



## VCLIC News and Happenings, Volume 45

Despite the brief chill last week, it's officially spring in Nashville, and we are excited to share with you some upcoming events and recent accomplishments of our members.

First, we are bringing back our VCLIPS-related workshops with one on **Patient-Reported Outcome Measures**, presented by **Justin Bachmann, MD**, with help from **Allison McCoy, PhD**. This will be on April 25<sup>th</sup> from 2:00-3:30 pm at 2525 West End, and there is a sign-up form below.

This month, we are featuring **Jesse Wrenn, MD, PhD**, who is an Assistant Professor in the Department of Emergency Medicine. We are so thankful for Jessie's amazing contributions to VCLIC (especially his VDAWG queries) and are happy to spotlight this month!

Finally, and per usual, we have several Center members who have **received awards**, been mentioned in the **news**, presented **lectures** and at conferences, **published papers**, have had **abstracts** accepted to conferences, and had **honors or fellowships** bestowed on them.

Special shout-out this month to **Siru Liu, PhD**, who was featured in an [NLM-sponsored video](#) highlighting her K99/R00 award on Using Explainable AI to Improve Clinical Decision Support (CDS)!

If you have any questions or would like to engage with our team, please email Elise ([elise.russo@vumc.org](mailto:elise.russo@vumc.org)).

## 2024 VCLIPS



[Vanderbilt Clinical Informatics Center](#) (VCLIC) is proud to announce our next round of [Vanderbilt Clinical Informatics Practical Shorts](#) (VCLIPS). These are bite-size instructional videos on practical clinical informatics topics from expert VCLIC faculty (and staff). This semester, we've added:

- [Agile Methods for Leading a Clinical or Research Informatics Team](#) (Alvin Jeffery, PhD)

- o Learn about Agile methodology for product management to optimize team performance and project success
- [Medication Data Tools](#) (Joey LeGrand, PharmD, MS)
  - o Learn about drug terminology and classification using RxNorm as well as how to use the tool SageRx to work with drug data more easily
- [Patient Reported Outcome Measures](#) (Justin Bachmann, MD; Emily Burnell; Emma Barnes, MPH)
  - o Learn about Patient Reported Outcome Measures (PROMs), the process for requesting PROMs at Vanderbilt, and how to leverage PROM data

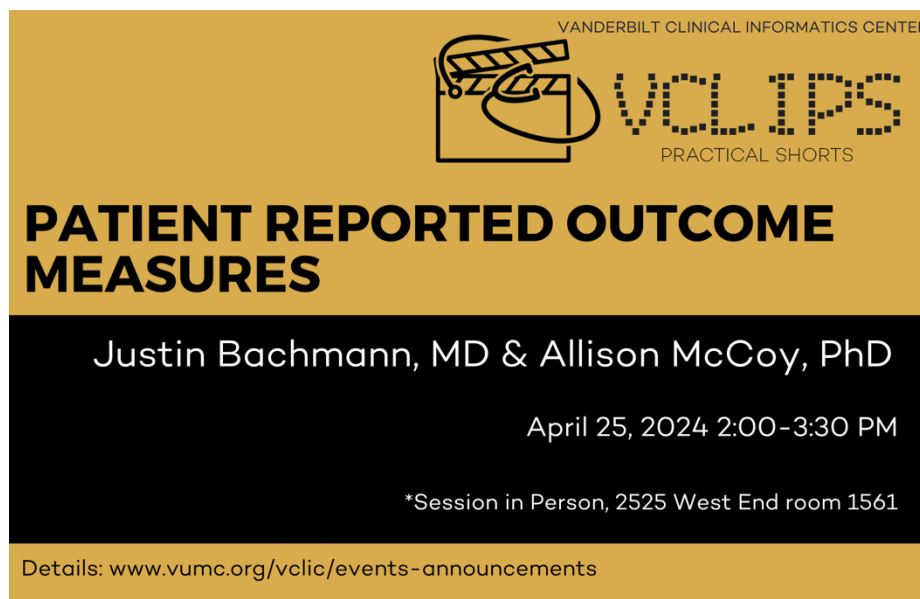
These build on our prior releases: [Introduction to Epic and Build Capabilities](#), [Data Resources](#), [Human Centered Design Principles and Processes](#), [Evaluation and Dissemination of HealthIT Interventions](#), [Exempt IRB Research](#), [Address Geocoding](#), [Using Epic to Support Clinical Research](#), and [Signal Data](#). We're also finalizing some additional VCLIPS on qualitative research, SlicerDicer, value sets and test patients and hope to release these a bit later in the semester.

## VCLIC Events


Thank you to everyone who joined us for **Lindsey's Knake's** fantastic talk about using Cosmos! If you'd like to view the recording, you can find that [here](#).

We are excited to announce our first VCLIPS Workshop of the semester:

Patient Reported Outcome Measures with Justin Bachmann, MD, and Allison McCoy, PhD  
(April 25<sup>th</sup>, 2024 from 2:00-3:30 pm)



VANDERBILT CLINICAL INFORMATICS CENTER

 **VCLIPS**  
PRACTICAL SHORTS

**PATIENT REPORTED OUTCOME MEASURES**

Justin Bachmann, MD & Allison McCoy, PhD

April 25, 2024 2:00-3:30 PM

\*Session in Person, 2525 West End room 1561

Details: [www.vumc.org/vcliv/events-announcements](http://www.vumc.org/vcliv/events-announcements)

Join **Justin Bachmann, MD**, cardiologist and Medical Director of the Vanderbilt Patient-Reported Outcomes Measurement System (VPROMs) team, and **Allison McCoy, PhD**, Associate Professor of Biomedical Informatics and Scientific Director of the Clinical Informatics Core, on Thursday, April 25th from 2:00-3:30 pm to discuss and learn about patient-reported outcome measures. This session will be in person at 2525 West End, in room 1561.

Please sign up using our form: <https://redcap.link/98hlg3kb>

More details to come soon, but if you would like an overview of the topic and the session, please view the [VCLIPS video](#) Dr. Bachmann and his team put together earlier this year.

## 2024 Learning Health Systems Symposium

The Center for Clinical Quality and Implementation Research is hosting a symposium on May 14 and is currently accepting poster submissions. [See here for more information!](#)

**VANDERBILT SYMPOSIUM ON**  
**IMPLEMENTATION RESEARCH IN**  
**THE LEARNING HEALTH SYSTEM**

**SAVE THE DATE**

**MAY 14** | 10:00 AM - 3:30 PM  
**2024** | VANDERBILT ENGINEERING  
AND SCIENCE BUILDING

Schedule & Agenda TBA  
[vumc.org/implementation/symposium-2024](http://vumc.org/implementation/symposium-2024)

**KEYNOTE SPEAKER**  
**HAYDEN BOSWORTH, PHD**  
DUKE UNIVERSITY

**Call for Poster Submissions**

Poster Registration Deadline  
April 19

Cash prizes for poster award winners!  
Guidelines are posted on the  
symposium website.

**Sponsored by:**  
Center for Clinical Quality and  
Implementation Research  
VICTR Center for  
Learning Healthcare

## Featured Member: Jesse Wrenn, MD, PhD



**Dr. Jesse Wrenn, MD, PhD** is an Assistant Professor of Emergency Medicine. He completed an undergraduate degree in computer science at Colby College, then a PhD in biomedical informatics at Columbia University. He completed medical school at the University of Tennessee Health Science Center and trained in emergency medicine at VUMC. After residency, he joined the Department of Emergency Medicine faculty and was welcomed into the Division of Emergency Medicine Research. He works clinically at the VUMC adult emergency department and the Tennessee Valley Healthcare System Veteran Affairs (VA) Medical Center emergency department.

In his own words:

### **What are you working on?**

“I’ve been lucky to be mentored by Michael Ward in Emergency Medicine and Michael Matheny in Biomedical Informatics. They have involved me in multiple ongoing projects at VUMC and the VA, including CRAFT, a medication stewardship and provider feedback project, and ePneumonia, the implementation of clinical decision support for appropriate treatment and disposition of patients with pneumonia in the emergency department. I have also enjoyed contributing to the development of a successful new research training program for emergency medicine residents, which is about to enter its third year. With the help of Drs. Ward and Matheny (and numerous other mentors in emergency medicine, informatics, and beyond), I submitted my first K23 application in February.”

### **How have you become involved in VCLIC?**

“During the second and third year of my residency, the Department of Emergency Medicine sponsored me to take courses at Epic Headquarters in Madison, WI. If you haven’t seen their campus, you should. After residency I joined the Physician Builder program and VDAWGS, which has allowed me to develop collaborative relationships with researchers across the university, supporting projects with clinical data from Epic’s Clarity database, and learning about diverse ongoing research projects in the process. I have enjoyed and benefitted from collaborations with colleagues in Adult and Pediatric Infectious Diseases; Surgery; Pediatric Emergency Medicine; Medicine, Health, and Society; Human and Organizational Development; and Health Policy. Although I have emphasized the grueling work required to extract and transform clinical data to my colleagues, what they don’t know is that writing SQL code is like playing Sudoku or Tetris for me – I enjoy it and I’d do it in my spare time if I didn’t get to do it at work. Over the last year I have become more involved in VCLIC, and I leaned heavily on VCLIC for support throughout

my recent K23 application process. I expect my involvement with VCLIC to continue grow as I develop as an independent researcher.”

**What areas are you interested in and what would you like to collaborate with others on?**

“My clinical and research interests lie at the intersection of emergency medicine and Biomedical Informatics, particularly in the care for patients with cardiovascular and pulmonary emergencies. As a practicing physician, I rely on the guidance of diagnostic and prognostic risk stratification tools to help me to make complex decisions about the workup and disposition of critically ill patients. Advances in artificial intelligence and access to larger datasets will result in more powerful, but more complex risk stratification tools. Successful implementation of these tools, especially in the chaotic environment of the emergency room, requires and will increasingly require a deep understanding of physician workflow and timing of information needs. I’m interested in the interplay of clinical decision support, workflow analysis, and user-centered design required to develop and implement successful clinical decision support tools; the secondary use of high-quality EHR data to partially or fully automate risk stratification; and automated phenotyping to target appropriate patients for the delivery of risk stratification to reduce clinical decision support fatigue.

I’m always excited to collaborate because the relationship is symbiotic. I particularly enjoy helping non-clinicians to understand the unique environment of the emergency department, but I’m happy to collaborate on anything if I can help – I always learn at least as much from my collaborators as they learn from me.”

## Upcoming Conference Submission Deadlines

- [Medical Informatics Europe \(MIE\)](#)
  - Full papers and Short Communication Papers /Posters Deadline: 18 March, 2024
  - Workshops, Panels, Demonstrations, and Tutorials Deadline: 15 April, 2024
- [Anesthesiology Annual Meeting \(ASA\)](#)
  - Scientific Abstracts and Education Exhibits: April 1, 2024
  - Medically Challenging Cases and Quality Improvement Projects: April 11, 2024
- [American Academy of Pediatrics \(AAP\) National Conference & Exhibition](#)
  - Plenary session proposal deadline: March 15, 2024
  - Abstract submission deadline: April 12, 2024
- [International Medical Informatics Association \(IMIA\) Medinfo](#)
  - Submission Open: April 1, 2024 - December 4, 2024
- [Machine Learning for Healthcare](#)
  - Paper Submission Deadline: April 9, 2024
- [Epic UGM](#)
  - Presentation Proposal Submission Deadline: April 1, 2024

Details on upcoming conferences and conference deadlines can be found on our Confluence page, [here](#).

**For those of you attending conferences and presenting posters, we have a template on our [Confluence page](#) that we would encourage you to use.**

## Presentations, Interviews, Honors, and Awards

### Honors/Awards

Siru Liu, PhD, featured in NLM Video Series for her K99/R00 on Explainable AI

We have a YouTube star in our midst! Congratulations to **Siru Liu, PhD** who was featured in the National Library of Medicine's YouTube channel series "Grant Spotlights" for her [K99/R00 award "Using Explainable AI to Improve Clinical Decision Support \(CDS\)."](#) Her mentors **Adam Wright, PhD**, and **Allison McCoy, PhD** can be seen as well, along with Department Chair, Peter Embi, MD, MS.



Aileen Wright, MD, MS Receives K23 Award from NIDDK



Congratulations to **Aileen Wright, MD, MS**, who just received the notice of award for her K23 project “Artificial Intelligence-Assisted Clinical Decision Support for Preventing Hypoglycemia in Hospitalized Patients,” funded by NIDDK.

- **Ashley Spann, MD**, [MSACI was featured in the VUMC reporter](#) for being the inaugural recipient of the Harold Amos Medical Faculty Development Program Hepatology Award from the American Association for the Study of Liver Diseases (AASLD), as well as for receiving a Robert A. Winn Diversity in Clinical Trials Career Development Award. Congrats Ashley!
- **Josh Peterson, MD, MPH** was featured in an article published by the Department of Health Policy, titled “[Genomics study led by VUMC researchers recognized as one of 2023’s ‘most significant’](#)”.
- Featured on the VUMC reporter, GE HealthCare & [VUMC published data on AI models predicting patient response to immunotherapy](#). **Travis Osterman, DO, MS**, Michele LeNoue-Newton, Cheng Ye, Protiva Rahman, Dan Fabbri, Ben Park, and more were co-authors on the study.
- **Travis Osterman, DO, MS** was featured in *ASCO Pubs* for publishing a study titled “[Machine Learning Model Could Help Predict Risk-Benefit of Immune Checkpoint Inhibitors](#)”.
- **Trent Rosenbloom, MD, MPH** was featured in the VUMC reporter for his [new role as Chair Scientific Review Committee at the National Library of Medicine](#), congrats!
- Congrats to **Sunil Kriplani, MD, MSc** for being named [the Vice President for Health System Sciences at Vanderbilt University Medical Center](#)!
- **Yaa Kumah-Crystal, MD, MPH, MS** was interviewed at the Health Information and Management Systems Society (HIMSS) conference – [see her interview here](#)!
- **Siru Liu’s, PhD** paper “[Leveraging Explainable AI to Optimize Clinical Decision Support](#)” was [covered by the Nashville Business Journal](#) and was also [featured in the VUMC Reporter](#). Others on the study from VUMC include **Allison McCoy, PhD**, **Josh Peterson, MD, MPH**, **Thomas Lasko, MD, PhD**, **Scott Nelson, PharmD, MS**, **Jennifer Andrews, MD**, Lorraine Patterson, MSN, **Cheryl Cobb, MD**, David Mulherin, PharmD, and Colleen Morton, MD.

## Conferences and Other Presentations

- **Scott Nelson, PharmD, MS** will be giving a keynote presentation, “Artificial Intelligence and the Future of Pharmacy”, at the New York State Council of Health-system Pharmacists in April.
- **Dara Mize, MD, Martin Were, MD, MS** served as panelists for “AI in Clinical Practice” and “AI Ethics and Equity” respectively for the launch of DBMI’s ADVANCE center.
- Hallaj S, Khawaja A, Rodrigues I, Boland M, **Brown EN**, Chen A, et al. “Gap Analysis of Glaucoma Examination Concept Representations Within Standard.” AGS 2024; 2024 Mar 1; Huntington Beach, CA.
- Russell RE, Jenkins E, Gill K, Davidson C, Coronado RA, **Shepherd ME**. “Feasibility and acceptability of a remote mindfulness intervention for public school educators.” American College of Lifestyle Medicine Annual Conference; October 29-November 1, 2023; Denver, CO and Virtual. Abstract number 1515341. Peer-reviewed.



- Thomas R, Layne JE, Harris-Shapiro J, Hines, D, **Shepherd M**. “Improvements in glycemic control in persons with diabetes in an employer health initiative offering continuous glucose monitors (CGMs) as a pharmacy benefit.” Academy of Managed Care Pharmacy Annual Meeting, Platinum Ribbon Abstract Award (top 4-rated), April 16-19, 2024; New Orleans, LA. Abstract number 1672772. Peer-reviewed.
- **Shepherd M**. “Brain Health and the Aging Workforce Employer Panel.” Healthcare Enhancement Research Organization (HERO) 2024 Winter Think Tank, February 26-27, 2024; Nashville, TN
- **Shepherd M**. “Virtual Mindfulness-Based Training for a High-Stress, High-Burnout Workforce.” International Federation of Employee Benefits Art & Science of Health Promotion Conference: April 10, 2024; Myrtle Beach, SC. Peer-reviewed.

## Publications

**Liu S, McCoy AB, Wright AP**, et al. [Leveraging large language models for generating responses to patient messages—a subjective analysis](#). *Journal of the American Medical Informatics Association*. Published online March 18, 2024:ocae052. doi:[10.1093/jamia/ocae052](#)

Adeogun G, Camai A, Suh A, **Wheless L**, Barnado A. [Comparison of late-onset and non-late-onset systemic lupus erythematosus individuals in a real-world electronic health record cohort](#). *Lupus*. 2024 Mar 7:9612033241238052. doi: 10.1177/09612033241238052.

**Liu S, McCoy AB, Wright AP, Nelson SD, Huang SS**, Ahmad HB, Carro SE, Franklin J, Brogan J, **Wright A**. [Why do users override alerts? Utilizing large language model to summarize comments and optimize clinical decision support](#). *J Am Med Inform Assoc*. 2024 Mar 7:ocae041. doi: 10.1093/jamia/ocae041.

**Huang EY**, Saberi RA, Palamara K, Katz D, Chen H, Neville HL. [Coaching Program to Address Burnout, Well-Being, and Professional Development in Pediatric Surgery Trainees: A Randomized Controlled Trial](#). *Ann Surg*. 2024 Mar 4. doi: 10.1097/SLA.0000000000006257.

Deng Y, Pacheco JA, Ghosh A, Chung A, Mao C, **Smith JC**, Zhao J, Wei WQ, Barnado A, Dorn C, Weng C, Liu C, Cordon A, Yu J, Tedla Y, Kho A, Ramsey-Goldman R, Walunas T, Luo Y. [Natural language processing to identify lupus nephritis phenotype in electronic health records](#). *BMC Med Inform Decis Mak*. 2024 Mar 3;22(Suppl 2):348. doi: 10.1186/s12911-024-02420-7.

**Lasko TA**, Strobl EV, Stead WW. [Why do probabilistic clinical models fail to transport between sites](#). *NPJ Digit Med*. 2024 Mar 1;7(1):53. doi: 10.1038/s41746-024-01037-4.

Lippenszky L, Mittendorf KF, Kiss Z, LeNoue-Newton ML, Napan-Molina P, Rahman P, Ye C, Laczi B, Csernai E, Jain NM, Holt ME, Maxwell CN, Ball M, Ma Y, Mitchell MB, Johnson DB, Smith DS, Park BH, Micheel CM, Fabbri D, Wolber J, **Osterman TJ**. [Prediction of Effectiveness and Toxicities of Immune Checkpoint Inhibitors Using Real-World Patient Data](#). *JCO Clin Cancer Inform*. 2024 Feb;8:e2300207. doi: 10.1200/CCI.23.00207.

**Shepherd ME**, Hines D. [Metro Nashville Public School Promotes Health Equity Through Employee Benefits Plans](#). *Am J Health Promot*. 2024;38(3):440-443. doi:10.1177/08901171241232057e



Yan C, Grabowska ME, Dickson AL, Li B, Wen Z, Roden DM, Michael Stein C, Embí PJ, **Peterson JF**, Feng Q, Malin BA, Wei WQ. Leveraging generative AI to prioritize drug repurposing candidates for Alzheimer's disease with real-world clinical validation. *NPJ Digit Med*. 2024;7(1):46. doi:10.1038/s41746-024-01038-3

Bader J, **Bachmann JM**. Observational Studies of Cardiac Rehabilitation: ANALYTIC CHALLENGES, SIGNIFICANT OPPORTUNITIES. *J Cardiopulm Rehabil Prev*. 2024;44(2):77-78. doi:10.1097/HCR.0000000000000866

Hajdu KS, Baker CE, **Moore-Lotridge SN**, Schoenecker JG. [Sequestration and Involucrum: Understanding Bone Necrosis and Revascularization in Pediatric Orthopedics](#). *Orthop Clin North Am*. 2024;55(2):233-246. doi:10.1016/j.ocl.2023.09.005

**Moore-Lotridge SN**, Hou BQ, Hajdu KS, Anand M, Hefley W, Schoenecker JG. [Navigating the Enigma of Pediatric Musculoskeletal Infections: A Race Against Time](#). *Orthop Clin North Am*. 2024;55(2):217-232. doi:10.1016/j.ocl.2023.09.004

Trochez RJ, Barrett JB, Shi Y, Schildcrout JS, Rick C, Nair D, Welch SA, Kumar AA, Bell SP, **Kripalani S**. [Vulnerability to functional decline is associated with noncardiovascular cause of 90-day readmission in hospitalized patients with heart failure](#). *J Hosp Med*. Published online February 24, 2024. doi:10.1002/jhm.13316

**Collins BX**, Wilkins CH. [Overcoming Barriers to Health Equity in Precision Medicine Research](#). *Am J Bioeth*. 2024;24(3):86-88. doi:10.1080/15265161.2024.2303146

**Smith JR**, Baldwin I, Lim S, Luccarelli J. [Symptoms of Catatonia Observed in Down Syndrome Regressive Disorder: A Retrospective Analysis](#). *J Autism Dev Disord*. Published online February 22, 2024. doi:10.1007/s10803-024-06249-x

**Liu S, McCoy AB, Peterson JF, Lasko TA, Sittig DF, Nelson SD, Andrews J, Patterson L, Cobb CM, Mulherin D, Morton CT, Wright A**. [Leveraging explainable artificial intelligence to optimize clinical decision support](#). *J Am Med Inform Assoc*. Published online February 22, 2024:ocae019. doi:10.1093/jamia/ocae019

Upperman JS, **Huang EY**. [Surgical Site Infections-Time to Test Cost-Effective Prevention Strategies?](#) *JAMA Surg*. Published online February 21, 2024. doi:10.1001/jamasurg.2023.7979

Venner E, Patterson K, Kalra D, Wheeler MM, Chen YJ, Kalla SE, Yuan B, Karnes JH, Walker K, **Smith JD**, McGee S, Radhakrishnan A, Haddad A, Empey PE, Wang Q, Lichtenstein L, Toledo D, Jarvik G, Musick A, Gibbs RA. [The frequency of pathogenic variation in the All of Us cohort reveals ancestry-driven disparities](#). *Commun Biol*. 2024;7(1):174. doi:10.1038/s42003-023-05708-y

Lennon NJ, Kottyan LC, Kachulis C, Abul-Husn NS, Arias J, Belbin G, Below JE, Berndt SI, Chung WK, Cimino JJ, Clayton EW, Connolly JJ, Crosslin DR, Dikilitas O, Velez Edwards DR, Feng Q, Fisher M, Freimuth RR, Ge T; GIANT Consortium; All of Us Research Program; Glessner JT, Gordon AS, Patterson C,

Hakonarson H, Harden M, Harr M, Hirschhorn JN, Hoggart C, Hsu L, Irvin MR, Jarvik GP, Karlson EW, Khan A, Khera A, Kiryluk K, Kullo I, Larkin K, Limdi N, Linder JE, Loos RJF, Luo Y, Malolepsza E, Manolio TA, Martin LJ, McCarthy L, McNally EM, Meigs JB, Mersha TB, Mosley JD, Musick A, Namjou B, Pai N, Pesce LL, Peters U, **Peterson JF**, Prows CA, Puckelwartz MJ, Rehm HL, Roden DM, Rosenthal EA, Rowley R, Sawicki KT, Schaid DJ, Smit RAJ, Smith JL, Smoller JW, Thomas M, Tiwari H, Toledo DM, Vaitinadin NS, Veenstra D, Walunas TL, Wang Z, Wei WQ, Weng C, Wiesner GL, Yin X, Kenny EE. [Selection, optimization and validation of ten chronic disease polygenic risk scores for clinical implementation in diverse US populations](#). *Nat Med*. 2024;30(2):480-487. doi:10.1038/s41591-024-02796-z

Carr SG, Clifton JC, **Freundlich RE**, et al. [Improving Neuromuscular Monitoring Through Education-Based Interventions and Studying Its Association With Adverse Postoperative Outcomes: A Retrospective Observational Study](#). *Anesth Analg*. 2024;138(3):517-529. doi:10.1213/ANE.0000000000006722

Li G, **Freundlich RE**, Rice MJ, Dunworth BA, Sandberg WS, Higgins MS, **Wanderer JP**. [The impact of a medically directed student registered nurse anesthesia staffing model on Postprocedural patient outcomes](#). *J Clin Anesth*. 2024;94:111413. doi:10.1016/j.jclinane.2024.111413

**Jeffery AD**, Fabbri D, Reeves RM, Matheny ME. [Use of Noisy Labels as Weak Learners to Identify Incompletely Ascertainable Outcomes: A Feasibility Study with Opioid-Induced Respiratory Depression](#). *medRxiv*. Published online January 30, 2024:2024.01.29.24301963. doi:10.1101/2024.01.29.24301963

## Accepted/In Press

Opotowsky AR, Khairy P, Diller G, Kasparian NA, Brophy J, Jenkins K, Lopez KN, **McCoy AB**, Moons P, Ollberding NJ, Rathod R, Rychik J, Thanassoulis G, Vasani RS, Marelli A. Clinical risk assessment & prediction in congenital heart disease across the lifespan. *JACC Sci Statement/JACC State Art Rev*.

## Reminder to Send Updates for Recognition

**If you (or another VCLIC Member) publishes a paper; has an abstract accepted at a conference; are interviewed for or written up in a news article; receive any awards, accolades, or honors; or completed/are currently undertaking any projects you would like to highlight, please email me with or forward this information:**

- Names of VCLIC members/VUMC staff who participated in or worked on the project, paper, or abstract (or who received the award/honor)
- The title of the Project, Paper, Abstract, Article, or Award
- The journal, conference, or news publication (this can be podcasts, radio, or more “traditional,” news mediums)

Nothing is too big or too small to celebrate, and this information will be featured on the [News section of our website](#) as well. As time goes on, I am hoping to also improve our Twitter presence, so feel free to add, tag, or tweet us at [@VUMC\\_VCLIC](#) too!

**Thank you, and see you soon!**