

# RESEARCH NEWSLETTER

Northwestern University Feinberg School of Medicine



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## DEPARTMENT OF EMERGENCY MEDICINE

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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 FACULTY MEMBERS

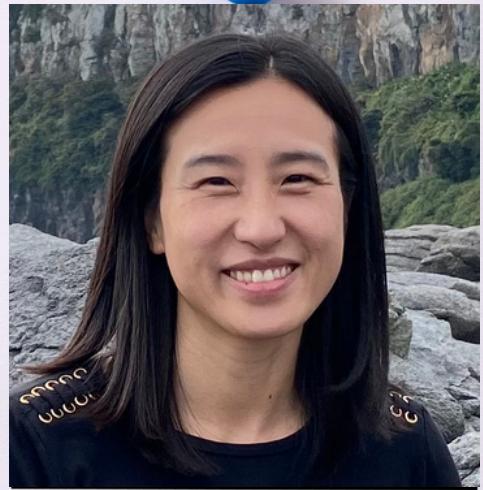


**Susan Parker**

Research Assistant Professor

Dr. Susan Parker is a quantitative social scientist applying causal inference and machine learning methods to research violence reduction and in particular gun violence and policing. Parker holds a PhD in Health Policy with an economics cognate from the University of Michigan's School of Public Health as well as an MS and MPP from the University of Chicago. Previously, she worked as a senior data scientist.

Dr. Soyang Kwon is an Epidemiologist/biostatistician whose research is focused on an application of quantitative methods in various behavioral health research. Dr. Kwon has a research program to conduct epidemiological observational studies and develop real-world data-based analytic tools. Dr. Kwon also serves as a team member of various health research groups to provide services related to grant writing, study design, statistical analysis plan, data analysis, and data interpretation.



**Soyang Kwon**

Research Associate Professor

# NEWLY FUNDED GRANTS

Site PI: Howard Kim

Mechanism: R01

Title: A Multi-Site Feasibility Trial of Embedded Emergency Department Physical Therapy for Back Pain

Funder: National Center for Complementary and Integrative Health (NCCIH)

This 1.6 million dollar award will support Howard and his team over the next 3 years to evaluate the feasibility of deploying a physical therapy intervention for back pain (with which you're familiar) into other health systems while building towards a larger trial.



**Howard Kim, MD**  
Associate Professor

Site PI: Lindsay Allen

Mechanism: R01

Title: The Impact of Recreational Cannabis Legalization on Substance Use Outcomes

Funder: CDC

This R01 award is for 1 million dollars and will support Lindsay and team as they measure the effects of recreational cannabis legalization on substance use for self-management of pain and quantify the impact of these policies on opioid morbidity and mortality.



**Lindsay Allen, PhD MA**  
Assistant Professor



## FACULTY SPOTLIGHT CONGRATS!

Dr. Abra Fant was awarded the [SAEM Early Educator Award](#) for demonstrating commitment and achievement in research during the early stage of her academic career. This high-profile SAEM award honors her extraordinary contributions and impact in emergency medicine education.

She is also recognized for “Extra Exemplary Professionalism,” an honor awarded to faculty members who receive numerous professionalism nominations from students on the EM rotation. This recognition highlights her exceptional leadership, teaching, and patient care within our clinical environment.

Dr. David Zull received the [Gary A. Mecklenburg Distinguished Physician Award](#) in honor of his contributions and achievements in the medical field. This prestigious award, one of the hospital’s highest honors, is presented annually to a physician nominated by their peers who exemplifies professionalism, compassion, and dedication to improving others’ lives through research, education, patient care, or community service.

Dr. Danielle McCarthy, Vice Chair of Research, has been honored with the [SAEM Mid-Career Investigator Award](#), a highly competitive recognition for leaders in emergency medicine. A respected clinician and mentor, Dr. McCarthy’s pioneering work in patient communication on opiate misuse and diagnostic uncertainty has significantly advanced the field. Her rigorous, innovative approach continues to shape EM practice and inspire the next generation of clinical researchers.



Abra Fant, MD MS FACEP  
Associate Professor &  
Program Director



David N. Zull, MD



Danielle M. McCarthy, MD, MS, FACEP  
Vice Chair of Research &  
Associate Professor

# COLLABORATIVE SHOWCASE

Medical student, Jethel Hernandez presented her poster, Sustained Impact: Long-Term Application of Diagnostic Uncertainty Communication Training, on Research Day, in collaboration with Drs. Danielle McCarthy and David Salzman.

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<sup>1</sup>Feinberg School of Medicine, Northwestern University, Chicago, IL, United States; <sup>2</sup>Emergency Medicine, Northwestern University Feinberg School of Medicine, Emergency Medicine, Chicago, IL, United States; <sup>3</sup>Thomas Jefferson University, Sidney Kimmel Medical College, Emergency Medicine, Philadelphia, PA, United States; <sup>4</sup>Resident Physician, Hospital of the University of Pennsylvania, Philadelphia, PA, United States; <sup>5</sup>Resident Physician, Feinberg School of Medicine, Chicago, IL, United States; <sup>6</sup>Resident Physician, University of California San Francisco, San Francisco, CA, United States; <sup>7</sup>Resident Physician, University of Michigan, Ann Arbor, MI, United States; <sup>8</sup>Resident Physician, University of Michigan, Ann Arbor, MI, United States

**Sustained Impact: Long-Term Application of Diagnostic Uncertainty Communication Training**

J. Hernandez<sup>1</sup>, D. McCarthy<sup>2</sup>, D. Salzman<sup>3</sup>, E. Cameron<sup>4</sup>, D. Salzman<sup>5</sup>, A. Long<sup>6</sup>, A. Franek<sup>7</sup>, K. Rising<sup>8</sup>

**Background**

- Up to one third of discharged emergency department patients leave without a clear diagnosis for the cause of their symptoms.
- In 2019-2020 we implemented simulation-based communication training for third year Emergency Medicine residents to discuss diagnostic uncertainty with patients during an ED discharge guided by the Uncertainty Communication Checklist (UCC).

**Research Objectives**

- To evaluate whether a cohort of recently graduated medical school physicians, applying the communication skills acquired through the simulation-based learning curriculum, while also gathering their thoughts on the UCC, evaluate checklist items from this program.
- A survey was emailed to all 320 participants who completed the training in 2019-2020. Questions assessed how often participants in their current positions utilize the communication skills learned in the curriculum and the skills learned in the curriculum to communicate uncertainty.
- Additional survey participants rated how important they felt it was to include the UCC items in their daily patient care. Means and proportions are reported.

**Methods**

- A survey was emailed to all 320 participants who completed the training in 2019-2020. Questions assessed how often participants in their current positions utilize the communication skills learned in the curriculum and the skills learned in the curriculum to communicate uncertainty.
- Additional survey participants rated how important they felt it was to include the UCC items in their daily patient care. Means and proportions are reported.

**Uncertainty Communication Toolkit**

**Results**

- Sixty-five individuals responded (53% response rate)
- Mean age 31 years, 95% Male
- 95% encountered diagnostic uncertainty more than once per shift
- 74.2% applied skills learned in the training "often" (38.7%) or "all the time" (35.5%).
- 64% of respondents reported they had taught the skills to others, most often to residents (89%) and medical students (35%).

**Table 2. Perceived Value of UCC Items—important for future training**

UCC ITEM	% Every important	% Very important
INTERVIEW SKILLS		
1. Take note of the patient care they are being discharged.	71.8	84.7
2. Ask if there is anyone else that the patient wishes to have included in this conversation in person	71.8	84.4
TEST RELATED SKILLS		
3. Clearly state either "life threatening" or "dangerous" conditions have not been found	95.3	98.4
4. Clearly state what the patient's condition is based on medical terminology	71.4	87.5
5. Communicate relevant results of tests to patients or themselves	74.2	87.0
6. Ask patient if there are any questions about testing and/or results	74.2	84.4
7. Ask patient if there is anything they can do during their discharge - if yes, address reasons are done	24.3	71.4
8. Review patient's lab results or pending diagnosis	32.3	80.8
9. Clearly state that there is not a confirmed explanation (diagnosis) for what the patient has been experiencing	44.5	96.8
10. Validate the patient's symptoms	76.9	91.4
11. Normalize that the patient is in stable conditions that require immediate attention	70.8	91.9
12. Normalize that the patient is in stable conditions that require follow-up	74.2	88.7
NEEDS FOLLOW UP		
13. Normalize that the patient is in stable conditions that require follow-up	90.0	96.3
14. Discuss who are available for follow-up	33.5	80.4
15. Discuss who are available for follow-up	66.1	96.8
16. Discuss a plan for managing symptoms at home	41.6	76.3
17. Ask patient if there are any questions and/or anticipated problems related to next steps (self-care)	41.6	83.3
REASONS TO DISCHARGE		
18. Ask patient if there are any other questions or concerns	40.3	79.4
CLOSING STATEMENT		
19. Make sure patient understands what symptoms should prompt immediate return to the ED	85.5	100
20. Make sure patient understands what symptoms should prompt immediate return to the ED	70.9	87.5
21. Ask patient if there are any other questions or concerns	41.9	90.1

**Results**

- Four of the 21 UCC items received endorsement by more than 75% of respondents as "very important" to remain in future training.
- The item receiving the most frequent endorsement as "very important" (90%) was to "Clearly state that either 'life threatening' or 'dangerous' conditions have not been found."
- Generally accepted communication best-practices (e.g. "Ask patient if there are questions," "make eye contact") were found to be less important.

**Limitations**

- Limited survey completion rates by participants
- Ability of respondents to remember the specific components of the simulation-based curriculum and UCC impacts on their current clinical practice.
- Self-report of use of curriculum may be biased.

**Conclusions**

- Four years following training completion, most respondents frequently employ skills learned from an uncertainty communication training.
- Implementing a communication on skills-focused curriculum such as the UCC can provide a strong foundation for building resilience patient-physician relationships, especially during uncertain situations across various clinical settings and specialties.
- Future training and use of the Uncertainty Communication Checklist may be able to be abbreviated to focus on the highest yield items from the perspective of prior trainees.

**#1 Northwestern Medicine<sup>®</sup>**  
Feinberg School of Medicine

# PUBLICATIONS SPOTLIGHT

faculty in bold, residents italicized, alumni with \*

Olson AS\*, Li-Sauerwine S\*, Kraut AS\*, Burns W\*, **Williamson K**, Branzetti J\*, Hartman ND\*, Oskvarek JJ, Aldeen A\*, Perceptions of the current and future emergency medicine workforce. J Am Coll Emerg Physicians Open 2024 Oct;5(5):e13279. pii:e13279

Burford KG, Itzkowitz NG, Crowe RP, Wang HE, **Lo AX**, Rundle AG Clinical trauma severity of indoor and outdoor injurious falls requiring emergency medical service response. Inj Epidemiol 2024 Aug 09;11(1):36. pii:36

**Chan JL**, Tsay S, Sambara S, **Welch SB** Understanding the Use of Mobility Data in Disasters: Exploratory Qualitative Study of COVID-19 User Feedback. JMIR Hum Factors 2024 Aug 01;11:e52257. pii:e52257

AbiNader MA, Rundle AG, Park Y, **Lo AX** Population-Level Surveillance of Domestic Assaults in the Home Using the National Emergency Medical Services Information System (NEMSIS). Prev Sci 2024 Aug;25(6):882-890. doi:10.1007/s11121-024-01683-w

**McHugh MC**, Muschong KM, Bradley SM, **Lo AX** Perspectives from persons living with dementia and their caregivers on emergency department visits, care transitions, and outpatient follow-up: A qualitative study. Acad Emerg Med 2024 Aug;31(8):767-776. doi:10.1111/acem.14898

**Lo AX**, Shih RD, Rackman AS, Kennedy RE Challenges for emergency departments: Anti-amyloid therapy and amyloid-related imaging abnormalities in persons with dementia. J Am Geriatr Soc 2024 Jul 22;. doi:10.1111/jgs.19099

**Lundberg AL**, Fox JA, Mohammad H, **Mason M**, Salina D, Victorson D, Parra-Cardona R, **Post LA** Public Mass Shootings: Counterfactual Trend Analysis of the Federal Assault Weapons Ban JMIR Public Health Surveill 2024;10:e62952

Klein MR\*, Leibowitz MK\*, **Fant AL** Evidence-Informed Emergency Medicine Career Advising. AEM Educ Train 2024 Jun;8(3):e10969. pii:e10969

Yeung SJ, Qdaisat A, Bischoff JJ, Caterino JM, **Kyriacou DN**, Coyne Md C A case series of adrenal insufficiency (likely due to hypophysitis) in cancer patients treated with immune checkpoint inhibitors. Am J Emerg Med 2024 Jun;80:227.e1-227.e5. doi:10.1016/j.ajem.2024.04.046

Burford KG, Itzkowitz NG, Crowe RP, Wang HE, **Lo AX**, Rundle AG Clinical Trauma Severity of Indoor and Outdoor Injurious Falls Requiring Emergency Medical Service Response. Res Sq 2024 May 07; pii:rs.3.rs-4202941

Kannam A, Cowett A, Caruso K, Lau K, Allen K, **Lank PM, McCarthy DM, Kim HS** Fentanyl test strip distribution acceptability and use among substance-related emergency department visits. Acad Emerg Med 2024 May 06;. doi:10.1111/acem.14934

**Pruitt P**, Castillo R\*, Rogers A\*, Prabhakaran S, Muschong K, Scudder M, **McCarthy DM**, Holl JL, Courtney DM, Borczuk P et al. External Validation of a Tool to Identify Low-Risk Patients With Isolated Subdural Hematoma and Preserved Consciousness. Ann Emerg Med 2024 May;83(5):421-431. doi:10.1016/j.annemergmed.2023.08.481

Klein MR\*, Loke DE\*, Barsuk JH, Adler MD, McGaghie WC, **Salzman DH** Twelve tips for developing simulation-based mastery learning clinical skills checklists. Med Teach 2024 Apr 26;:1-6. doi:10.1080/0142159X.2024.2345270

Serina PT\*, Xu C, Baird J, Wang HE, Donnelly JP, Amanullah S, **Lo AX** Emergency department resource utilization among nursing home residents, a National Cross-Sectional Study. Am J Emerg Med 2024 Apr;78:76-80. doi:10.1016/j.ajem.2024.01.008

Klein MR\*, **Quarles AR, Fant AL** Help Me Help You: How to Request a Letter of Recommendation. South Med J 2024 Feb;117(2):106-107. doi:10.14423/SMJ.0000000000001647

Rundle AG, Crowe RP, Wang HE, Beard JR, **Lo AX** A National Study on the Comparative Burden of Pedestrian Injuries from Falls Relative to Pedestrian Injuries from Motor Vehicle Collisions. J Urban Health 2024 Feb;101(1):181-192. doi:10.1007/s11524-023-00815-x

Wolf LA, **Lo AX**, Serina P\*, Chary A, Sri-On J, Shankar K, Sano E, Liu SW Frailty assessment tools in the emergency department: A geriatric emergency department guidelines 2.0 scoping review. J Am Coll Emerg Physicians Open 2024 Feb;5(1):e13084. pii:e13084

Won D, Workman C, Walker J, Zordani E, Bajaj P, Chen Z, Asthana S, Liu T, Christopher Malaisrie S, **McCarthy DM, Adams JA, Lundberg A.** When the economy falters, hearts suffer: Economic recessions as a social determinant of health in cardiovascular emergencies. Am J Emerg Med 2024 Feb;76:155-163. doi:10.1016/j.ajem.2023.11.036

**Lo AX**, Wadley VG, Brown CJ, Long DL, Crowe M, Howard VJ, Kennedy RE Life-Space Mobility: Normative Values From a National Cohort of U.S. Older Adults. J Gerontol A Biol Sci Med Sci 2024 Feb 01;79(2). pii:glad176

Reyes-Gibby CC, Caterino JM, Coyne CJ, **Kyriacou DN**, Qdaisat A, McQuade J, Owen DH, Bischoff JJ, Shete S, Yeung SJ Immune-related adverse event in the emergency department: methodology of the immune-related emergency disposition index (IrEDI). Emerg Cancer Care 2024;3(1). pii:1

Patel D, **Bailitz J**, Ymson S, Neichin J, Peksa GD, Gottlieb M Diagnostic accuracy of real-time ultrasound for detecting pulmonary edema by lung region. Am J Emerg Med 2024 Jan;75:181-182. doi:10.1016/j.ajem.2023.07.005

**Kontrick AV**, Agarwal G. Shift Work, Circadian Misalignment, and Health Care Worker Well-being. Psychiatr Ann. 2024;54(1):x-x. doi: 0.3928/00485713-20231130-03.

Laura McLane, José M. Oliva-Lozano, Michele Kerulis, Rick Cost, Jessica Bartley, **George Chiampas**, Examining the value of mental health awareness training for soccer coaching license candidates, Apunts Sports Medicine, Volume 59, Issue 224, 2024,100459, ISSN 2666-5069, <https://doi.org/10.1016/j.apunsm.2024.100459>.

**Kontrick AV**, Thakkar PM, Mycyk MB. Do emergency medicine residents have access to healthy food options during work hours? AEM Educ Train. 2023;7:e10890. doi:10.1002/aet2.10890. PMID: 37469684.

Li-Sauerwine S\*, Weygandt PL\*, Smylie L, **Williamson K**, Burns W\*, Ordonez E, Hartman ND\*, Chung AS, Ketterer AR, Jordan J The more things change the more they stay the same: Factors influencing emergency medicine residency selection in the virtual era. AEM Educ Train 2023 Dec;7(6):e10921. pii:e10921

**Fant A** Whose Note Is It Anyway? Ann Emerg Med 2023 Dec;82(6):718-719. doi:10.1016/j.annemergmed.2023.10.001

Goldberg EM, **Dresden SM**, Carpenter CR Clin-STAR corner: Practice changing advances in prescribing for geriatric emergency department patients. J Am Geriatr Soc 2023 Dec;71(12):3686-3691. doi:10.1111/jgs.18619

Rundle AG, Crowe RP, Wang HE, **Lo AX** [Correction: A methodology for the public health surveillance and epidemiologic analysis of outdoor falls that require an emergency medical services response.](#) Inj Epidemiol 2023 Nov 03;10(1):56. pii:56

**Dresden SM** [Optimizing the Care of Persons Living with Dementia in the Emergency Department.](#) Clin Geriatr Med 2023 Nov;39(4):599-617. doi:10.1016/j.cger.2023.06.004

**Trueger NS**, Aly E, Haneuse S, Huang E\*, Berkwits M [Randomized Clinical Trial Visual Abstract Display and Social Media-Driven Website Traffic.](#) JAMA 2023 Oct 24;330(16):1583-1585. doi:10.1001/jama.2023.16839

Huang J, **Neill L**, Wittbrodt M, Melnick D, Klug M, Thompson M, **Bailitz J, Loftus T, Malik S**, Phull A et al. [Generative Artificial Intelligence for Chest Radiograph Interpretation in the Emergency Department.](#) JAMA Netw Open 2023 Oct 02;6(10):e2336100. pii:e2336100

Gottlieb M, Patel D, Kayarian F, Peksa GD, **Bailitz J** [Effect of pleural depth and width on the accuracy of lung ultrasound for detecting pulmonary edema.](#) Am J Emerg Med 2023 Oct;72:210-212. doi:10.1016/j.ajem.2023.08.003

Rundle AG, Crowe RP, Wang HE, Beard JR, **Lo AX** [A National Study on the Comparative Burden of Pedestrian Injuries from Falls Relative to Pedestrian Injuries from Motor Vehicle Collisions.](#) Res Sq 2023 Aug 07;. pii:rs.3.rs-3218781

Gottlieb M, Regan L, Jordan J, Westrick J, **Bailitz J** [Education Value Units in Medical Education: A Scoping Review.](#) Acad Med 2023 Jun 01;98(6):743-750. doi:10.1097/ACM.0000000000005130

Liu SW, Lee S, Hayes JM, Khoujah D, **Lo AX**, Doering M, de Wit K, [Head computed tomography findings in geriatric emergency department patients with delirium, altered mental status, and confusion: A systematic review.](#) Acad Emerg Med 2023 Jun;30(6):616-625. doi:10.1111/acem.14622

**Kyriacou DN**, Greenland P, Mansournia MA [Using Causal Diagrams for Biomedical Research.](#) Ann Emerg Med 2023 May;81(5):606-613. doi:10.1016/j.annemergmed.2022.08.014

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