

# Value Added

CVCR Newsletter

Third Quarter 2021

## Third Quarter News

Welcome to this quarter's issue of Value Added!

The Center for Value-Based Care Research (CVCR) conducts research on interventions that improve value in healthcare. With a mission of making quality healthcare possible for all Americans by conducting research to identify value in healthcare, CVCR seeks to deliver the right care, at the right time, to the right patients, at lower costs.

In this issue, we report on recent studies regarding healthcare delivery.

In our first story, Chief Resident **Dr. Eden Bernstein** describes his work characterizing the prescribing habits of PCPs for patients with Alcohol Use Disorder (AUD). His work has provided a foundation for further research on physician's perceptions and habits while also considering patient characteristics related to AUD prescription.

In our second story, CVCR's Research Assistant, **Victoria Shaker**, discusses developing a quality assurance study to validate a novel respiratory rate measurement method, the Breathing Time Measurement method, in the clinical setting.

We hope you enjoy this quarter's newsletter!

### Featured Publication

*[Primary Care Health Care Use for Patients With Type 2 Diabetes During the COVID-19 Pandemic](#)*

Misra-Hebert AD, Hu B, Pantalone KM, Pfoh ER

September 2021

**Diabetes Care**

## CVCR CELEBRATIONS

- Debra Linfield, 4th year CCLCM student working with Dr. Martinez, successfully defended her research year thesis: “BRCA Genetic Testing: Physician Referral Practices and Subsequent Patient Treatment Decisions.” She has already submitted the first of two planned manuscripts from her thesis for publication.**
- Drs. Abhishek Deshpande and Michael Rothberg received a five-year \$2.5M federal R01 grant from Agency of Healthcare Research and Quality (AHRQ) for their project, “Reducing Antimicrobial Overuse Through Targeted Therapy for Patients with Community-Acquired Pneumonia.”**
- Dr. Glen Taksler received supplemental, COVID-related funding to an existing NIH-funded R01 grant entitled “Testing the Effectiveness of Individualized Disease Prevention for Middle-Aged Adults”. Recent evidence suggests that during the COVID-19 pandemic, Americans have been less likely to adopt a healthy lifestyle, take their prescription medications and obtain cancer screenings. Supplemental funding will allow his team to estimate the impact of these changes on life expectancy in middle-aged patients. They will also develop an early set of priorities to rank preventive services by their potential to restore pre-pandemic levels of health.**

## Featured Study: Characterizing the Variation of Alcohol Cessation Pharmacotherapy in Primary Care

Eden Bernstein, MD

### What is already known about this topic?

Alcohol Use Disorder (AUD) is a growing health crisis that has been linked to nearly 100,000 deaths and \$250 billion in healthcare spending each year in the US. Three FDA-approved medications (naltrexone, acamprosate, and disulfiram) have shown efficacy for reduction of alcohol consumption; however, these are severely under-prescribed for patients with AUD by both addiction specialists and PCPs. We were interested in characterizing the frequency of PCP-initiated treatment in a large health system and understanding the contribution of patient factors and individual physicians to the variation in pharmacotherapy.

### Did you find anything to be especially interesting or unexpected as you conducted the study?

*[Characterizing the Variation of Alcohol Cessation Pharmacotherapy in Primary Care](#)*

Eden Bernstein MD, Ning Guo MS, Toyomi Goto MA, Michael B. Rothberg MD, MPH

Journal of General Internal Medicine

The most striking finding was that less than 10% of all 13,000 patients with AUD who were established with a PCP were prescribed treatment by anyone, and that only 1/3 of these prescriptions were from PCPs. There was an overall low prescribing rate among PCPs but with marked variability. The bottom 45% of PCPs did not prescribe any pharmacotherapy while the top 10% prescribed to 15% of their patients. There was still a marked variability in prescribing rates even after adjusting for patient factors. We also found that patients who are less wealthy, African American, uninsured, or Medicare recipients were less likely to receive prescriptions.

Notably, patients who received prescriptions were more likely to have documented abstinence at rates similar to those observed in clinical trials. This is important because data on effectiveness of these medications in clinical practice are lacking.

### What were some limitations to the study?

There are limitations in obtaining data from EHR records. ICD codes alone have low sensitivity and moderate specificity for identifying alcohol misuse. We were able to improve specificity by including alcohol use in the social history as an inclusion criterion, but our under-estimate of the prevalence of AUD likely led to an over-estimate of prescription rates across the entire population of patients with AUD. So things are probably even worse than we think.

### How can this contribution to the literature impact clinical practice?

The low prescribing rates of AUD medications both overall and specifically in primary care highlight an opportunity to improve patient outcomes. Given the shortage of mental health clinicians, increasing prescribing in primary care is an important avenue for increasing overall prescribing. The facts that some PCPs functioned as high prescribing outliers, and that we found high rates of documented abstinence among patients who received prescriptions, demonstrate the feasibility of incorporating routine use of alcohol cessation pharmacotherapy in primary care.

### Moving forward, how can this topic be studied further?

We do not know what drives the high degree of variability in PCP prescribing rates. We are in the process of obtaining IRB approval to survey PCPs and obtain a better understanding of physician factors that correlate with prescribing. Ultimately, these data should be used to inform interventions to increase prescribing in primary care. Additionally, we hypothesize that the disparities noted among certain patient groups may reflect poor access to mental health services, which may be related to systemic inequities and the reimbursement structures of their insurance plans. Further research is needed to confirm this and to identify other reasons for these disparities.

You can access this article [here](#). Be sure to look out for more publications related to this topic in the future!

## Ongoing Work: Nursing Respiration Counting Methods

Victoria Shaker, BS

It is common knowledge that vital signs, including respiratory rates, allow caregivers to recognize when a patient's status begins to deteriorate in the hospital. Inaccurate vital signs can lead to delayed care for time-critical conditions like sepsis. In settings where manual respiration counts are the sole method of measuring respiratory rate, nurses often save time by counting for 10 seconds and multiplying by six instead of counting for a full minute, the gold standard. This shortcut, as well as spot checks (i.e. not counting respirations but reporting a value in a normal range), may explain the skewed distribution of rates within Cleveland Clinic's health system.

Recently, a Japanese team tested a new method of counting respirations, the Breathing Time Measurement (BTM) method. Their goal was to see if this method had better agreement with the 60-second count method than the shortcut methods frequently used. They found that the BTM method had better agreement with the gold standard method than that of the 15-second counting method. But their has not been tested on patients. Instead, one nurse acted as a patient for about 50 other nurses to measure.

With the BTM method a nursing caregiver observes the time between the patient's initiating their first breath and initiating their second breath. Dividing 60-seconds by that value yields the respiratory rate (e.g. if one full breath lasts 4 seconds, the respiratory rate is 60/4 or 15 breaths per minute). We plan to validate the BTM method in a clinical setting and then test the impact of implementing it on a nursing unit.

First, we would like to know if counting one full breath is as accurate as counting two breaths (and dividing 120 by the time for 2 breaths). If it is, we will train nursing caregivers with this method; if not, we'll teach them the 2-breath method. We will then ask nursing caregivers to use the BTM method as standard of care for two months. Then we will observe their recorded respiration rates through the electronic health record for an additional two months to see whether the quality of measurement (assessed via the distribution of measured rates) is improved, and whether it stays that way.

Lastly, we will evaluate the nursing caregivers' perspective on the new method by asking questions, such as: if they continued to use the method, why or why not? Do they plan to continue using it in the future? It is important to consider the nursing caregivers' perspectives as the BTM method is only useful if it is as easy as or easier than the others.

Ideally, we would see a more normal distribution than what we had observed before the BTM method. If that is the case, and nursing caregivers respond positively to the new method, this study could change how respiration rates are measured in the hospital, providing more accurate data for clinical decision making.

Be sure to look out for updates on this upcoming project in the near future!

## RECENT PUBLICATIONS

Rose S, Hurwitz HM, Mercer MB, Hizlan S, Gali K, Yu PC, Franke C, Martinez K, Stanton M, Faiman M, Rasmussen P, Boissy A. [Patient Experience in Virtual Visits Hinges on Technology and the Patient-Clinician Relationship: A Large Survey Study With Open-ended Questions.](#) J Med Internet Res. 2021 Jun 21;23(6):e18488.

Pfoh ER, Linfield D, Speaker SL, Roufajel JS, Yan C, Misra-Hebert AD, Rothberg MB. [Patient Perspectives on Self-Monitoring of Blood Glucose When not Using Insulin: a Cross-sectional Survey.](#) J Gen Intern Med. 2021 Aug 13.

Sarvepalli S, Garber A, Burke CA, Gupta N, Ibrahim M, McMichael J, Morris-Stiff G, Bhatt A, Vargo J, Rizk M, Rothberg MB. [Comparative Effectiveness of Commercial Bowel Preparations in Ambulatory Patients Presenting for Screening or Surveillance Colonoscopy.](#) Dig Dis Sci. 2021 Jun;66(6):2059-2068.

Hughes K, Gogineni V, Lewis C, Deshpande A. [Considerations for fair prioritization of COVID-19 vaccine and its mandate among healthcare personnel.](#) Curr Med Res Opin. 2021 Jun;37(6):907-909.

Martinez KA, Rothberg MB. [Soliciting Patients to Help Define Treatment Thresholds.](#) JAMA Netw Open. 2021 Mar 1;4(3):e211181.

Dalton JE, Gunzler DD, Jain V, Perzynski AT, Dawson NV, Einstadter D, Tarabichi Y, Inrey PB, Lewis M, Kattan MW, Yao J, Taksler G, Berg KA, Krieger NI, Kaelber D, Jehi L, Kalra A. [Mechanisms of socioeconomic differences in COVID-19 screening and hospitalizations.](#) PLoS One. 2021 Aug 5;16(8):e0255343.

Taksler GB, Peterse EFP, Willems I, Ten Haaf K, Jansen EEL, de Kok IMCM, van Ravesteyn NT, de Koning HJ, Lansdorp-Vogelaar I. [Modeling Strategies to Optimize Cancer Screening in USPSTF Guideline-Noncompliant Women.](#) JAMA Oncol. 2021 Jun 1;7(6):885-894.

Martinez KA, Linfield DT, Gupta NM, Alapati MV, Moussa D, Bo H, Kim LD, Lam S, Russo-Alvarez G, Rothberg MB. [Patient and physician factors contributing to polypharmacy among older patients.](#) Curr Med Res Opin. 2021 Sep 21:1.

Johnson JK, Hohman J, Stilphen M, Bethoux F, Rothberg MB. [Functional Recovery Rate: A Feasible Method for Evaluating and Comparing Rehabilitation Outcomes Between Skilled Nursing Facilities.](#) J Am Med Dir Assoc. 2021 Aug;22(8):1633-1639.e3.

Mariam A, Miller-Atkins G, Pantalone KM, Iyer N, Misra-Hebert AD, Milinovich A, Bauman J, Mocarski M, Ramasamy A, Smolarz BG, Hobbs TM, Zimmerman RS, Burguera B, Kattan MW, Rotroff DM. [Associations of Weight Loss with Obesity-Related Comorbidities in a Large Integrated Health System.](#) Diabetes Obes Metab. 2021 Sep 2. doi: 10.1111/dom.14538.

Johnson JK, Stilphen M, Young DL, Friedman M, Marcus RL, Noren CS, Zeleznik H, Freburger JK. [Advancing Rehabilitation Practice Using Embedded Learning Health System Researchers.](#) Phys Ther. 2021 Jun 1;101(6):pzab029. doi: 10.1093/ptj/pzab029.

Sheehan MM, Reddy AJ, Rothberg MB. [Reinfection Rates among Patients who Previously Tested Positive for COVID-19: a Retrospective Cohort Study.](#) Clin Infect Dis. 2021 Mar 15:ciab234.

Misra-Hebert AD, Rothberg MB, Fox J, Ji X, Hu B, Milinovich A, Zafirau W, Onuzuruike A, Stange KC. [Healthcare utilization and patient and provider experience with a home visit program for patients discharged from the hospital at high risk for readmission.](#) Healthc (Amst). 2021 Mar;9(1):100518.

To visit our website, [click here](#). To remove your name from our mailing list, please [click here](#).

Questions or comments? E-mail us at [4CResearch@ccf.org](mailto:4CResearch@ccf.org) or call 216-445-0719.