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Subject:	VCLIC News and Happenings, Volume 1

VCLIC News and Happenings

Welcome to the first issue of VCLIC News!

VCLIC News and Happenings will periodically aggregate and highlight the important work being done by our members, both at VUMC and beyond. This inaugural issue features essential work being conducted by VCLIC members to support COVID-19-related efforts; the large volume of VCLIC member abstracts that were accepted for presentation at AMIA's virtual Clinical Informatics Conference, taking place in May 2020; a brief overview of our internal tools and projects; and a roundup of news articles (in other publications) related to VCLIC and its members.

To that end, if you haven't already seen the illuminating write-up on the Center in the VUMC Reporter (January 29th, 2020), please take some time to read through the article here. For a deeper dive, please see this wonderful interview that HIStalk did with Center Director, Dr. Adam Wright.

VCLIC's new Project Manager, Elise Russo, worked with Center Director and Professor of Biomedical Informatics, Dr. Adam Wright, to source much of this material, but we are hopeful that in the future VCLIC members will reach out to Elise with news or announcements.

If you publish a paper, have an abstract accepted at a conference, are interviewed for or written up in a news article, or have any projects you would like to highlight, please email Elise with this information:
- Names of VCLIC members who participated in or worked on the project, paper, or abstract
- The title of the Project, Paper, Abstract, or Article
- The journal, conference, or news publication (this can be podcasts, radio, or more "traditional," news mediums)

As we get started, Elise and/or Dr. Wright will likely continue to solicit this information via email (like we did with the COVID-19 projects), but we would like to get everyone in the habit of keeping us updated on Center Happenings. This will both help publicize all of these fantastic informatics initiatives, presentations, publications, and interviews, as we will also add them to our VCLIC Website's News tab, and will also enable members to have a more transparent view of the informatics work being conducted at VUMC, hopefully leading to more collaboration, growth, and improved outcomes across many areas of the medical center.

Now, onto the news!

VCLIC Members Take Action with COVID-19-Related Efforts

VCLIC members have been busy creating informatics-driven solutions and developing ways to support COVID-19-related interventions, research, data collection, and analysis. The depth and breadth of what our team members have been working on over just the last few weeks is extensive and incredibly impactful! Please see our News tab for a full accounting of ongoing projects (we will continue to add to this page as we are notified of initiatives).
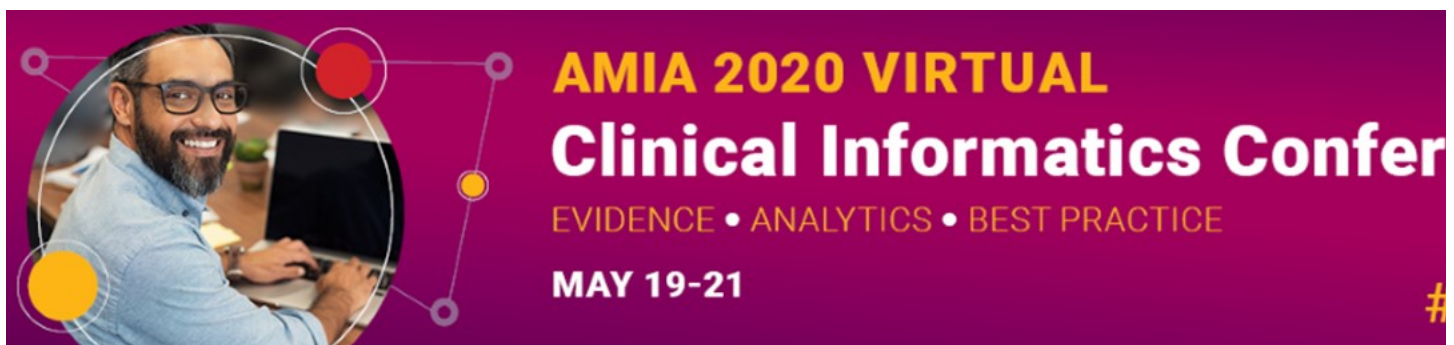
Here is a sampling of the creative, essential work being done by VCLIC members at the medical center:

- **Dr. Kevin B. Johnson** has been working to obtain national data from Epic about the changes in the demographics of visits pre-and post-COVID-19 to highlight the disparity caused by telemedicine in its current form, and to suggest alternatives. He is working with Pediatrics to improve this disparity. Dr. Johnson is also supporting a project that Drs. Fabbri and Talbert are doing at Tennessee Tech. This project aims to determine a way to incorporate paper-based assessment form data into a standard data set for intake, at scale, regardless of the form's appearance.

- **Dr. Melissa McPheeters** is an integral part of the VUMC Health Policy team that has developed the COVID-19 Modeling for Tennessee as well as all of the related reports and supporting documents. She has given countless presentations to DBMI, VUMC, VU, and other stakeholders, many of whom are involved in the state's policy and decision-making processes.

- **Drs. Adam Wright, Dara Mize,** and the Health IT team developed new clinical decision support tools to help identify patients with pending or positive COVID 19 tests and alert healthcare providers to take appropriate precautions.

- **Dr. Allison McCoy** created reports to help dermatology identify and easily contact patients to reschedule or convert to telehealth visit; extracted Clarity data to develop models to predict positive COVID tests or worsening outcomes for COVID patients, to evaluate COVID and other respiratory virus outcomes in Type 1 and Type 2 diabetes patients, and to evaluate travel screening completeness; implemented the Epic Deterioration Index predictive model.

- **Dr. Rob Turer** has helped with several projects, including implementing SmartText for ED "E-Pod" (COVID-19 Fast Track) documentation; Implementing a BPA for negative COVID-10 tests in the ED to facilitate throughput; designing and building ED daily reporting tools; designing and prototyping (with **Dr. Trent Rosenbloom** and Health IT) MHAV COVID-19 dashboard, which was adopted and improved upon by the enterprise analytics team under Bill Harrell; prototyping and implementing visualizations for a CDC-COVID-19 study reporting tool; publishing a perspective in JAMIA: *Electronic Personal Protective Equipment: A Strategy to Protect Emergency Department Providers in the Age of COVID-19*, co-authored with fellow VCLIC member **Dr. Trent Rosenbloom**.

- **Dr. Dario Guise** has worked with the HDR team to do an early export of data for all patients on the census to extend the capabilities of an EDW2 report from daily to near-real-time; develop a real-time dashboard that shows all current inpatients with a reported positive COVID-19 result from the lab (mobile version also available); add a version of the same dashboard that is driven not by positive VUMC lab results but from documentation of positive status from the Word Cloud, which covers patients not tested at VUMC but admitted because of a positive elsewhere; create a report that shows the total number of COVID-19 tests done by the lab, with numbers of pending and positive results (the report also shows how many ventilators are in use and the total number of ventilators VUMC owns); create a version of the same report that shows testing done by the VUMC lab for non-VUMC patients (as part of VPLS), to give a complete idea of the actual testing volume for COVID-19; create some of the early map displays of the geolocation of patients who tested positive; and extend the Census Dashboard in StarPanel to display capacity and occupancy of the various inpatient units, to support resource/bed allocation for COVID-19 treatment.

- **Dr. Trent Rosenbloom** has worked with Assessment Site leadership to adjust their paper intake form (documentation and orders) to make it more computable via OCR and to include content likely to be of interest for research; worked with Health IT (and **Dr. Rob Turer**) to develop a COVID-19-related MHAV Tableau dashboard that allows operations to track MHAV use among COVID-tested patients to determine whether they have accounts and have reviewed their results in MHAV (MHAV is the primary means for supporting the big increase in telehealth at VUMC); helped **Dr. Rob Turer** frame out his concept for telehealth-enabled ED assessment (called ePPE), mentioned above and published in JAMIA; worked to modify policy, procedure, and technology

approaches to MHAV enrollment to support remote enrollment for telehealth (a medical student he worked with is submitting a manuscript to JAMIA on this topic); worked with fellow VCLIC members, **Dr. Josh Peterson** and **Dr. Melissa McPheeters** to establish a COVID-19 registry within the RD to support predictive work; worked with ACMI to develop a common data model for all COVID-19 assessments, which may turn into working with the CDC; worked with Dan Fabbri and team (including **Dr. Kevin Johnson** and VU medical students) to target the OCR and manual review of COVID-19 assessment forms to digitize the paper-based documentation.

- **Dr. Lindsey Knake** created a research poster abstract for AMIA about a group she and her medical school classmates created to share treatment ideas and new research about COVID-19: *Using Social Media as a Clinical Decision Support Tool During the Uncertainty of Covid-19.*

- **Dr. Robert Freundlich** and **Dr. Sunil Kripalani** both mentioned their involvement in a COVID-19-related study being organized through the VICTR Learning Health System. This is a pragmatic clinical trial on the proning of patients with COVID-19, and informatics expertise is being leveraged in data collection, using Clarity/Caboodle, and analysis.

- **Dr. Yaa Kumah-Crystal** has been leading the Outpatient and Inpatient Telehealth initiatives as the Clinical Director for Telehealth. She is working with another VLIC member, **Dr. Shane Stenner**, on inpatient initiatives, and they are specifically working on pilots for virtual rounding. Regarding outpatient initiatives, Dr. Kumah-Crystal worked with the Redcap team to build out a Redcap/Twilio integration that will allow providers to text their patients Telehealth invitations without revealing the provider's personal mobile phone or email.

- **Dr. Wael Alrifai** has worked on several initiatives related to obstetrics and newborn care, including creating a number of decision support tools to protect mother and baby as well as team members carrying for the dyad and creating novel views in the labor and delivery grease board where users can determine at a glance which mothers have suspected or confirmed COVID-19, so obstetric and pediatric teams can perform timely planning for urgent and emergent deliveries. His team also collaborated with VCLIC members to utilize a link between mother and infant charts to deliver alerts that appear to newborn providers based on maternal risk factors and recommend the right actions. They updated portals used for babies born outside VUMC to screen their mothers' clinical and lab information. Dr. Alrifai notes that the VUMC obstetric and newborn COVID-19 tools have attracted attention from Epic representatives, enough that they requested VUMC build information to adopt some of its features.

- **Drs. Jeremy Warner and Sanjay Mishra** are part of the COVID-19 and Cancer Consortium (CCC19), whose goal is to collect prospective, granular, uniformly organized information on cancer patients infected with COVID-19 at scale and as rapidly as possible.

- **Dr. Jon Wanderer** has been building reports for tracking surgical cases that were cancelled or delayed due to COVID-19.

VCLIC Members to Present at AMIA 2020 Virtual Clinical Informatics Conference

Though it seems that no member of VCLIC could have any time to spend on non-COVID-19-related work given all of the above-noted productivity, several VCLIC members also had abstracts accepted for presentation at AMIA's 2020 Clinical Informatics Conference, which is set to take place (virtually) May 19th-21st. This list showcases that there is such amazing work happening in a diverse array of areas!

Ignite-Style Talks:

The Effects of a Problem Oriented View on Clinician Workflow
M. Semanik, P. Kleinschmidt, University of Wisconsin-Madison; D. Willett, University of Texas Southwestern; **A. Wright***, Vanderbilt University; J. Buchanan, S. Dean, University of Wisconsin-Madison*

Panels:

Electronic Personal Protective Equipment (ePPE): A Strategy to Protect Emergency Department Providers During the Age of COVID-19
R. Turer, M. Ward, S. Rosenbloom, *Vanderbilt University Medical Center; D. Savage, UCSF Fresno; R. Ribeira, P. Callagy, Stanford University*

The Emerging Role of the Electronic Health Record Patient Safety Officer
A. McCoy, *Vanderbilt University Medical Center; E. Gershon, InterSystems Corporation; J. Russell, Epic Systems Corporation; E. Karp, Cerner Corporation; G. Zuccotti, Partners Healthcare, Brigham and Women's Hospital*

Posters:

Using Clinical Decision Support to Reduce Cost via Intravenous-to-Oral Medication Conversion: A Pilot Study and Cost Analysis
R. Turer, C. Pirtle, D. Mulherin, S. Stenner, S. Nelson, A. McCoy, M. Alrifai, C. Lehmann, *Vanderbilt University Medical Center*

Improved Utilization of a Standardized Order Set for Patients Care in a Tertiary Care Inflammatory Bowel Disease Clinic with the Introduction of an Express Lane
S. Horst, K. Bishop, A. Wright, *Vanderbilt University Medical Center*

Expert Consensus-building Methodology to Curate Evidence to Support Non-FDA Approved Oncologic Uses of Drugs from Scientific Literature
E. Scheufele, M. Baca, S. Laclaire, H. Feldman, N. Kutub, B. South, IBM Watson Health; **G. Jackson***, IBM Watson Health, Vanderbilt University Medical Center*

Pitfalls of Using Structured Data in a Pediatric De-identified Database
L. Knake, L. Tang, A. McCoy, *Vanderbilt University Medical Center*

Evaluating the Implementation of a Word Cloud Visualization of a Patient's Problem List
H. Tan, *Lehigh University, Vanderbilt University;* **Y. Kumah-Crystal, D. Giuse***, Vanderbilt University*

Presentations:

Enhanced Opioid Prescription Data Visualization
J. LeGrand, S. Anders, *Vanderbilt University Medical Center; C. Lehmann, University of Texas Southwestern; C. Pirtle, Vanderbilt University*

Encouraging Collaboration between Applied and Academic Informatics Staff: The Case of the Vanderbilt Clinical Informatics Center
A. Wright, A. McCoy, J. Wanderer, N. Patel, K. Johnson, *Vanderbilt University Medical Center*

VCLIC's Confluence Pages: The VCLIC Knowledgebase

Hopefully by now most of you have seen our [Confluence](#) page.

This Confluence space is helping us to:

- Collect "How-to" Articles to help VCLIC members and anyone interested at VUMC obtain access to Epic or Clarity, understand and improve how they use Epic or Clarity, learn how to access support for Epic, build FHIR applications in our sandbox, query databases, improve or write new Best Practice Alerts (BPAs), etc. We are iteratively working to compile a compendium of practical articles to help researchers, practitioners, developers, and staff access, use, and improve VUMC's EHR, its functions and components, and its related data.
- Maintain a list of Active and Future Projects that VCLIC members are conducting or plan to conduct, along with details regarding project status, participants, and anticipated timelines for completion.
- Keep track of our BPA Clickbuster program, which soft-launched in April 2020 (we will truly launch this project in mid-May, so keep a look out!) and will have prizes awarded in early summer for those who rack up the most points by evaluating and suggesting improvements to existing BPAs (please see the linked page if you are interested in participating in this truly rewarding effort).

We will have more information about the **Clickbuster program** in our next newsletter (and will likely reach out to folks individually to explain a bit more before in the next few weeks).

Feel free to add articles to Confluence, or edit and improve the ones that already exist.
With your help, we hope to improve many of the How-To articles over time!

New Initiatives: VDAWGs (VUMC Database Access Working Group)

Do you have the technical expertise to perform database queries but are unsure how to obtain access to databases such as Clarity or Caboodle?

You are in luck, as VDAWGs is here to help! We are currently piloting this program with a few VCLIC members but hope to develop more robust systems for documenting how to obtain access, who has access, and what sorts of queries those with access are running. More information to come, but please reach out to Elise with any questions (or if you are interested in becoming a VDAWG member).

Introducing VCLIC's New Project Manager

Elise Russo (me, sorry, I can't write this in the third person) started with VCLIC on April 6, 2020. Though I am currently drafting this from my home, I can't wait until I am able to actually meet all of you, and I am extremely grateful and excited to be here, working with so many brilliant, productive, helpful, and engaging professionals. This is a bit of a homecoming for me, as I attend Vanderbilt from 2006-2010 for undergrad, after which I moved to Houston, TX to obtain an MPH from the University of Texas' Health Science Center. After graduating, I began working for the Michael E. DeBakey VAMC/Baylor College of Medicine joint Center of Excellence for Innovations in Quality, Effectiveness, and Safety in the Health Policy, Quality, and Informatics Program. For the next five years, I managed research projects investigating factors at the intersection of informatics, health information technology (HIT), and patient safety. While working, I went back to school briefly (at UT's School of Biomedical Informatics) to obtain a certificate in informatics, as it seemed at that point that most of my work and interests were leaning in that direction. I left research soon after that, and for the last 2.5 years, I've managed a related set of patient safety, certification, and software quality-focused auditing projects for a small consulting group working for an EHR vendor, and now, I'm very excited to be back at an academic medical center, particularly this outstanding one.

I am here to help you all (and ultimately VCLIC) in any way I can, so feel free to reach out any time (though please bear with me for the next few weeks while I get acclimated). Looking forward to working with you and helping to broaden VCLIC's positive impact across VUMC and beyond!