,” Teplin says. “Health Disparities and Public Policy will address these key omissions in the literature.”

Feinberg faculty (also co-investigators) who work with Teplin to lead a staff of 42 include: Karen M. Abram, PhD, associate professor of psychiatry and behavioral sciences and associate director of the program; Jason Washburn, PhD, research assistant professor of psychiatry and behavioral sciences; Leah Welty, PhD, assistant professor in the Department of Preventive Medicine; Frank Palella, MD, professor of medicine in the Division of Infectious Disease, and Mina Dulcan, MD, professor of psychiatry and behavioral sciences.

“Dr. Abram designed and runs the entire field operation,” Teplin says. “Moreover, we are able to conduct our studies because of stellar field staff.”

Past research from the Northwestern Juvenile Project has guided public health policy nationwide. Supreme Court amicus briefs, congressional hearings, recent reports of the Surgeon General, and many federal agencies, private agencies, and advocacy groups have cited findings. For example, in March, Teplin testified before the U.S. House Subcommittee on Healthy Families and Communities.

For more information about her research, contact Linda A. Teplin: l-teplin@northwestern.edu or (312) 503-3500.

Members of the field team, pictured here, follow and track subjects and conduct interviews with them wherever they are living, whether incarcerated or back in the community.
**Faculty Profile: Meet John Varga, MD**

John and Nancy Hughes Distinguished Professor in the Division of Rheumatology and Director of the Scleroderma Program

Continuing his family’s longstanding medical tradition, he earned a bachelor’s degree in biology from Columbia University in New York, N.Y., and a Doctor of Medicine degree from New York University before marrying his wife, an emergency medicine physician.

Since completing his internal medicine and rheumatology training, Varga has worked as a clinician and scientist engaged in basic science and clinical research. His research efforts, which have been supported continuously by the National Institutes of Health, encompass biochemistry, cell and molecular biology, signaling, and more recently, immunology, biomarkers, and genetic studies. Varga’s work has resulted in the publication of more than 220 original papers, reviews, and book chapters, and more than 200 abstracts.

**Q&A**

What are your research interests?

My research interests relate to the pathogenesis and treatment of fibrosis, or scarring. This interest grew out of my clinical experience in caring for patients with scleroderma — a devastating disease that is poorly understood, has no effective treatment, and has a high mortality.

I realized that fibrosis occurs not only in scleroderma, but in many diverse conditions that share a similar pathogenesis involving inflammation, autoimmunity, and vascular injury. These conditions together account for 45 percent of all deaths worldwide, and appear to be increasing in prevalence.

Our current research focuses on delineating the shared cellular and molecular mechanisms and genetic factors underlying these fibrosing conditions. Because fibrosis affects many organs and is prominent in diverse conditions, our research involves collaboration with colleagues from many different medical specialties.

What research projects are you currently pursuing?

In the lab, we are examining the role of PPAR-gamma, a metabolic factor best known to be involved in diabetes and obesity. Our recent findings now implicate PPAR-gamma in the pathogenesis and potential treatment of fibrosis. We are also looking at animal models of fibrosis to understand the link between chronic inflammation and fibrosis.

In the clinic, we are studying the genetic factors responsible for fibrosis — using both candidate gene and genome-wide association study (GWAS) approaches. With my colleague, Monique Hinchcliff, MD, instructor of rheumatology, we are examining biomarkers that could be used to identify a subset of patients responding to particular anti-fibrotic therapies. Such biomarkers may provide novel insights into disease pathogenesis, and also be helpful in identifying distinct subsets of patients with varying disease manifestations and prognosis.

What is the ultimate goal of your research?

Our central goal is to have a better understanding of how a

*FSM Researcher* recently asked Dr. Varga about his research and current projects.

*Continued on pg. 9*
New Security Policy for Lab Buildings Earns Positive Reviews

Feinberg faculty, staff, and students will be sporting a new accessory on campus this fall: their WildCARD in plain view.

Effective September 1, a new security policy will be implemented for the Ward, Morton, Searle, Tarry, Olson/McGaw, and Lurie (except the first floor Atrium) buildings.

The policy, available online, states that anyone entering the affected buildings is required to display a valid, current Northwestern credential or obtain a visitor pass from security personnel.

All faculty, staff, students, and other Northwestern employees who do not have a valid credential will be required to provide valid government-issued photo identification, register as visitors, and receive/display a visitor pass. If a valid photo ID is not available, another faculty/staff member or student with a WildCARD can present him/herself at the security station to provide verification of identity, and a visitor pass will be issued.

The new policy has been in development longer than most are aware. “Even prior to January’s breach on campus, we had been planning for security upgrades,” said Eric Boberg, PhD, executive director for research and head of the security planning team. “Though it’s a complicated endeavor, this is the first step in an ongoing process to make our campus safer for faculty, staff, students, and visitors.”

Immediate reaction to the policy on campus was positive. “I think improved security is long overdue within Feinberg and am glad that it has finally been addressed,” said Paul Bryce, PhD, assistant professor in allergy-immunology.

Bryce, the victim of a laptop theft several years ago, believes the policy will help identify individuals who should not be in laboratory spaces. “We work in a building that has both University and hospital floors. It is sometimes difficult to identify who should be on our floor and who should not. Aside from protecting our personal and professional property, we utilize hazardous chemicals, including select agents, that require proper control of access,” he said.

Kathleen Green, PhD, professor in pathology and dermatology, who has had items stolen from her office behind closed doors, was also positive about the policy’s implementation. “We are fortunate to be able to work and study in the Streeterville neighborhood. While it is safe, it is still in the middle of a city, and it’s easy for people to come in off the street during the day,” she said.

While Green notes that at first, the new policy may be seem inconvenient, she believes the community will grow accustomed to the changes. “Most institutions in cities have had this sort of policy in place for years,” she said.

Indeed, there is precedent for badging on Feinberg’s campus already. The Galter Health Sciences Library began checking IDs at the request of students seeking security while they study and work inside the library. Jim Shedlock, AMLS, AHIP-DM, FMLA, director of the library, said, “Students took to showing IDs right away, and even those who forgot to bring them did not raise objections when they had to sign-in as visitors. They understood the policy and appreciated having it in place.”

Still, Shedlock said the policy will be a change. “The policy asks us to change our perspective and be mindful of others who do not display recognizable IDs. It will be difficult for each of us to try and confront others in a positive way – that’s not an easy thing to do when we’ve trained ourselves to be courteous and helpful, especially to strangers.”

Those interested in learning more about the policy and discussing its implications are invited to attend a security town hall meeting on Tuesday, August 17 at 4 p.m. in the Hughes Auditorium (Robert H. Lurie Medical Research Center), on the Chicago campus.

Additionally, reminder signage will be posted on campus and badge reels will be available at security desks to help ease the transition for faculty, staff, and students. All questions about the new policy should be directed to Eric Boberg at e-boberg@northwestern.edu.
Sponsored Research

Brian Mitchell, Assistant Professor in Cell and Molecular Biology
Project title: “Development Dynamics of Ciliated Epithelia”
Sponsor: National Institute of General Medical Sciences

The directed beating of motile cilia is a critical aspect of tissue function in a variety of developmental and physiological contexts, including proper neural development, egg migration through the oviduct and mucus clearance in the respiratory tract. The loss of cilia motility results in a wide range of phenotypes including hydrocephaly, infertility, situs inversus, and respiratory dysfunction.

We have developed the ciliated epithelium of Xenopus larval skin as a model system to ask: How do ciliated cells generate hundreds of cilia and how do they orient those cilia in an organized way?

We have developed confocal light microscopic methods for visualizing specific aspects of ciliated cells in the developing skin of Xenopus embryos. These methods allow us to visualize the massive centriole duplication required to generate the approximately 100 basal bodies that nucleate the cilia. Additionally, we can visualize and accurately quantify the developmental process by which cilia orientation goes from weakly biased to precisely oriented, a process we call cilia refinement.

Using these methods we will address the dynamics of cilia refinement, regulation of cilia refinement, and regulation of centriole duplication. Our results will provide useful information regarding the development of ciliated epithelia. Additionally, loss of cilia and ciliated cells, followed by regrowth, occurs in mature ciliated epithelia in response to transient events including chemical insult (e.g., smoke inhalation), natural processes (e.g., menstrual cycle), and disease (e.g., asthma).

Results from our experiments will provide a model for understanding the homeostasis of ciliated cell polarity that is relevant for designing novel therapies directed towards accelerating the rate of cilia reorientation after respiratory stress.

Animal Corner

Is your lab using non-standard diets/fluids or altered quantities of diets/fluids for your research animals?

If so, here are several points to keep in mind per 9.112.X Institutional Animal Care and Use Committee (IACUC) Policy on Fasted Animals and Animals on Special or Restricted Diets or Fluids:

- **Feeding of special diets/fluids**, restricted intake or fasting of animals requires prior approval from the IACUC and extra record keeping.
- **Investigators must use the 1.103.x FORM** – Monthly Feeding/Fluid Log and follow the instructions in 1.103.x SOP – Instructions for Special or Restricted Diet and Fluid Log.
- **Log sheets and individual blue cage card tags** are provided by the Center for Comparative Medicine (CCM) in animal holding rooms.
- **If cages are found with insufficient levels of special diets/fluids**, or restricted/fasted animals were not checked within the last 24 hours, CCM will attempt to contact the research personnel listed on the 1.103.x FORM – Monthly Feeding/Fluid Log.
- **If arrangements to provide special diet or fluids** or appropriate care have not been made by 3 p.m. on weekdays or 11 a.m. on weekends and holidays, CCM will provide standard diet and reverse osmosis water appropriate for the species.
- **This policy is not applicable** to pre-anesthetic fasting.

The IACUC policy may be found on the [IACUC web site](#).

The CCM SOP and FORM may be found on the [CCM web site](#).
New Clinical Trial: The Testosterone Trial

**Investigator:** Mark Molitch, MD, professor, Medicine - Endocrinology

**Sponsor:** University of Pennsylvania

**Collaborators:** National Institute on Aging, National Institute of Neurological Disorders and Stroke, Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Heart Lung and Blood Institute, Solvay Pharmaceuticals

The Testosterone Trials (“Randomized, Placebo-Controlled, Double-Blind Study of Five Coordinated Testosterone Treatment Trials in Older Men”) are a multi-center set of trials involving 12 clinical sites geographically distributed across the United States.

As men get older, they experience many conditions, often together, that eventually result in the inability to perform many activities of daily living, an increased propensity to fall, and decreased independence. These conditions include mobility disability and low vitality. Elderly men also experience increased anemia, metabolic syndrome, decreased sexual function, and memory impairment.

These conditions likely have multiple causes, but one cause that could contribute to all of them is a low serum testosterone concentration. When young hypogonadal men are treated with testosterone, they experience improvements in sexual function, muscle mass and strength, bone mineral density, sense of well being, and anemia.

However, the benefits and potential risks of testosterone therapy in older men with age-related decline in testosterone concentration are not known and are the subject of this investigation.

Males ages 65 or older are eligible to participate in the trial.

For more information on the trial, visit [clinicaltrials.gov](http://clinicaltrials.gov). The Northwestern Center for The Testosterone Trial can also be contacted directly at (800) 300-3065 or [t-trial@northwestern.edu](mailto:t-trial@northwestern.edu).

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**Researcher Changes**

We asked you how to make the *FSM Researcher* more engaging and beneficial to our readers, and more than 500 of you answered. Beginning this month, readers will begin seeing changes to our regular content based on that feedback. Among the changes:

- Greater emphasis on collaboration among investigators, between Northwestern schools and among affiliates.
- More information about NIH news and more news about workshops, funding, and grants available.
- Information about clinical research in addition to basic and translational research.
- Design updates for easier on-screen reading and printing.

We have also reformatted how we will feature staff and student profiles. Beginning in the September issue, these profiles will be previewed in the *FSM Researcher* and available in full on the Research Office web site.

We hope you enjoy the changes, and look forward to your continued feedback.

- The editorial team

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**Welcome New Faculty**

Laura Rasmussen-Torvik, PhD, MPH, joins as assistant professor in Preventive Medicine.

She recently completed her post-doctoral training at the University of Minnesota, where she also received her master's degree in Public Health in 2004 and doctoral degree in Epidemiology in 2007.

Dr. Rasmussen-Torvik is a genetic epidemiologist interested in studying genetic risk factors for common chronic diseases. She is involved in Genome-Wide Association Studies (GWAS) designed to detect novel genetic risk factors for diabetes and obesity, as well as examine the association of single nucleotide polymorphisms (SNPs) and genes identified in GWAS studies with response to clinical treatment. She is also interested in developing methods to communicate information about testing for modest genetic risk factors to the public.
High-Impact Factor Research
May and June 2010


Core Fact
Do you know that Feinberg has an instrument shop, staffed by a full-time research engineer? You can use the shop’s machinery or have the engineer fabricate a custom instrument for your research.

For more information, please contact Lee Miller or browse the Instrumentation Shop’s web site.
Attention: Clinical Research Professionals

Are you or do you know anyone interested in Becoming a Certified Clinical Research Coordinator (CCRC)?

The Northwestern University (NU) Advisory Council for Clinical Research (ACCR) will select and sponsor one qualified NU clinical research coordinator to sit for the certification exam during the March 3-11, 2011 exam dates and will provide funding for a one-year membership to the Association of Clinical Research Professionals (ACRP).

Candidates selected are required to complete and submit the ACRP application and to pay for the exam. ACCR will provide reimbursement and one year of membership only if the applicant receives a passing score per ACRP guidelines.

Qualifications

To be eligible for the CRC Exam, a candidate must fulfill one of the following combinations of education and working experience as a CRC:

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Education</th>
<th>*Working Experience as a CRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Assoc/Bachelor’s degree or RN</td>
<td>2 years full-time or 4 years part-time</td>
</tr>
<tr>
<td>Option 2</td>
<td>Other (e.g., LPN, LVN, Medical Assistant, Lab Technician, H.S. diploma)</td>
<td>3 years full-time or 6 years part-time</td>
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*Note: a one-year educational program in clinical research from an accredited institution may be used to substitute for one year of work experience.*

Additional details on the application process for this sponsorship are available at [http://www.nucats.northwestern.edu/education/CRPT/ACCR/](http://www.nucats.northwestern.edu/education/CRPT/ACCR/).
Research in the News

New York Times July 7
Your brain on exercise
Dr. Jack Kessler’s stem cell research was featured.

New York Times July 5
Recalibrated formula eases women’s workouts
Dr. Martha Gulati’s heart rate research was featured.

Wall Street Journal July 1
Compugen climbs as protein shows it can stop potential MS relapse
Dr. Stephen Miller’s research was featured.

Self.com June 29
Women are not small men!
Dr. Martha Gulati’s heart rate research was featured.

Chicago Tribune June 28
Northwestern doctor takes hands-on approach to breast exams
Dr. Carla Pugh was profiled.

Reuters June 28
New test can predict the return of prostate cancer
Dr. Shad Thaxton’s research was featured.

USA Today June 24
CDC: Only 1 in 18 Americans are meeting toughest limits on salt consumption
Dr. Linda Van Horn was quoted.

JAMA June 23
Effective prevention remains elusive for cognitive decline and dementia
Dr. Martha Davgulis was quoted.

ABC News (National) June 16
New USDA nutrition guidelines focus on unhealthy population
Dr. Linda Van Horn was interviewed.

UPI June 10
Women often ignored in research trials
Dr. Theresa Woodruff’s work was cited.

More headlines

Varga, continued from pg. 3
self-limited injury leads (in genetically susceptible individuals) to progressive tissue remodeling and intractable scar, so we are able to design novel therapeutic strategies for its control and cure. We want to be able to rapidly move our lab-based discoveries — be they pathomechanistic studies, biomarkers, or genetic factors — to the clinic to enhance our ability to help patients with fibrosis.

What are some of the challenges you face?
Increasing the integration of clinical and basic research activities in order to achieve a seamless bench-to-bedside flow is challenging, as is obtaining sufficient funding to support and grow our ambitious research agenda, and to enable our junior faculty to succeed in their research.

What brought you to the Feinberg School of Medicine?
The three main factors that made Feinberg so appealing were the emphasis on patient-oriented translational research with a tradition of strong interdisciplinary interaction, the outstanding clinical enterprise with a culture of quality care, and the superb training programs in place.

I feel privileged to work with a talented and passionate group of young faculty and trainees at Feinberg and take great pride in their accomplishments. I am grateful for the opportunity to be part of a community of outstanding colleagues.

NIH News

The National Research Council recently released an updated edition of the Guide for the Care and Use of Laboratory Animals, which recommends standards and practices for the humane care and treatment of animals in research, testing, or teaching. The NIH Office of Laboratory Animal Research posted a notice the same day stating that the Institute for Laboratory Animal Research (ILAR) revision is considered “a prepublication copy” of the revised Guide and “the 1996 Edition will remain the official Guide for the purposes of implementation of the PHS Policy on Humane Care and Use of Laboratory Animals (PHS Policy).”

The Center for Scientific Review (CSR) has produced a series of videos to give an inside look at how scientists from across the country review NIH grant applications for scientific and technical merit.

New and established applicants will find insights and understanding that can improve the applications and increase chances for receiving a more positive review.

View the videos at theCSR web site.

The Electronic Research Administration (eRA) has launched a new web site. Tailored to the specific needs of applicant, grantee, reviewer and trainee communities, the redesigned eRA site integrates rich content such as newly developed step-by-step how to’s for common tasks, associated policy links, updated user guides, FAQs, communication resources, and more. Suggestions for new content may be sent to eracommunications@mail.nih.gov.
Funding Opportunities

**American Cancer Society Research Scholar Grants in Cancer Control: Health Services and Health Policy Research**
More information

**Submission Deadline:** October 15, 2010  
**Upper Amount:** $960,000

**Synopsis:** These grants provide support for independent, self-directed researchers at any stage of their careers to conduct research projects centered on health services and health policy aspects of cancer control research.

**American Cancer Society Research Grants in Psychosocial and Behavioral Research**
More information

**Submission Deadline:** October 15, 2010  
**Upper Amount:** $2.4 million

**Synopsis:** The American Cancer Society’s (ACS) special initiative Targeted Grants for Research Directed at Poor and Underserved Populations provides support for research projects that focus on poor or underserved populations and address a variety of clinical, cancer control, behavioral, epidemiologic, health policy, health services, and basic science issues. As part of this special initiative, ACS offers Research Scholar Grants in Psychosocial and Behavioral Research to support investigator-initiated research projects centered on health policy research, specifically research focusing on psychosocial and behavioral research.

**Research on Emergency Medical Services for Children (R01)**
More information

**Submission Deadline:** September 15, 2010  
**Upper Amount:** $2.49 million

**Synopsis:** This multi-agency program Funding Opportunity Announcement (FOA) is designed to improve the quality and quantity of research related to emergency medical services for children (EMSC), with the goal of reducing morbidity and mortality in children through improved care delivery.

View more funding opportunities

### Featured Events

**9**  
**CRC Basic Training Live:**  
* A practical introduction to the clinical research coordinator role (3-day intense course)  
* **Date:** August 9-11 8:30 a.m. to 5 p.m.  
* **Location:** Chicago campus  
* **Contact:** nucats-ed@northwestern.edu  
More information

**13**  
**4th Annual Argonne Conference:**  
* Biological applications of X-ray fluorescence microscopy: A satellite meeting of the 2010 XRM conference  
* **Date:** August 13-14  
* **Location:** Lurie Medical Research Center  
303 E. Superior (Chicago campus)  
Hughes Auditorium  
* **Contact:** g-woloschak@northwestern.edu  
More information

**15**  
**NUCATS Clinical Research Lecture Series:**  
* Coming soon to Northwestern: a study accrual reporting tool (eNotis) — What you need to know  
* **Date:** August 15 Noon to 1 p.m.  
* **Location:** Northwestern Memorial Hospital  
Feinberg Pavilion, 3rd Floor  
Conference rooms A&B  
* **Contact:** nucats-ed@northwestern.edu  
More information

More events

Event organizers are encouraged to submit calendar items on Plan-it Purple for consideration. Please contact the Research Office with further questions.

### Save the Date

**2010 Joint Meeting of the International Cytokine Society and the International Society for Interferon and Cytokine Research**  
* Cytokines in Infectious Diseases, Autoimmune Disorders, and Cancer  
* **Date:** October 3-7, 2010  
* **Location:** Hyatt Regency Chicago  
* **Contact:** Leonidas Platanias  
l-platanias@northwestern.edu  
More information