

Ella Chrenka, MS

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EDUCATION

MS – Biostatistics; 2019

University of Minnesota, Minneapolis MN

BA – Speech Language and Hearing Sciences; 2013

University of Minnesota, Minneapolis MN

PROFESSIONAL EXPERIENCE

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| 2023-Present | Biostatistician and Manager, Research Methodology Group, HealthPartners Research Institute, Minneapolis MN |
| 2019-2022 | Biostatistician, HealthPartners Research Institute, Minneapolis MN |
| 2018-2018 | Research Assistant, Geriatric Research Education and Clinical Center, Minneapolis VA, Minneapolis MN |
| 2018-2019 | Teaching Assistant, School of Public Health, University of Minnesota, Minneapolis MN |
| 2012-2015 | Vocational Case Manager, Accessibility Incorporated, Minneapolis MN |

PUBLICATIONS

Chrenka EA, Solberg LI, Asche SE, Dehmer SP, Ziegenfuss JY, Whitebird RR, Norton CK, Reams M, Johnson PG, Elwyn G. Is shared decision-making associated with better patient-reported outcomes? a longitudinal study of patients undergoing total joint arthroplasty. *Clin Orthop Relat Res.* 2022;480:82-91.

DeSilva MB, Settgest A, **Chrenka EA**, Kodet AJ, Walker PF. Improving care for patients with chronic hepatitis B via establishment of a disease registry. *Am J Trop Med Hyg.* 2022 Jun 13;107(1):198-203. PMID: PMC9294691.

Elliott TE, Asche SE, O'Connor PJ, Dehmer SP, Ekstrom HL, Truitt AR, **Chrenka EA**, Harry ML, Saman DM, Allen CI, Bianco JA, Freitag LA, Sperl-Hillen JM. Clinical decision support with or without shared decision making to improve preventive cancer care: a cluster-randomized trial. *Med Decis Making.* 2022 Aug;42(6):808-821. PMID: PMC9283203

Harry ML, Asche SE, Freitag LA, Sperl-Hillen JM, Saman DM, Ekstrom HL, **Chrenka EA**, Truitt AR, Allen CI, O'Connor PJ, Dehmer SP, Bianco JA, Elliott TE. Human Papillomavirus vaccination clinical decision support for young adults in an upper midwestern healthcare system: a clinic cluster randomized control trial. *Hum Vaccin Immunother.* 2022 Dec 31;18(1):2040933.

Harry ML, **Chrenka EA**, Freitag LA, Saman DM, Allen CI, Asche SE, Truitt AR, Ekstrom HL, O'Connor PJ, Sperl-Hillen JM, Ziegenfuss JY, Elliott TE. Primary care clinicians' opinions before and after implementation of cancer screening and prevention clinical decision support in a clinic cluster-randomized control trial: a survey research study. *BMC Health Serv Res.* 2022 Jan 6;22(1):38. doi: 10.1186/s12913-021-07421-0. PubMed PMID: 34991570; PubMed Central PMCID: PMC8739981.

Hussein HM, **Chrenka EA**, Herrmann AA. Rate and predictors of acute care encounters in the first month after stroke. *J Stroke Cerebrovasc Dis.* 2022 Jun;31(6):106466.

Neale S, Tillema J, **Chrenka EA**, Sharma R, Muthineni A, Hall M, Kharbanda E. A Pilot Study to Evaluate Feasibility, Patient Preferences, and Detection of Risk Behaviors Using an Electronic Teen Questionnaire (eTeenQ) in Adolescents in Primary Care Settings. *Journal of Adolescent Health*. 70 (2022) S33eS65.

Solberg LI, **Chrenka E**, Asche SE, Johnson PG, Ziegenfuss JY, Horst PK, Cunningham BP, Reams M, Swiontkowski MF. Adjusting for Variation in Patient-Reported Outcome Measures Is Needed to Improve Care After Total Knee Arthroplasty. *J Am Acad Orthop Surg*. 2022 Jan 15;30(2):e164-e172. doi: 10.5435/JAAOS-D-20-01371. PubMed PMID: 34520430.

Whitebird RR, Solberg LI, Ziegenfuss JY, Norton CK, **Chrenka EA**, Swiontkowski M, Reams M, Grossman ES. What do orthopaedists believe is needed for incorporating patient-reported outcome measures into clinical care? A qualitative study. *Clin Orthop Relat Res*. 2022 Apr 1;480(4):680-687. PMID: PMC8923577.

Elliott TE, O'Connor PJ, Asche SE, Saman DM, Dehmer SP, Ekstrom HL, Allen CI, Bianco JA, **Chrenka EA**, Freitag LA, Harry ML, Truitt AR, Sperl-Hillen JM. Design and rationale of an intervention to improve cancer prevention using clinical decision support and shared decision making: a clinic-randomized trial. *Contemp Clin Trials*. 2021 Mar;102:106271. PMID: PMC8009827.

Herrmann AA, **Chrenka EA**, Niemioja GM, Othman SI, Podoll KR, Oie AK, Hussein HM. Readmission to an Acute Care Hospital During Inpatient Rehabilitation After Stroke. *Am J Phys Med Rehabil*. 2022 May 1;101(5):439-445. doi: 10.1097/PHM.0000000000001844. Epub 2021 Jul 14. PubMed PMID: 35444154.

Hussein HM, Droegemuller CJ, Stanfield SC, Kashyap B, Erickson LO, **Chrenka EA**, Marsh CA, Muller-Hussein JL, Robbe TJ, Pearsall VM, Othman S, Radtke HF, Hanson L. Barriers to achieving target door-to-needle time in patients treated with IV thrombolysis. *HealthCare Research Journal*. Jan 2021. Vol 2(1);1-10.

Saman DM, **Chrenka EA**, Harry ML, Allen CI, Freitag LA, Asche SE, Truitt AR, Ekstrom HL, O'Connor PJ, Sperl-Hillen JM, Ziegenfuss JY, Elliott TE. The impact of personalized clinical decision support on primary care patients' views of cancer prevention and screening: a cross-sectional survey. *BMC Health Serv Res*. 2021 Jun 21;21(1):592. doi: 10.1186/s12913-021-06551-9. PubMed PMID: 34154588; PubMed Central PMCID: PMC8215810.

Stoecker Z, Van Amber B, Woster C, Isenberger K, Peterson M, Rupp P, **Chrenka E**, Dries D. Evaluation of fixed versus variable dosing of 4-factor prothrombin complex concentrate for emergent warfarin reversal. *Am J Emerg Med*. 2021 Oct;48:282-287. doi: 10.1016/j.ajem.2021.05.023. Epub 2021 May 13. PubMed PMID: 34022636.

RESEARCH SUPPORT

Factors Associated with Healthcare Utilization Among Community-Dwelling Adults with Clinical Features of Dementia with Lewy Bodies (Wyman-Chick)

Source: NIA/R21AG074368

Role: Statistician

09/30/2021-09/14/2023

Researchers have established that dementia with Lewy bodies (DLB) is associated with higher costs of medical care than other forms of dementia which is directly related to more frequent hospitalizations and earlier nursing home placement. Patients with DLB also tend to have poor outcomes following hospitalization and it is critical to identify modifiable factors related to increased healthcare utilization. Ultimately, we aim to identify

key factors that could be addressed to prevent distressing and costly hospitalizations and emergency department (ED) visits for patients with DLB and their families.

The Effect of an Adaptive Exercise Program on Chronic Inflammation in Spinal Cord Injury (Herrmann/Jackson)

Source: Minnesota Office of Higher Education 04/01/2021-06/30/2024

Role: Statistician

People with spinal cord injury (SCI) have been reported to have higher levels of inflammation when compared to healthy people. Exercise is one way to reduce inflammation; however, people with SCI are often inactive. This is often due to barriers to exercise, such as getting to a gym, access to specialized equipment, and the desire or energy to exercise. They may also have other conditions that prevent them from exercising. While exercise may reduce inflammation, changes in inflammation after exercise have hardly been studied in people with SCI. The main goal of this study is to understand if a 3-month adaptive exercise program can reduce inflammation in people with SCI.

Virtual Reality Cognitive Therapy for Alzheimer's Disease (Razi Masood)

Source: NIA/R43AG076169

Role: Statistician

09/01/2018-06/30/2023

ClarityTek, Inc. (CTI) is developing a Virtual Reality Cognitive Therapy (VRCT) system for use as a treatment option for patients experiencing Cognitive Impairment (CI). The immersive VR has the advantage of isolating the patient from surrounding distractions, crucial for any intervention targeted at the cognitively impaired. VRCT is VR based digital therapy software utilizing a four-pronged approach: Self-diagnosis, Educate, Treat, and Track. Using VR, we create an immersive experience, gaining access to different regions of the brain using brain mechanics. With this deep access, we aim to train and stimulate the affected brain regions so that they can recover, grow, and strengthen.

NIA AD/ADRD Health Care Systems Research Collaboratory (Hanson)

Source: NIA/ U54AG063546

Role: Statistician

10/01/2021-06/30/2023

Care partners (CP) of people living with Alzheimer's disease or related dementia often feel high levels of stress, have low mood and poor health. A new program called Mindfulness-Based Dementia Care (MBDC) teaches CP to find joy in the moment and better cope with stress. In this pilot study, we will collect information from care partners enrolled in the MBDC program to help us prepare for a larger, real-life trial to see if the program is effective in reducing burden and improving care partner mood.

SCISIPBIO: Constructing Heterogeneous Scholarly Graphs to Examine Social Capital Accumulation During Mentored K Awardees Transition to Research Independence: Explicating a Matthew Mechanism (Mabry)

Source: NSF

Role: Statistician

09/01/2021-08/31/2025

This grant will study R01 applicants who previously received another type of NIH award, the NIH Individual Mentored Career Development Award (MK; K01, K08, K23), which is expressly designed to help awardees gain "research independence" (Principal Investigator on R01 or equivalent grants). The goal is to inform strategies to achieve a diverse pool of R01 awardees, improve MK to R01 transition rates (or otherwise improve MK program efficiency), or both. We will use heterogeneous scholarly graphs to address the complexity of studying the Matthew Mechanism. This requires taming the complexity of multidimensional, time-varying relationships between R01 applicants, their scholarly achievement and social capital, and R01 success.

Minnesota Center of Excellence in Newcomer Health (Mamo)

Source: CDC/ 193117

Role: Statistician

06/01/2021-04/30/2023

Building on the work and infrastructure of the Minnesota Center of Excellence in Refugee Health (2015-2020), the Minnesota Department of Health Refugee Health Program with its principal partners will transition to become the Minnesota Center of Excellence in Newcomer Health to improve health outcomes for Newcomers to the United States, to increase health care provider capacity to serve Newcomers, and to increase the evidence base for policy decisions related to Newcomer health. Partners include HealthPartners, University of Minnesota, Denver Health and Hospitals, the Thomas Jefferson University, Children's Hospital of Philadelphia, the International Organization for Migration, and the Cultural Orientation Resource Exchange.

Hotspotting Cardiometabolic Disparities for Simulated Advances in Population Care (Westgard)

Source: NIA/R01AG052533

Role: Statistician

09/01/2018-06/30/2023

This project will provide evidence for health systems change to address community health by (1) using geographic hotspot analysis to identify communities with disparate cardiovascular disease (CVD) burden and neighborhood risk, then (2) populating a detailed microsimulation model with empirical data from those populations, in order to (3) compare the impact of individual and neighborhood targeting of community health worker efforts on CVD outcomes and disparities, cost-effectiveness and financial sustainability over short-, intermediate-, and long-term horizons.

Impact of Repeated Transient Neck Compression in Combat Sports on Carotid Intima-Media Thickness and Markers of Chronic Brain Injury (Stellpflug)

Source: Minnesota Office of Higher Education

Role: Statistician

04/01/2021-03/31/2023

Serum markers of brain injury have been explored in multiple different contexts. Most prior research has examined elevations of these markers in the setting of acute traumatic brain injury or concussion. There is no body of literature exploring the use of markers for chronic brain injury from repeated transient loss of blood flow to the brain.

Optimizing the Value of PROMs in Improving Care Delivery through Health Information Technology (Solberg)

Source: AHRQ/R18HS025618

09/30/2017-07/31/2023

Role: Statistician

Evaluation of the feasibility, effectiveness, efficiency, and patient/physician reactions to the systematic incorporation and use of patient-reported outcomes measures and patient contextual information in both care and improvement activities for orthopedics operations in a large integrated care system.

Implementing Cancer Prevention Using Patient - Provider Clinical Decision Support (Elliott)

Source: NCI/R01CA193396

03/24/2016-02/28/2022

Role: Statistician

The objectives of this project are to improve the quality and consistency of primary and secondary prevention of common cancers in rural areas by providing patient-centered and evidence-based treatment recommendations to both primary care provider teams and patients at the point of care and provide an efficient and effective model for implementation and dissemination of cancer prevention in rural settings.

Potentially Preventable Readmissions of Stroke Patients after Inpatient Rehabilitation (Niemioja)

Source: HealthPartners Institute RED Fund

Role: Statistician

10/13/2018-08/19/2020

The purpose of this project is to describe and determine trends for potentially preventable hospital readmissions in stroke patients who have discharged from Regions Hospital's acute inpatient rehabilitation.

The CENTER: Center of Excellence, a Network for Training and Epidemiology in Refugee Health (Mamo)

Source: CDC/ NU50CK000459

Role: Statistician

09/30/2015-09/29/2020

The Minnesota Department of Health Refugee and International Health Program (MDH RIHP) and its principal partners, the University of Minnesota (UMN), HealthPartners Center for International Health (HP CIH) and the Philadelphia Refugee Health Collaborative (PRHC), propose to create The CENTER: Center of Excellence, a Network for Training and Epidemiology in Refugee health. Refugee health programs in eight other states (CO, IA, IL, IN, ND, RI, TX, WA), along with VOLAGs, CBOs, and human services departments in MN and PA, will also collaborate on the CENTER's activities. The CENTER will build on existing infrastructure and its partners' extensive experience to identify and monitor refugee health issues and needs, contribute to evidence-based policies and guidelines, educate health care and service providers working with refugees, facilitate communication with refugees about health care issues and services, and ultimately improve continuity of care and health outcomes for refugees.