RESEARCH NEWS

CARILION CLINIC

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THIS EDITION CONTAINS:

Spotlight on John Epling, Jr., MD, MSEd and Michelle Rockwell, PhD, RD – Family & Community Medicine

Highlight on Anita Kablinger, MD, CPI

Library Services

New Employees

iTHRIV Operations Team

Resource Links

ALIGNING PRACTICE-BASED RESEARCH AND CARILION CLINIC STRATEGIC INITIATIVES TO COMBAT ALCOHOL USE DISORDERS

John Epling, MD, MSEd
Family & Comm Medicine

Michelle Rockwell, PhD, RD
Family & Comm Medicine

The COVID-19 pandemic has stressed our society in ways most of us have not encountered before. Unfortunately, we are facing a higher rate of addiction and substance use disorders as a result. An estimated 95,000 people die from alcohol-related causes annually, making alcohol the third leading cause of preventable deaths in the United States. Despite this fact, only 13% of primary care patients are screened with a standard instrument and only 8% of adults with Alcohol Use Disorders (AUD) receive treatment[1].

In 2019, the Department of Family and Community Medicine received an award from Virginia Commonwealth University for an AHRQ R18 grant entitled: *Practice Facilitation to Promote Evidence-based Screening and Management of Unhealthy Alcohol Use in Primary Care* (Alexander Krist, MD, MPH, Principal Investigator). This grant builds on 20 years of primary care practice-based research that uses interventions like academic detailing and practice facilitation to assist primary care groups in implementing evidence-based interventions. Our work on this grant has just happened to coincide with this time of worsening alcohol use disorder nationwide.[2,3] Our inter-institutional grant team is recruiting 125 primary care practices across Virginia (25 in southwest Virginia) and randomizing them to either immediate or delayed practice-based intervention. The intervention consists of a set of practice learning sessions and involvement of a trained facilitator to help the clinical practice adhere to the US Preventive Services Task Force recommendations for screening for risky drinking.[4] These interventions are meant to be low-burden to the practice staff and are tailored to the needs of each practice. Chart reviews and patient surveys will assess the primary outcome, e.g., did the patients get screened for risky drinking during their most recent visit(s) and was that screening documented in the chart.

Carilion Clinic recently also expanded the Carilion Clinic Opioid Addiction Task Force to form the Carilion Clinic Addictions Task Force (CCATF). Dr. Epling leads the AUD subcommittee of the CCATF, and is hoping to leverage the interest from the AHRQ study and the Task Force to improve the recognition and management of

risky drinking in several ways including: better screening workflow in practices and improved recognition and referral in the hospital, accurate screening documentation in the EPIC system, greater awareness and referral to the peer recovery service at Carilion, and increased awareness of community resources for AUD, including Medication Assisted Treatment (MAT) for AUD.

If you are interested in working with the CCATF and/or the AUD subcommittee or you know a primary care practice that would like to learn more about our study, please let one of us know (jwepling@carilionclinic.org or mrockwell@carilionclinic.org). If you want to learn more about risky drinking and alcohol use disorders, visit the study website: https://uauvirginia.squarespace.com/.

References:

1. National Institute of Alcohol Abuse and Alcoholism (NIAAA). Alcohol Facts and Statistics. Available at: https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/alcohol-facts-and-statistics. Accessed 1/13/2021.

2. Weerakoon SM, Jetelina KK, Knell G. Longer time spent at home during COVID-19 pandemic is associated with binge drinking among US adults. *Am J Drug Alcohol Abuse*. 2020;0(0):1-9. doi:10.1080/00952990.2020.1832508

3. US drinking more now than just before Prohibition. Accessed January 23, 2020. https://apnews.com/f1f81ade0748410aaeb6eeab7a772bf7

4. Curry SJ, Krist AH, Owens DK, et al. Screening and behavioral counseling interventions to reduce unhealthy alcohol use in adolescents and adults: US Preventive Services Task Force Recommendation Statement. *Jama*. 2018;320(18):1899-1909.

HIGHLIGHT ON ANITA KABLINGER, MD, CPI

Validation of a Commercially Available Application for Detecting Alcohol Use Disorder Risk in Clinical Practice

Alcohol Use Disorder (AUD) is defined as the inability to control alcohol use despite adverse social, occupational, or health consequences. In 2019, over 14 million adults in the U.S. had AUD, yet only 8% received treatment [1]. Furthermore, AUD has been identified as the third leading preventable cause of death[2]. AUD complicates many health conditions that healthcare practitioners encounter on a daily basis, therefore a first line of defense against AUD should be standardized screening provided by the patient's primary care physician, psychiatrist, and/or counselor.

Anita Kablinger, MD, CPI
Psychiatry

Anita Kablinger MD, CPI, Professor and Program Director Clinical Trials Research, Carilion Department of Psychiatry and Behavioral Medicine, recently completed a two-year study of an electronic application to be used in clinical practice to assess alcohol reinforcer pathology as a predictor of AUD. The application, called *Beacon* - developed by BEAM Diagnostics, Inc., was specifically designed to focus on defining the underlying functional dynamics of AUD instead of using symptom-based tools as biomarkers for disease. Reinforcer pathology is a

measure of severity derived from the synergy between two distinct decision-making processes, 1) preference for immediately available small rewards (i.e., excessive delay discounting) and 2) over-valuation of alcohol rewards (i.e., high behavioral economic demand). Decades of research have concluded that delay discounting and demand are highly correlated with alcohol use severity and important predictors of AUD treatment success.

Beacon can be administered by any healthcare team member via a mobile tablet or computer and takes less than one minute to complete. Patients are asked to, 1) make decisions between immediately available or delayed rewards [Delay Discounting], and 2) indicate the total number of alcoholic drinks they would hypothetically purchase if they were available at various prices [Demand]. *Beacon* will then calculate the patient's answers as a reinforcer pathology score using a proprietary algorithm (RPscore). The RPscore indicates to the physician a measure of the patient's risk for alcohol use severity as well as a prediction of future use and relapse.

The aims of the study were to pilot test *Beacon* and obtain clinician's feedback on feasibility of use. The project collected a total of n=1454 data sets and validated *Beacon* as a robust predictive screening measure. That is, the tool demonstrated >87% accuracy when predicting mild, moderate, and severe stages of AUD severity. Additionally, of the total responses, less than 3% were flagged for inconsistencies or extreme responding. Therefore, participants in the study were able to easily understand and complete the task accurately. Moreover, clinician feedback demonstrated overall positive support for a digital health AUD screening tool. Most importantly, in addition to patient-provided *Beacon* data, consenting Carilion patients (n=307) allowed for a review of their medical charts both 6 months before and 6 months after completing the task in order to observe associations between recorded alcohol-related incidents and their RPscore. These data indicated that only 4% of the patients had a recorded AUD diagnosis in their medical charts. However, among these same patients *Beacon* identified that 11.7% of them likely have an increased risk for alcohol misuse or hazardous drinking (RPscore of >3.5; equivalent to an AUDIT of 15). In other words, *Beacon* identified three times as many patients who should have a recorded note related to their drinking, and this rate of identification within the clinical sample was consistent with the estimated prevalence of past 12-month AUD among a US representative sample reported as 13.9%[3]. Next steps include development and optimization of *Beacon* for fully commercial use as both a stand-alone digital healthcare tool as well as an integrated add-on to electronic health record systems.

A current ongoing study lead by Dr. Kablinger involves the use of remote alcohol monitoring to incentivize the reduction of alcohol use in those with Alcohol Use Disorder (AUD). The study is funded by the National Institute of Alcohol Abuse and Alcoholism and Carilion is a collaborating site with the University of Kentucky College of Medicine. The study uses technologically advanced mobile breathalyzers to verify abstinence remotely, cell phones for communication, and a reloadable debit card to deliver financial incentives to participants. Previous work demonstrated a high rate of abstinence with this model and participants rated the approach highly for effectiveness and acceptability. The aims of the study are to identify the maximally effective duration and intensity of abstinence incentives and assess the persistence of treatment effects once incentives are discontinued. Referrals for inpatients with AUD may be made directly to Dr. Kablinger, Kelsey Woolwine (research coordinator) or Bryce Lewis (research coordinator) through PerfectServe.

Go to top

References:

1. Substance Abuse and Mental Health Services Administration (SAMHSA). 2019 National Survey on Drug Use and Health (NSDUH). Table 2.1B—Tobacco Product and Alcohol Use in Lifetime, Past Year, and Past Month among Persons Aged 12 or Older, by Age Group: Percentages, 2018 and 2019. Available at: https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHDetailedTabs2018R2/NSDUHDetTabsSect2pe2018.htm#tab2-1. Accessed 12/28/20.

2. Centers for Disease Control and Prevention (CDC). *Alcohol and Public Health: Alcohol-Related Disease Impact (ARDI). Annual Average for United States 2011-2015 Alcohol-Attributable Deaths Due to Excessive Alcohol Use, All Ages*. Available at: https://nccd.cdc.gov/DPH_ARDI/default/default.aspx. Accessed 12/28/20.

3. Grant, B. F. *et al*. Epidemiology of DSM-5 Alcohol Use Disorder: Results From the National Epidemiologic Survey on Alcohol and Related Conditions III. *JAMA Psychiatry* 72, 757–766 (2015).

LIBRARY SERVICES

Get to know your Library!

Whether you need a quiet place to study or you need evidence-based information quickly for patient care, the CRMH library is here for you. We have a physical space at CRMH which is the perfect place for a quiet space to study or just relax. It is located on the first floor of the Medical Education building, directly down the hall behind the 6th floor auditorium.

Although our physical space is small, we have a large virtual space. You can access many valuable online resources either from our Intranet page at:

https://www.insidecarilion.org/hub/health-sciences-libraries

or by signing up for a remote access account at:

https://insidecarilion.org/hub/health-sciences-libraries/all-activity/remote-access-to-library-online-resources

Feel free to contact us at library@carilionclinic.org for any questions or requests.

The Library staff is here to help meet your educational, clinical and research needs.

NEW EMPLOYEES

Luyuanyuan (Chloe) Yan, M.Sc. – Business Intelligence Developer I – Health Analytics Research

Chloe joined the staff of Carilion HART in December 2020. Before that, she was a part-time research assistant at UVA while pursuing her master's degree in Data Science. Chloe received a bachelor's degree in Statistics from UCLA. Her background and expertise will provide our clients with even greater support of the SPARC Secure Research Environment.

Danielle Mitchell, BS, Clinical Research Coordinator II – Obstetrics/Gynecology

Danielle Mitchell is a new Clinical Research Coordinator who will be supporting research in the Obstetrics and Gynecology Department. Danielle graduated from Liberty University in 2019 with a B.S. in Biomedical Sciences. She has prior experience as a researcher in biomedical laboratories and as an Emergency Department Scribe.

Ambili John, BS, Clinical Research Coordinator II – Cardiothoracic Surgery

Ambili John joined us as a Clinical Research Coordinator supporting Cardiothoracic Surgery. She earned a bachelor's degree in Life Sciences and Biology from the New York Institute of Technology. She has held several positions in the healthcare field, most recently working as a Clinical Research Coordinator at Cleveland Clinic in the departments of Family Medicine and Pediatric Neurology.

Linsen Samuel, MD, MBA, Clinical Research Coordinator I – Orthopaedic Hand Clinic

Linsen Samuel is a Clinical Research Coordinator who is supporting Dr. Peter Apel's RAP Grant funded study: *Can Telehealth Replace In-Person Occupational Therapy after Hand Surgery? A Noninferiority Study*. Linsen is a Doctor of Medicine who studied at the American University of Antigua. He is an experienced researcher who was most recently a Clinical Research Fellow in the Department of Orthopaedic Surgery at Cleveland Clinic.

Nick Bilbro, MPH, Clinical Research Coordinator II – Gastroenterology

Nick Bilbro is our new Clinical Research Coordinator who will be supporting research in the Department of Gastroenterology. Nick graduated from Jefferson College of Health Sciences with a B.S. in Health and Exercise Science, and from Virginia Tech with a Master of Public Health. He has prior experience as a research assistant with the Fralin Translational Obesity Research Center and the Center for Public Health Practice and Research, as well as clinical experience in Cardiopulmonary Rehab and New River Valley Community Services. We are excited to have him on board supporting our Researchers in GI.

Cyrus Legard, MPH, Clinical Research Coordinator II – Pediatrics

Cyrus Legard is our new Clinical Research Coordinator who will be supporting research in the Department of Pediatrics. Cyrus graduated from the University of Virginia with a B.S. in Environmental Sciences and a Master of Public Health. He has prior experience as a research assistant with UVA's Department of Urology and Department of Environmental Health and Safety. We are excited to have someone with his experience and perspective joining our team and helping to support the growth of research in the Department of Pediatrics.

Sarah Bodoh, BS, Clinical Research Coordinator I – Neurology

Sarah Bodoh is our new Clinical Research Coordinator who will be supporting research in the Department of Neurology. Sarah graduated from the Christopher Newport University with a B.S. in Neuroscience and a minor in Psychology. She previously interned for MindWell Psychology in Northern Virginia and has worked in the non-profit space helping to raise money and awareness for bone marrow transplants and testing. Sarah's energy, insight and perspective will be a value-add to our team and the growing research program in Neurology.

Go to top

SUPPORTING DIVERSITY AND INCLUSION IN RESEARCH PARTICIPATION

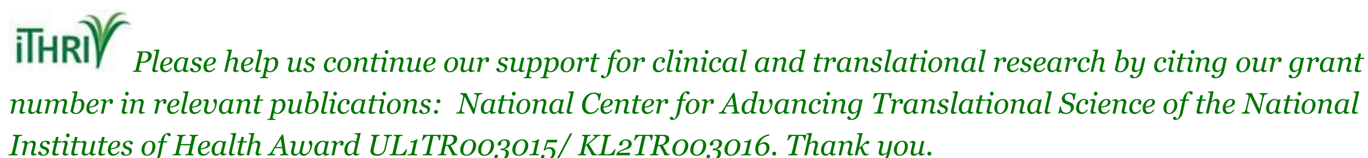
The iTHRIV consortium announced a new resource available to researchers free of charge. iTHRIV seeks to facilitate inclusive, collaborative research in partnership with our diverse, often underrepresented communities in Virginia. The **Recruitment Enhancing Resources Program (RERP)** provides guidance to researchers aimed at supporting the integration of diverse populations into translational health research. Funded projects will receive up to $5,000 worth of resources. Resources can be dedicated to language and translation service; transportation assistance; lodging; and community engagement needs. Additional information is available here: https://portal.ithriv.org/#/resource/1248, or contact VLHollen@carilionclinic.org.

iTHRIV Updates:

If you received a program or service from iTHRIV within the past year, please consider completing the survey below. iTHRIV (the integrated Translational Health Research Institute of Virginia) provides resources, services, training, and funding opportunities for health-related research teams across the University of Virginia, Virginia Tech, Carilion Clinic, and Inova Health System with funding from NIH-NCATS (UL1 TR003015 & KL2 TR003016). The purpose of the anonymous survey is to assess user satisfaction with iTHRIV services. This survey is distributed annually, and feedback is used for improving our programs and services. This survey should take about 3 minutes and your participation is optional but greatly appreciated!

The link to the survey can be found here. You can also copy and paste the link directly into your browser https://virginia.az1.qualtrics.com/jfe/form/SV_9YKX7RZL3HVRz2B?Q_DL=DUpHEQVFzrMYai6_9YKX7RZL3HVRz2B_MLRP_9mGsaaJPgHEBfOB&Q_CHL=email. The survey is available from January 14th at 9am to January 28th at 5pm.

To learn more about iTHRIV, visit www.ithriv.org. Thank you for your participation!



Please help us continue our support for clinical and translational research by citing our grant number in relevant publications: National Center for Advancing Translational Science of the National Institutes of Health Award UL1TR003015/ KL2TR003016. Thank you.

RESOURCE LINKS:

Research and Development
Human Research Protections Office
CITI
Health Analytics Research Team
TriNetX
iTHRIV
PRIS3M Online IRB Submission System

Go to top