



## VCLIC News and Happenings, Volume 22

Welcome to the February edition of VCLIC News! We are coming to you a little early during this short month to give one last plug of our **Mental Health Innovation Challenge and Hackathon**, which will take place next week, February 25<sup>th</sup> and 26<sup>th</sup>, here on VU's campus at the Wond'ry! See below for more details, but we are incredibly excited for this event and hope to see some of y'all there!

We are also looking forward to our March 2<sup>nd</sup> Seminar, which will be presented by **Karandeep Singh, MD, MMSc**, of the University of Michigan: "Bringing Machine Learning Models to the Bedside." Our featured member this month is **Derek Williams, MD**, and we are thrilled to showcase his work in pediatrics at VUMC!

We are also excited to bring you an exclusive interview with VCLIC Center Director, **Adam Wright, PhD**, and Clinical Informatics Core Director, **Allison McCoy, PhD**, regarding the Clinical Informatics Course they are teaching this semester!

Please note the upcoming conference submission deadlines section—the **AMIA Symposium call for participation has opened, and abstracts are due March 9<sup>th</sup>, 2022!** We have also heard back from the AMIA Clinical Informatics Conference regarding abstract acceptances, so many of those are noted below, along with the abundance of other **conference acceptances, awards, news articles, and publications** of our members since last month's letter. Congratulations to all!

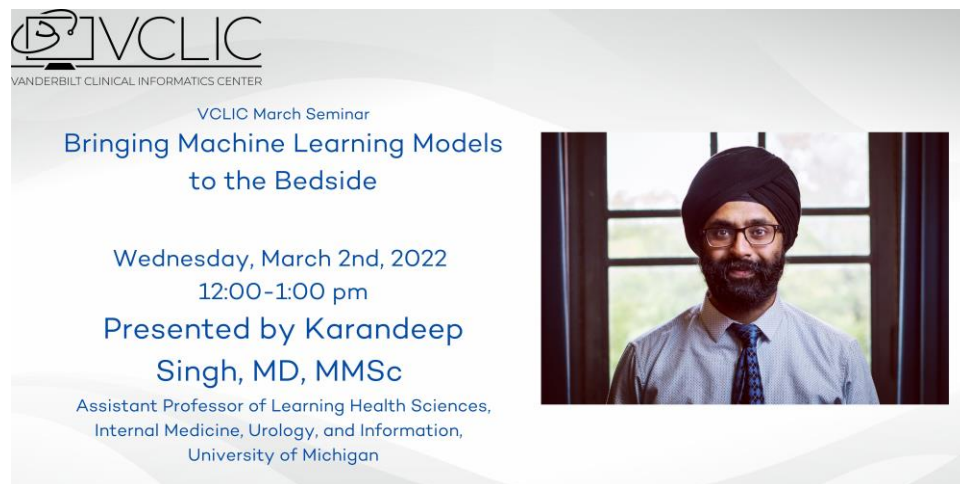
If you have any questions or would like to engage with our team, please email Elise ([elise.russo@vumc.org](mailto:elise.russo@vumc.org)).

## VCLIC Events

Thank you to everyone who attended our February 2<sup>nd</sup> seminar, delivered by **David Marcovitz, MD**, of the VUMC Bridge Clinic (Dept. of Psychiatry), and **Scott Schepers, PhD**, of Pear Therapeutics. It was exciting to learn about the work they are doing together using the RESET-O application for addiction patients.

Our next seminar will be on March 2<sup>nd</sup>, 2022, at 12:00 pm CT and will be presented by **Karandeep Singh, MD, MMSc**, Assistant Professor of Learning Health Systems, Internal Medicine, Urology, and Information at the University of Michigan: **“Bringing Machine Learning Models to the Bedside.”**

Dr. Singh will discuss common implementation questions that arise in the process of integrating and using machine learning models as part of a clinical workflow, with a focus on models used as part of early warning systems. He'll share their approach to addressing each of these questions in their health system: Is there infrastructure to implement models? Should we implement a model? Once implemented, how do we measure model performance? Is a model “good enough” to use? Do users agree on how to use the model? Is the model effective when used? What does governance look like for machine learning models?



The image is a promotional poster for a VCLIC March Seminar. At the top left is the VCLIC logo, which consists of a stylized 'V' and 'C' inside a square, followed by the text 'VCLIC' and 'VANDERBILT CLINICAL INFORMATICS CENTER' below it. The main title of the seminar is 'Bringing Machine Learning Models to the Bedside', with 'VCLIC March Seminar' written above it. The date and time are 'Wednesday, March 2nd, 2022' and '12:00-1:00 pm'. The presenter is 'Karandeep Singh, MD, MMSc', with his title 'Assistant Professor of Learning Health Sciences, Internal Medicine, Urology, and Information, University of Michigan' listed below. On the right side of the poster is a photograph of Dr. Singh, a man with a beard and glasses wearing a blue turban, a light blue shirt, and a dark tie, standing in front of a window.

We are also grateful to **Tim Coffman** and **Simeon Herring** of VUMC HealthIT for leading the February 8<sup>th</sup> workshop on building SMART on FHIR apps!

Recordings of all our workshops can be found on our Confluence site:  
<https://confluence.app.vumc.org/display/VCLIC/Workshops>

VCLIC Mental Health Design Challenge and Hackathon: February 25<sup>th</sup> and 26<sup>th</sup>, 2022

VANDERBILT CLINICAL INFORMATICS CENTER PRESENTS

# MENTAL HEALTH

## INNOVATION CHALLENGE AND HACKATHON

**HOW DOES IT WORK?**  
Teams will work together over 2 days to develop a novel app to support mental health and care delivery

**WHO CAN PARTICIPATE?**  
Vanderbilt clinicians, data scientists, designers, developers, informaticians, project managers, and social and behavioral scientists

**DON'T KNOW HOW TO DESIGN OR BUILD FHIR APPS?**  
Check out upcoming VCLIC workshops:  
Design Workshop: January 18  
Build Workshop: February 8

 **February 25-26, 2022**  
**The Wond'ry**

More information and interest form can be found on our website: <https://www.vumc.org/vclic/hackathon>

 **VCLIC**  
VANDERBILT CLINICAL INFORMATICS CENTER

### **One final plug for the VCLIC Mental Health Innovation Challenge and Hackathon!**

The Vanderbilt Clinical Informatics Center (VCLIC), in partnership with VUMC HealthIT, will host an innovation challenge and hackathon to support development of novel apps for patients and healthcare providers to support our Innovative Care Delivery Models for Mental Health theme.

The innovation challenge and hackathon will take place from a Friday to Saturday, February 25th-26th, 2022, and will be held at The Wond'ry on Vanderbilt University's campus. The event is open to all VUMC and VU affiliates, including students, faculty and staff in all disciplines and departments – whether based at the University of the Medical Center. Participating teams can be comprised of several different types of roles, including developers, clinicians, project managers, social and behavioral scientists, designers, data scientists, informaticians, and others, which you can indicate on the interest form, linked below.

The goal of the innovation challenge and hackathon is for teams to come together and develop novel apps to support mental health, defined broadly. We welcome apps for patients and providers, apps integrated with or external to the EHR, and apps for any phase of mental health care, including screening, diagnosis, treatment, or wellness. VCLIC will award prizes to the top teams. The applications developed will be judged based on creativity, functionality, design, clinical impact, and relevance to the theme.

**If you are interested in participating in the innovation challenge and hackathon, please fill out the interest form, here: <https://redcap.link/VCLICDesignChallengeandHackathon>**

## Member Spotlight: Derek Williams, MD, MPH



VCLIC is excited to feature **Derek Williams, MD, MPH**, Associate Professor of Pediatrics and Chief of the Division of Hospital Medicine, Vanderbilt University Medical Center!

Dr. Williams is a clinical and health services researcher with a federally funded research program centered on improving care delivery and outcomes for children with pneumonia and other acute respiratory illnesses. He has contributed substantially to numerous studies that have advanced the field, including the landmark CDC Etiology of Pneumonia in the Community (EPIC) Study. This study was the largest prospective investigation of pediatric pneumonia hospitalizations ever conducted in the U.S. and fundamentally altered how we think about pneumonia etiology in the era of highly effective pneumococcal vaccines. Dr. Williams is also an active research mentor, with nine current trainees and junior faculty, including two K awardees. He also serves on the Executive Council for the Pediatric Research in Inpatient Settings (PRIS) Network, an independent, hospital-based research network that has garnered >\$32 million in federal grants to conduct innovative research.

Currently, his research team is focused on the conduct of two NIH-funded pragmatic randomized trials testing the effectiveness of predictive analytics and clinical decision support to optimize antibiotic utilization and inform disease severity assessments in childhood pneumonia.

Both of these studies have been enhanced tremendously through collaborations with other members of the VCLIC community, as have several projects led by Dr. Williams's mentees focused on medication safety, drug allergy delabeling, and food insecurity screening. His team continues to explore funding opportunities relevant to each of these areas and welcomes collaboration from others with overlapping interests.

Teaching Clinical Informatics: an Interview with Allison McCoy and Adam Wright about a new course offering this semester

VCLIC's own **Adam Wright, PhD** and **Allison McCoy, PhD**, are co-teaching a course on Clinical Informatics: BMIF 7340. I briefly sat down with them to discuss the course as well as their goals in teaching it. Without further ado:

### **What is the Clinical Informatics Course? What Content does it cover?**

BMIF 7340 (Clinical Informatics) is a graduate level course offered by VCLIC within the department of biomedical informatics. It covers a range of topics clinical informatics, the subfield of biomedical informatics focused on how we use informatics methods and tools in clinical care – we cover topics like electronic health records (EHRs), departmental information systems like radiology and pharmacy information systems, standards, terminology, clinical decision support and a host of others!

### **Why did you decide to teach this course?**

For many years, there was a great course on clinical information systems and databases, but it had not been taught for several years. Clinical Informatics is the largest and most important subfield of biomedical informatics, so this seemed like a big gap in our curriculum. We wanted to make sure our students got good exposure to clinical informatics.

### **What students should take this course?**

The target audience is graduate biomedical informatics students – whether or not they have a clinical background. However, we also have public health and medical students taking the course. Even if your primary interest is in genetics or precision medicine, if you might use data that was collected during clinical care or want to build any intervention that might impact clinical care, you need to know about clinical informatics.

### **Are there any prerequisites?**

We recommend students have taken BMIF 6300, but we can be flexible -- students should reach out to us if they have questions or want to discuss what might work for them.

### **When is this course offered?**

The course is offered every spring. This year we are teaching it Tuesdays and Thursdays from 9:00 am to 10:15 am, but the timing and days might differ in future years.

### **What do you hope the students will learn?**

Clinical informatics is an exciting discipline. We can use data that we collect during clinical care to understand health better, and we can use the EHR to drive improvements in quality. At Vanderbilt, we are actively getting data out of the EHR, and building new tools and interventions in the EHR. We also hope that students who aren't clinicians will feel more comfortable navigating a clinical environment and working with clinicians on projects.

### **What are you most excited about when thinking about teaching this class?**

We believe that students should feel empowered to change the EHR and make care better. We often hear that students aren't sure they can get data or make changes to Epic; we know they can, and this is our chance to help them see how. We are also very excited about our field trips!

## Tell me more about that—what do you do during the class?

We are using a variety of approaches, including traditional classroom lectures given by us, dynamic guest speakers who are leaders across the medical center and informatics community, and demonstrations of clinical information systems that we use and discuss how well they work and what their capabilities are. We have taken tours of a variety of areas of the hospital, including the emergency department, the MICU, medicine units, outpatient clinics, and the data center. We also have hands on exercises where students get opportunities to build a SMART on FHIR app as well as a course project where students collaborate with a senior HealthIT leader to solve a problem at VUMC.

## How can people get involved?

If you are interested in clinical informatics, you can consider taking the course next time it's offered (Spring 2023). We'd love to have you. If you have a project idea you think students might be interested in, or would be willing to give a guest lecture, reach out to us; we'd love to find a way to include you in the course.

## Upcoming Conference Submission Deadlines

- [International Conference on Machine Learning \(ICML\)](#):
  - [Workshop Application Deadline](#): February 23, 2022
  - [Tutorial Proposal Submission Deadline](#): February 26, 2022
- [Medical Informatics Europe \(MIE\)](#):
  - [Workshops, Panels, Demonstrations Submission Deadline](#): February 27<sup>th</sup>, 2022
  - [Resubmission Deadline for Full Papers, Short Communication papers / Posters](#): March 20, 2022
- [Epic UGM](#):
  - Presentations: March 2022
- [Pediatric Academic Societies \(PAS\) Meeting](#):
  - Last Call for Ancillary Events: March 1, 2022
- [American Academy of Pediatrics \(AAP\) National Conference & Exhibition](#):
  - Plenary session proposals & keynote ideas: March 25, 2022
  - Abstracts: April 22, 2022
- [Anesthesiology Annual Meeting \(ASA\)](#)
  - Scientific Abstracts: April 4, 2022
  - Scientific and Educational Exhibits: April 4, 2022
- [Machine Learning for Healthcare](#)
  - Papers: April 14, 2022, 5 pm ET
- [Association for Computing Machinery Conference on Bioinformatics, Computational Biology, and Health Informatics \(ACM-BCB\)](#)
  - Papers: April 15, 2022

## AMIA 2022 Annual Symposium Call for Participation

The AMIA 2022 Annual Symposium, held November 5-9, 2022, in Washington, D.C., showcases submissions from scientists, clinicians, trainees, educators, policy makers, administrators, industry professionals, and technologists from around the world.

Scientific evidence is the language of trust in healthcare, and this year's theme is Informatics: Building the Evidence Base. The AMIA 2022 Annual Symposium will consider the traditional poster, podium abstract, regular paper, student paper, panel, systems demonstration, and workshop submissions that share the latest innovations from the informatics community.

We will prepare for and make every attempt to accommodate virtual participation when necessary, and authors should indicate if there is a known need for virtual presentation on submission.

- **Submission deadline:** March 9, 2022

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

## Publications, Presentations, Interviews, and Awards

### Awards, Honors, Presentations, and News Mentions

**Wael Alrifai, MD** was featured in the Discover VUMC article, "[Fetal Treatment Plan Flows from Mom to Neonate](#)."

**Gretchen P. Jackson, MD, PhD** was pictured and featured as the AMIA President in her [special welcome message](#) to AMIA members.

**Gretchen P. Jackson, MD, PhD** was mentioned in the [AMIA 2022 Annual Symposium Call for Participation](#).

**Yaa Kumah-Crystal, MD, MPH, MS**, has agreed to participate on the Women in AMIA steering committee.

**Stephanie Moore-Lotridge, PhD** is mentioned in the VUMC Reporter article, "[Study identifies molecular trigger of severe injury-induced inflammatory response](#)."

**Lyndsay Nelson, PhD** and **Lindsay Mayberry, PhD** are mentioned in the VUMC Reporter article, "[Impact of digital health interventions](#)."

**Scott Nelson, PharmD, MS** is mentioned in the VUMC Reporter article, "[New method enhances efforts to identify drug repurposing targets](#)."

**Travis Osterman, DO, MS** is featured in the VUMC Reporter article, "[Osterman plays key role in major oncology EHR initiative.](#)"

**Martin Were, MD, MS** is featured in the VUMC Reporter article, "[Smartphone app supports EHR efforts in low-income countries.](#)"

**Derek Williams, MD** is quoted in the VUMC Reporter article, "[Study finds shorter treatment better for young children with outpatient pneumonia.](#)"

**Adam Wright, PhD, Josh Denny, MD, MS** and **Dan Roden, MD** were highlighted as three of the "top 10 [most influential authors on EHR and EMR](#) between 2001 and 2020."

## Accepted Conference Abstracts

**LeGrand J, Bridgeman K, Tokunaga K, Bulochnik Y, Hodges R, Fabian D.** Medication Diversification Tool. AMIA 2022 Clinical Informatics Conference. Accepted.

**Madani S, Kumah-Crystal Y, Wanderer JP, Weitkamp A.** Leveraging Standard Terminologies to Quantify Duplication in Patient Problem List. AMIA 2022 Informatics Summit. Accepted.

**McCoy AB, Stone CA, Wright A.** Informatics-Enabled Penicillin Allergy Risk Stratification and Delabeling. Physicians Advisory Council, Epic Expert Group Meeting (XGM) 2022.

Pournejati SA, **Madani S.** Developing a Care Management System for Mental and Behavioral Health. AMIA 2022 Informatics Summit. Accepted.

**Russo E, McCoy AB, Wanderer JP, Wright A.** Enabling Informatics Innovators to Access Data: The VDAWGs Program. AMIA 2022 Clinical Informatics Conference. Accepted.

**Sengstack, P.** Enabling the value of Chief Nursing Informatics Officers in realizing the impact of Digital Health Leadership on Care Delivery: Best Practices and Opportunities for Healthcare Organizations. AMIA 2022 Clinical Informatics Conference. Accepted.

**Steitz BD, Langford K, Turer RW, Salmi L, MacDonald S, Lin CT, DesRoches CM, Rosenbloom ST.** Patient Attitudes About Immediate Access to Test Results. AMIA 2022 Clinical Informatics Conference. Accepted.

Thomas Craig KJ, Russell RG, **Novak LL, Patel M, Garvey KV, Jackson GP, Miller BM.** Developing Individual Competencies and Organizational Capabilities in Artificial Intelligence to Support Safe and Ethical Clinical Care. AMIA 2022 Informatics Summit. Accepted.

**Wright A, McCoy AB.** Enabling Clinical Research and Innovation through a Clinical Informatics Core. Research Advisory Council, Epic Expert Group Meeting (XGM) 2022.

## Publications

February



Birkelo BC, **Parr SK**, Perkins AM, Greevy RA Jr, Arroyo JP, Hung AM, Vincz AJ, Shah SC, Kapoor T, Matheny ME, Siew ED. (2022). [Renin-Angiotensin-Aldosterone System Inhibitors and the Risk of AKI in COVID-19 Compared with Influenza](#). *Clin J Am Soc Nephrol*.

Cereijo C, Johnson SR, Schoenecker JG, Collinge CA, Obremsky WT, **Moore-Lotridge SN**. (2022). [Quantitative Analysis of Growth Factors From Cancellous Bone Graft Collected With a Reamer-Irrigator-Aspirator System From Native Long Bones Versus Previously Reamed Long Bones](#). *Journal of Orthopaedic Trauma*, 36(Suppl 2):S23-S27.

**Douthit BJ**, Walden RL, Cato K, Coviak CP, Cruz C, D'Agostino F, Forbes T, Gao G, Kapetanovic TA, Lee MA, Pruinelli L, Schultz MA, Wieben A, **Jeffery AD**. (2022). [Data Science Trends Relevant to Nursing Practice: A Rapid Review of the 2020 Literature](#). *Applied Clinical Informatics*.

Koo G, Stollings JL, Lindsell C, Dear ML, **Kripalani S**, Nelson GE, **McCoy AB**, Rice TW, Phillips EJ, Stone CA. (2022). [Low-Risk Penicillin Allergy Delabeling through Direct Oral Challenge in Immunocompromised and/or Multiple Drug Allergy Labeled Patients in a Critical Care Setting](#). *The Journal of Allergy and Clinical Immunology*.

Koo G, Stollings J, Lindsell C, Dear ML, **Kripalani S**, Rice T, Phillips E, Stone C. (2022). [Direct Oral Challenge is a Safe and Effective Strategy to Delabel Low-Risk Penicillin Allergy in Immunocompromised Patients Admitted to the ICU](#). *The Journal of Allergy and Clinical Immunology*.

**Reese T**, **Wright A**, **Liu S**, Boyce R, Romero A, Del Fiol G, Kawamoto K, Malone D. (2022). [Improving the specificity of drug-drug interaction alerts: Can it be done?](#) *American Journal of Health-System Pharmacy*.

Sittig D, **Sengstack P**, Singh H. (2022). [Guidelines for US Hospitals and Clinicians on Assessment of Electronic Health Record Safety Using SAFER Guides](#). *JAMA*.

Tarplin S, Hubbard J, Green S, Whitney R, **Wheless L**, Barnado A. (2022). [Women with Rheumatoid Arthritis have similar rates of postpartum maternal outcomes compared to women without autoimmune disease](#). *Seminars in Arthritis and Rheumatism*.

Wongvibulsin S, Frech TM, Chren MM, **Tkaczyk ER**. (2022). [Expanding Personalized, Data-Driven Dermatology: Leveraging Digital Health Technology and Machine Learning to Improve Patient Outcomes](#). *JID Innovations*.

## January

Bates DW, Syrowatka A, Rhee K, **Jackson GP**, Alfayez A, Kunz H. (2022). [Call for better systems and data to support artificial intelligence for pandemic response](#). *BMJ Health Care Inform*, 29(1):e100506.

Burton WN, Schultz AB, **Shepherd ME**, McCluskey M, Hines D. (2022). [Results of a Virtual Migraine Education Program in an Employed Population](#). *Journal of Occupational and Environmental Medicine*.

Godfrey CM, Lovvorn HN III, Greeno A, **Huang E**. (2022). [Situational awareness in the management of pediatric abdominal impalement](#). *Journal of Pediatric Surgery Case Reports*.

Horak P, Griffith M, Danos AM, Pitel BA, Madhavan S, Liu X, Chow C, Williams H, Carmody L, Barrow-Laing L, Rieke D, Kreutzfeldt S, Stenzinger A, Tamborero D, Benary M, Rajagopal PS, Ida CM, Lesmana H,

Satgunaseelan L, Merker JD, Tolstorukov MY, Campregher PV, **Warner JL**, Rao S, Natesan M, Shen H, Venstrom J, Roy S, Tao K, Kanagal-Shamanna R, Xu X, Ritter DI, Pagel K, Krysiak K, Dubak A, Akkari YM, Li XS, Lee J, King I, Raca G, Wagner AH, Li MM, Plon SE, Kulkarni S, Griffith OL, Chakravarty D, Sonkin D. (2022). [Standards for the classification of pathogenicity of somatic variants in cancer \(oncogenicity\): Joint recommendations of Clinical Genome Resource \(ClinGen\), Cancer Genomics Consortium \(CGC\), and Variant Interpretation for Cancer Consortium \(VICC\)](#). *Genetics in Medicine*.

Miller M, Jayaram J, Allen BFS, **Freundlich RE**, **Wanderer JP**, McEvoy MC. (2022). [Safety of postoperative lidocaine infusions on general care wards without continuous cardiac monitoring in an established enhanced recovery program](#). *Regional Anesthesia & Pain Medicine*.

Schiff GD, Volodarskaya M, Ruan E, Lim A, **Wright A**, Singh H, Nieva HR. (2022). [Characteristics of Disease-Specific and Generic Diagnostic Pitfalls: A Qualitative Study](#). *JAMA Netw Open*, 5(1):e2144531.

**Steitz BD**, Li G, **Wright A**, Dunworth B, **Freundlich RE**, **Wanderer JP**. (2022). [Non- Interruptive Clinical Decision Support to Improve Perioperative Electronic Positive Patient Identification](#). *Journal of Medical Systems*, 46(3):1-5

Stetson PD, McCleary NJ, **Osterman T**, Ramchandran K, Tevaarwerk A, Wong T, Sugalski JM, Akerley W, Mercurio A, Zachariah FJ, Yamzon J, Stillman RC, Gabriel PE, Heinrichs T, Kerrigan K, Patel SB., Gilbert S M, & Weiss, E. (2022). [Adoption of Patient-Generated Health Data in Oncology: A Report From the NCCN EHR Oncology Advisory Group](#). *Journal of the National Comprehensive Cancer Network*.

**Williams DJ**, Creech CB, Walter EB. (2022). [Short- vs Standard-Course Outpatient Antibiotic Therapy for Community-Acquired Pneumonia in Children: The SCOUT-CAP Randomized Clinical Trial](#). *JAMA Pediatr*.

Zairina E, Nugraheni G, Sulistyarini A, Mufarrihah, Setiawan CD, **Kripalani S**, Lestari SI. (2022). [Factors related to barriers and medication adherence in patients with type 2 diabetes mellitus: a cross-sectional study](#). *Journal of Diabetes & Metabolic Disorders*.

### Accepted or In Press

Kukhareva P, Caverly TJ, Li H, Katki HA, Cheung LC, **Reese TJ**, Del Fiol G, Hess R, Wetter DW, Zhang Y, Taft T, Flynn M, Kawamoto K. (2022). Inaccuracies in Electronic Health Records Smoking Data and a Potential Approach to Address Resulting Underestimation in Determining Lung Cancer Screening Eligibility. *Journal of American Medical Informatics Association*. Accepted.

Kukhareva P, Weir C, Del Fiol G, Aarons GA, Taft T, Schlechter CR, **Reese TJ**, Curran RL, Nanjo C, Borbolla D, Staes CJ, Morgan KL, Kramer HS, Stipelman CH, Shakib JH, Flynn MC, Kawamoto K. (2022). Electronic Health Record-integrated Digital Innovation Evaluation Framework (EDIEF): Supporting the Innovation Life Cycle from Business Case Assessment to Summative Evaluation. *Journal of Biomedical Informatics*. Accepted.

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 next month!**