

SPRING 2023

# RESEARCH NEWSLETTER

*Northwestern University Feinberg School of Medicine*



For more info,  
please visit our website:

[www.feinberg.northwestern.edu/  
sites/emergencymed/research](http://www.feinberg.northwestern.edu/sites/emergencymed/research)

## DEPARTMENT OF EMERGENCY MEDICINE

The Department of Emergency Medicine at Northwestern University Feinberg School of Medicine publishes this quarterly research newsletter to highlight department newcomers, Q & A sections from current faculty and alumni, faculty and residency research spotlights, publications updates, and many more features.

# WELCOME!

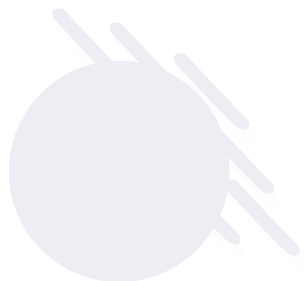
## NEW RESEARCH INTERN



Iva Hammitt

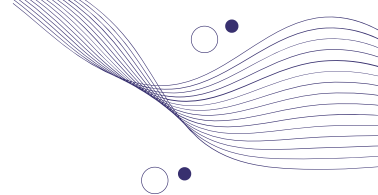
Please welcome our newest research intern, Iva Hammitt. She is a junior in the combination BS/MS program at Northwestern University studying biomedical engineering. She is passionate about learning more about healthcare, particularly in emergency medicine.

*"I look forward to the opportunity to be a part of this department" - Iva*



# NEWLY FUNDED GRANTS

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PI: **Peter Pruitt**

NU Mentors: **Danielle McCarthy**, Naidech

Mechanism: K08

Title: Improving Interhospital Transfer of Patients with Neurologic Emergencies

Funder: Agency for Healthcare Research and Quality

Topic: Interhospital transfer, the process of a patient being moved from one hospital to another for advanced and/or specialized care or patient preference, is occurring more frequently but the current process has many problems. These include poor communication between the doctors, poor communication between doctors and the patient and family, and inconsistent clinical practices.

We will use methods from engineering and design to understand the reasons for these problems, get help from doctors, nurses, paramedics, patients, and families to create solutions, and test those solutions in two hospitals.



**Peter Pruitt, MD**

Assistant Professor

Site PI: **Maryann Mason** (subaward through George Washington University)

NU Co-Is: **Lori Post**

Mechanism: APHA/CDC Award

Title: Impute missing data to reduce bias in NVDRS and SUDORS through ethical data science

Funder: American Public Health Association and the Centers for Disease Control and Prevention (CDC), National Center for Injury Prevention and Control

Topic: How missing data biases research findings and ways to address those biases using data science.

This grant supports the application of advanced data science methods to assess bias in data missingness in the National Violent Death Reporting System. We will experiment with imputation techniques to correct bias to reduce bias in this national data system.

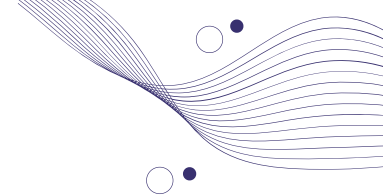
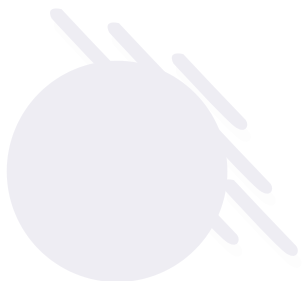


**Maryann Mason, PhD**

Associate Professor

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PIs: Lori Post, Maryann Mason

NU Co-Is: Alex Lundberg

Mechanism: Global Catalyst Seed Grant

Title: Global Supply, Demand, Surveillance of Drugs/Opioids

Funder: Northwestern Buffett Institute

Topic: Global systems of drug production, trafficking, distribution networks

This is a seed grant to enable the building of a global opioid investigator team and to begin planning a multi-faceted data dashboard which will include policy, overdose, supply, and other indicators.



**Maryann Mason, PhD**  
Associate Professor

PI: Lori Post

NU Co-Is: Maryann Mason, Alex Lundberg

Mechanism: R21

TITLE: Leveraging Drug Overdose Data to build a comprehensive case level national dataset to inform prevention and mitigation strategies.

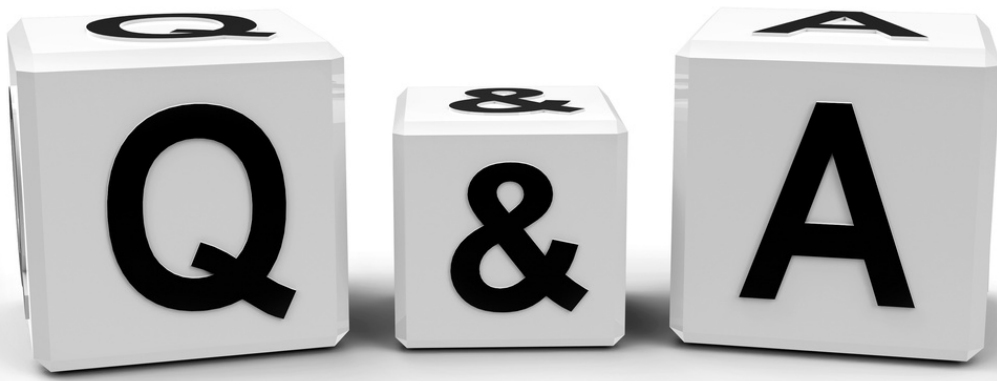
Funder: NIH National Institute of Drug Abuse

Topic: State drug overdose medico-legal investigations into all drug overdose deaths that are unintentional, suicide, homicide.

This project will for the first time combine and harmonize individual state's State Unintentional Drug Overdose Reporting Systems (SUDORS) surveillance data to create a nationally representative comprehensive data set for research purposes.



**Lori Post, PhD**  
Professor



## Q&A WITH ALUMNI DR. CHRISTOPHER RICHARDS

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DR. RICHARDS GRADUATED IN THE NUEM CLASS OF 2012 AND WAS CHIEF DURING HIS PGY 4 YEAR. HE THEN STAYED AT NORTHWESTERN FOR HIS EMS FELLOWSHIP AND HIS HEALTH SERVICES AND OUTCOMES RESEARCH FELLOWSHIP, THROUGH WHICH HE OBTAINED HIS MASTERS OF SCIENCE IN HEALTH SERVICES AND OUTCOMES RESEARCH. HE ALSO SPENT A YEAR AS A STROKENET RESEARCH FELLOW, FOCUSING ON PREHOSPITAL STROKE CARE RESEARCH. AFTER FELLOWSHIP(S), HE JOINED THE NUEM FACULTY AS ASSOCIATE EMS MEDICAL DIRECTOR OF CHICAGO EMS AND IN THE CENTER FOR HEALTHCARE STUDIES. HE IS NOW AN ASSOCIATE PROFESSOR AT THE UNIVERSITY OF CINCINNATI AND HAS GROWN AN EXPERTISE IN PREHOSPITAL STROKE CARE.

HE IS A BOARD-CERTIFIED EMS PHYSICIAN AND IS CURRENTLY AN EMS MEDICAL DIRECTOR FOR SEVERAL FIRE-EMS AGENCIES IN GREATER CINCINNATI, INCLUDING THE UCHEALTH MOBILE STROKE UNIT. HE IS ALSO A CLINICAL FACULTY MEMBER OF THE UC STROKE TEAM, WHICH PROVIDES ACUTE STROKE REPERFUSION CONSULTATION TO OVER 30 EMERGENCY DEPARTMENTS AND HOSPITALS IN THE GREATER CINCINNATI REGION. HE HAS BEEN ON SEVERAL NATIONAL WORKGROUPS FOCUSING ON PREHOSPITAL STROKE CARE, INCLUDING THE NIH'S BRAIN ATTACK COALITION SYMPOSIUM ON INEQUITIES IN ACCESS AND DELIVERY OF ACUTE STROKE CARE, CHAIR OF THE RESEARCH COMMITTEE OF THE PREHOSPITAL GUIDELINES CONSORTIUM, AND AS THE CHAIR OF THE ACUTE CARE SUBCOMMITTEE OF THE AMERICAN STROKE ASSOCIATION ADVISORY COMMITTEE.



**Christopher T. Richards, MD,  
MS, FAEMS, FACEP**

Alumni



### How did you first become interested in research?


My very first research experience was as an undergraduate, where I did bench research in placental malaria. In medical school, I worked with a very supportive mentor to work on a project related to the ethical considerations involved in pediatric solid organ transplantation. During my intern year, I explored my interest in end-of-life ethics and worked on a project to identify palliative care needs in the ED. However, as residency progressed, I came back to my EMS roots (I was an EMT in college) and solidified my interests in prehospital care.

### How did your residency experience contribute to your decision to enter a career in research?

The opportunities I had at Northwestern were pivotal to my pursuing a research career. First and foremost, the track record of emergency medicine faculty in the health services and outcomes research fellowship was exemplary, and their prior experience opened my eyes to this type of research as an important and impactful way of advancing prehospital care. However, the mentorship I received in residency, fellowship, and as an early career faculty from Northwestern faculty – in emergency medicine, EMS, health services research, and acute stroke – was both inspiring and requisite to developing the research career I have today.

### Tell us more about your decision to combine your interest in research and prehospital medicine

As part of my decision to pursue the EMS subspecialty, I realized that the evidence base for many aspects of prehospital care was not as robust compared with what we have to guide emergency care and acute care in the ED and hospital. This was also around the time that EMS was becoming a board-eligible subspecialty, which made having EMS physicians with a research background even more important as EMS was being formally welcomed into the house of medicine. Pairing a formal, robust research fellowship experience with EMS was not typical but was a meaningful way to approach critically important questions in prehospital care. In particular, approaching prehospital research from a health services approach (including systems of care, qualitative methodology, etc.) brings a unique perspective to clinical and operational topics in EMS medicine.





You've been very successful with research publications in the last decade. Please tell us about one of your favorite publications?


I feel like each publication I've been a part of has a story behind it and reflects a certain advancement in my own career beyond just the findings that the manuscripts report. For example, over the past year or so, I have published with colleagues from across the US on work that I have gotten to know through my involvement with the American Stroke Association and the Prehospital Guidelines Association. I also published several papers using mixed methods (including with collaborators at NUEM!), which is such an important way to understand patients' and front-line practitioners' understanding. Lastly, as a reflection of how neat the Northwestern network is, I was recently invited to co-lead a two-part narrative review series about prehospital stroke care with my residency classmate (Kori Zachrison) for the journal Stroke. This has been a fun way to synergize both of our interests in acute stroke care.

What current research project has you most excited now?

Drawing upon my experience from fellowship – both in terms of topic area and methodology – it's clear to me that how language is used during the hyperacute period of acute stroke is so important to the care that patients receive. While paramedic identification of stroke is important, I've been focusing on how the interaction of callers and emergency telecommunicators during the 9-1-1 call influences paramedic stroke recognition and downstream stroke care. I'm studying this interaction in a few different ways and thinking about how this interaction can be optimized for improved stroke detection.

What are your future research and career plans?

I will continue to hone my niche in prehospital stroke care, both clinically and with research. My work as EMS medical director and as clinical faculty on our stroke team has been invaluable in terms of putting context to the research that I've been doing in regional and national datasets, as well as partnering with local agencies on advancing our understanding of prehospital stroke identification.



# UPCOMING CONFERENCE



**Society for Academic Emergency Medicine**

Congratulations to those presenting at SAEM!

*Schedule below for current faculty, fellow, and resident presentations.*

*Alumni also highlighted if on the same didactic as faculty.*

*Please see SAEM website for details on full author lists and many more alumni presentations*

## Wednesday, May 17

- 1:00 PM – 1:50 PM

**Creating Emergency Medicine Subspecialty Guidelines Using the “Grading of Recommendations, Assessment, Development, and Evaluation” Process: The Geriatric Emergency Department Guidelines Experience (AGEM, Research Committee, and Evidence-Based Healthcare & Implementation (EBHI) Interest Group Sponsored)**

Location: Lone Star Ballroom G: Level Three

Presenter: Shan W. Liu, MD SD – Harvard University

Presenter: Christopher R. Carpenter, MD, MSC – Washington University School of Medicine

Presenter: Alexander Lo, MD – Northwestern University

Presenter: Ula Hwang, MD, MPH – Yale University

- 1:32 PM – 1:40 PM

**182 – Factors Associated With Door-In to Door-Out Goal Times in Stroke Transfers: Findings From Get With the Guidelines**

Location: Room 308: Level Three

Presenting Author: Regina Royan, MD, MPH (she/her/hers) – Northwestern University

- 4:00 PM – 4:50 PM

**Tensions and Controversies in Competency-Based Education: Debates Among the Experts (CDEM and Education Committee Sponsored)**

Location: Lone Star Ballroom C: Level Three

Presenter: Holly A. Caretta-Weyer, MD, MHPE – Stanford University

Presenter: Abra L. Fant, MD, MS – Northwestern Memorial Hospital/McGaw Medical Center

Presenter: Benjamin H. Schnapp\*, MD, MEd (NUEM Fellowship 2015) – University of Wisconsin

Presenter: Kevin R. Scott, MD, MEd – University of Pennsylvania

Presenter: Michael A. Gisondi\*, MD (former NUEM faculty) – Stanford University

Presenter: Vyatas P. Karalius\*, MD, MPH, MA (NUEM 2022) – Stanford University

Presenter: Lalena M. Yarris, MD, MCR – Oregon Health & Science University

Presenter: Jeremy Branzetti\*, MD, MHPE (NUEM 2010) – Geisinger Health System





## Thursday, May 18

- 8:00 AM – 8:50 AM

### Reimagining Residency Selection in a Competency-Based System: Innovations and Ways Forward (Education Committee Sponsored)

Location: Room 201-202: Level Two

Presenter: Holly A. Caretta-Weyer, MD, MHPE – Stanford University

Presenter: Abra L. Fant, MD, MS – Northwestern Memorial Hospital/McGaw Medical Center

Presenter: Benjamin H. Schnapp\*, MD, MEd (NUEM Fellowship 2015) – University of Wisconsin

Presenter: Lalena M. Yarris, MD, MCR – Oregon Health & Science University

Presenter: Vytas P. Karalius\*, MD, MPH, MA (NUEM 2022) – Stanford University

- 11:40 AM – 11:48 AM

### 270 – Health Care Costs of Firearm Injury in the United States

Location: Room 303: Level Three

Presenting Author: Regina Royan, MD, MPH – Northwestern University

- 12:00 PM – 12:50 PM

### Promote Yourself: Writing Strong Letters (AWAEM, Awards Committee, and Research Committee Sponsored)

Location: Lone Star Ballroom G: Level Three

Presenter: Caroline E. Freiermuth, MD, MSc, FACEP – University of Cincinnati

Presenter: Elizabeth Leenellett, MD – University of Cincinnati

Presenter: Sarah Ronan-Bentle, MD – Univ. Cincinnati/Department of Emergency Medicine

Presenter: Hannah Hughes, MD, MBA – University of Cincinnati

Presenter: Timothy M. Loftus, MD, MBA – Northwestern Memorial Hospital/McGaw Medical Center

Presenter: David C. Gordon, MD – Duke University

Presenter: Michael J. Ward, MD, PhD – Vanderbilt University Medical Center

Presenter: Margaret E. Samuels-Kalow, MD, MPhil, MSHP – Harvard University

Presenter: Jennifer Love, MD – Icahn School of Medicine at Mount Sinai

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- 12:30 PM – 12:50 PM

**How to Design, Implement, and Evaluate a Cultural Competency Curriculum to Address Health Care Disparities (ADIEM Sponsored)**

Location: Lone Star Ballroom F: Level Three

Presenter: Adesuwa Akhetuamhen\*, MD (NUEM 2021) – National Clinician Scholars Program/University of California San Francisco/Veterans Affairs

Presenter: John Bailitz, MD – Northwestern Memorial Hospital/McGaw Medical Center

Presenter: Abiye Ibiebele\*, MD (NUEM 2021) – Saint Joseph Mercy Health System

- 5:00 PM – 5:20 PM

**Enhancing Emergency Care Through Artificial Intelligence From Innovation to Implementation (Informatics & Data Science Interest Group and Innovation Interest Group Sponsored)**

Location: Lone Star Ballroom C: Level Three

Presenter: Christian Rose, MD – Stanford University

Presenter: Larissa May, MD – University of California Davis

Presenter: Dev Dash, MD, MPH – Stanford University

Presenter: John Dickens, MD, MBA – Northwestern University

## **Friday, May 19**

- 12:00 PM – 12:08 PM

**613 – Impact of Appointment-Only Urgent Care Centers on Nonurgent Emergency Department Use**

Location: Room 307: Level Three

Presenting Author: Evelyn S. Huang, MD – Northwestern Medicine

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Millions in the U.S. May Lose Medicaid Coverage. Here's How to Prepare.

March 31, 2023 – The New York Times

Featuring: Lindsay D. Allen, PhD, health economist at Feinberg School of Medicine

FDA approves the over-the-counter sale of Narcan.

March 29, 2023 – WGN RADIO 720

Featuring: Dr. Howard Kim

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**The Department of Emergency Medicine at Northwestern University Feinberg School of Medicine welcomes your questions and feedback.**

[Contact Us](#)

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