



Winter 2023 Issue

Now is the time to Register for the HCSRN Annual Conference



Conference Spotlight

In addition to the Opening Plenary on February 21 and the State of the Network on February 22, the schedule will feature a third plenary on February 23. This plenary entitled, *How do Health Equity Investigators Navigate the Intersection of Scientific Inquiry and Personal Experience?*

This session will highlight the experiences of scientists and research staff who both identify as members of communities that are typically studied in health equity research and conduct their own research within these communities. Speakers will discuss how they navigate the intersection of scientific inquiry and personal experience as well as experiences they have had with systematic implicit/explicit bias and how they have learned to overcome the impact of this bias on their work and careers. The format of the session will be a brief presentation by each participant about their work and their journey followed by a moderated session of questions from the audience and responses by the panel.

In January, 2023, the NIH will be initiating a new Data Management and Sharing

Policy. While the intent of this new policy is to promote the sharing of scientific data to accelerate biomedical research discovery, researchers are asking how the new policy will impact their research, their proposals and their institutions. Questions such as What research is subject to the new DMS policy? What scientific data needs to be shared? When does data need to be shared and for what period of time? and How do we select a repository? will be addressed at a panel presentation being held on Thursday, February 23. Experts in the field will share their recommendations to enable more efficient implementation of the policy within your institutions. Be sure to join us for this session on *Navigating the new NIH Data Management and Sharing Policy*!

Late Breakers

Just a reminder of the Late Breaker Deadlines (below). Late breakers are expected to be presented on Thursday, February 23.

January 3 Submission site opens January 13 Submission site closes

January 20 Accepted submitters notified

Don't Delay, Register Today!



Early Bird rates expire on December 31, so be sure to <u>register today</u> to take advantage of the reduced rates. And, while you are at it, <u>reserve your hotel room</u> as reservations can be made at the group rate until January 30, or until the group block is sold out; whichever occurs first. Take advantage of the President's Day holiday on Monday,

February 20 and come out early to enjoy the many amenities The Mile High City of Denver offers. Then stay for a conference filled with exceptional science, collaboration and networking opportunities.

Welcome Jenny Staab – VDW QA Programmer



The VDW is pleased to announce that Jenny Staab will be serving in the QA position beginning January 2023. Jenny has been working at the KP Northwest Center for Health Research since 2011. Before joining KPNW, she studied in four countries, got a PhD in Language and Communicative Disorders and worked as a Research Analyst for the Oregon Health Authority. Over the last ten years, her work has mainly focused on data development and data quality assessment across the Kaiser regions for KP's Center for Effectiveness and Safety Research (CESR). As lead CESR QA analyst, she has written and analyzed numerous distributed QA programs for a wide variety of VDW content areas, presented findings to site analysts and warehouse builders, developed programming tools and guidelines to standardize and streamline workflows, as well as trained other QA

programmers. Jenny has also guided the development or revision of several content areas for CESR, and currently she serves as co-lead of the HCSRN Tumor workgroup.

Jenny will work with the workgroups to write standardized QA programs and

review, compile and document results in one or two content areas per year. Jenny's responsibilities include:

- Building basic level centralized QA with a focus on conformance to table and variables specifications. Updating current QA programs based on changes made to specs as needed and harmonize to a common code base. Attending workgroup calls to better understand the content area and issues. Working with workgroup leads to determine appropriate QA checks.
- Communicating with sites to run QA, reviewing site specific results, and following up with each site on issues and working with workgroup leads to review/compile results.
- Updating the issue tracker

Join HCSRN in welcoming Jenny to this new role. We look forward to seeing how her work will positively impact the VDW.

Scientific Data Resources Forum



From volume to value: Leveraging increasingly complex EHR data to produce health system wisdom

Presented by Vincent Liu, MD MSc

September 20, 2022

Data has become a critical currency in the modern health care system, with its ascendance fueled by:

- 1. The growing availability of electronic health record (EHR), sensor, and -omics data;
- 2. Routine access to powerful on-premises, cloud, and edge computing systems; and
- 3. Ready availability of potent artificial intelligence and machine learning (AI/ML) algorithms.

While there is incredible appetite to leverage these data in advanced analytic applications, including predictive modeling, it is unclear whether the use of ever more complex data can translate into easily measurable value for health system operations and outcomes.

The DIKW pyramid is a useful framework for considering the value of data. In this paradigm, there are 4 layers with 'data' at the base level, 'information' at the 2nd level, 'knowledge' in the 3rd tier, and, finally, wisdom at the top of the pyramid. For example, we might consider the value '92' as a piece of data, while '92 degrees Fahrenheit' would be information (i.e., data in context). Knowledge is the insight that 92°F represents hypothermia for humans while wisdom would reveal that hypothermia to 92°F is a life-threatening situation that requires urgent treatment. Extending this simple illustration, it becomes clear that the true value of increasingly complex data can only be measured if it routinely produces improved knowledge, insight, and wisdom for a health system and its clinicians.

Our research group has focused on detailed data in the context of acute care in hospital settings for the past two decades. Over time, we have invested in handling increasingly complex inpatient data elements, listed from simple to complex as: administrative, diagnosis, vital signs, laboratory data, bed history,

code status, medications, orders, free text including clinical documentation, and EHR access log (metadata) data. While our work in using each of these successively complex layers of inpatient data has been challenging, we have found that they have demonstrated clear value in improving our capacity to develop accurate models and personalized approaches to care.

Early work by our team established that the inclusion of vital signs, laboratory data, and neurologic status substantially improved risk adjustment models for evaluating observed-to-expected hospital performance. Including temporal data about bed history (i.e., patient transitions between general wards to intensive care units or operating rooms) and code status (i.e., patient preferences for life-sustaining therapies), helped characterize opportunities to identify the patients at highest risk for inpatient deterioration. These data drove the insights which ultimately resulted in two predictive models which improved patient outcomes. The Advance Alert Monitor was used to detect and mitigate clinical deterioration among at-risk inpatients (our results were published in NEJM in 2020), while the Transition Support Level score was used successfully by our Transitions Program to reduce the composite outcome of readmission and mortality in medium/high-risk discharged patients (published in BMJ in 2021).

We have continued to invest in increasingly complex EHR data, particularly by leveraging AI/ML algorithms to make sense of large-scale data. For example, sepsis contributes to 20% of global deaths and as many as 1 in 2 US hospital deaths each year, and yet, today, the only effective treatments are used in a one size fits all approach. Expert consensus clearly recognizes that patient heterogeneity in sepsis (i.e., differences in patients' underlying comorbidities, organ failures, hostpathogen interactions, immunologic status, genomic predisposition, source of infection) is the single most important barrier to developing novel and targeted therapies. By leveraging unsupervised ML and natural language processing, we have been able to use voluminous EHR data to empirically define patient heterogeneity. Differences in sepsis treatment patterns and symptom profiles, revealed by 'letting the data speak for itself' through AI/ML approaches, have clear and compelling associations with patient treatments including antibiotic timing, fluid resuscitation, and intensive care unit admission. We are now beginning to apply these insights to improve our approach to early detection and targeted treatment of sepsis and pre-sepsis patients.

Looking beyond clinical EHR data, we have further investigated the 'metadata' that is collected with each click of a user in EHR software. Although these data were originally collected to serve as a security log to prevent unauthorized use of the EHR, they provide an incredibly detailed digital trace of a clinician moving through each step of their clinical digital workflow. Working with collaborators, we have demonstrated how these data reveal information retrieval challenges through clinician EHR search patterns. Further, we have investigated how these data reveal the contextual factors that could influence the timing of treatments based on metrics like chart switching (i.e., how many different patient charts a clinician opens in a given amount of time) or team experience (i.e., how often a group of clinicians has worked together on caring for shared patients over the prior period). Although these metadata are extensive and complex, we believe there is an entirely new layer of insight hidden in these data that will drive improved knowledge and wisdom.

Brute force approaches to leverage increasingly complex EHR data, for example, driven by an impulsive desire to collect every piece of data available in a massive data lake, are unlikely to result in improved value for health systems. However, thoughtful and strategic investments in using complex data, tied to high-impact health care delivery challenges, can unlock entirely new opportunities to provide care that is more effective, efficient, safe, sustainable, and equitable that what we can provide today. Close coordination between experts in data science and delivery science will prove highly effective as we pursue our quest to move from data volume to data value over the coming decade.

Watch the whole presentation here on the HCSRN website.

JPCRR Welcomes Editor-in-Chief, Issues Call for Papers





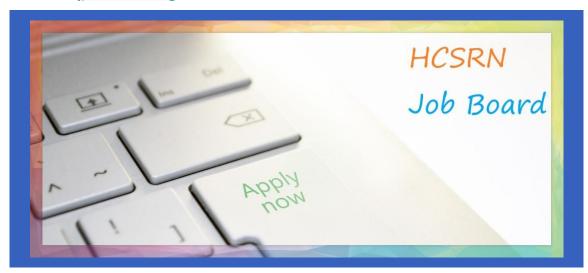
The Journal of Patient-Centered Research and Reviews, a peer-reviewed medical journal published by HCSRN member Advocate Aurora Health, has a new captain at its helm.

Bruce Morgenstern has been named the editor-in-chief of JPCRR, succeeding founding editor Dennis Baumgardner, under whose tenure the journal earned entry into the prestigious literature index PubMed Central. As an esteemed pediatric nephrologist, physician educator and long-standing JPCRR editorial board

member from Roseman University of Health Sciences, Dr. Morgenstern brings a wealth of clinical and research experience. An introductory editorial outlines his goals as head of JPCRR, namely, that JPCRR will remain focused on reporting scientific advances in the delivery of patient-centered care.

You are encouraged to browse the full table of contents of Volume 9, Issue 4, which notably includes multiple articles authored by HCSRN researchers.

In other JPCRR news, their editorial team has put out a call for both original manuscript submissions and volunteer peer reviewers. Authors of papers involving multidisciplinary approaches to care are encouraged to submit to JPCRR at this time. No author fees apply, and all accepted articles receive open access publication. Scholars interested in serving as a peer reviewer should contact the editors at jpcrr@aah.org.



PERMANENTE MEDICINE®

Colorado Permanente Medical Group

The Institute for Health Research (IHR), Kaiser Permanente Colorado and Colorado Permanente Medical Group

Medical Director of Clinical Trials

The Institute for Health Research (IHR), Kaiser Permanente Colorado and Colorado Permanente Medical Group is seeking a board-certified Medical Director of Clinical Trials in Denver, CO.

The position requires an MD or DO degree and a minimum five (5) years of prior experience with clinical trials leadership and management. This position will also include clinical time caring for KPCO members and patients as well as research supported by outside funding.

The Kaiser Permanente Colorado Institute for Health Research (IHR) is an innovative, integrated department that conducts, publishes, and disseminates epidemiologic, behavioral, health services, implementation and clinical research. The Clinical Trials Program at Kaiser Permanente Colorado (KPCO), Institute for Health Research (IHR) began in 1998. By 2005, the Clinical Trials Team developed a program dedicated to FDA-regulated clinical trials focused on bringing new and innovative therapies to the members of KPCO. Our program participates in over 150 trials with more than 1,000 participants over the past 20 years. Our vision is to provide access to high-quality clinical trials that advance science and provide Kaiser Permanente members cutting edge therapies and innovations in a safe and healthy environment.

Under the leadership of the Medical Director, Sr Manager and Operations Manager of Clinical Trials are 14 specially trained and certified research professionals in the areas of Regulatory Administration, Clinical Trials Participant and Study Management, Data Coordination and Finance Administration. This team supports clinical trials operations primarily at 3 KPCO specialty sites across the Denver-Metro area. The Clinical Trials team is part of the Kaiser Permanente National Community Oncology Research Program (NCORP) funded by the National Cancer Institute, and provides our members access to cancer control, prevention, and care delivery clinical trials. During a time when adversity and flexibility was needed, the Clinical Trials team pivoted to conducting COVID-19 trials in partnership with contract hospitals. Our mission is to continually expand access to high quality trials across multiple therapeutic areas, such as Infectious Disease, Gastroenterology, OB/GYN, General Surgery, Cardiology. https://kpco-ihr.org/research-clinical.html

The IHR has a specific focus on conducting research that can be translated into clinical practice, health promotion, and policies to influence the health of individuals and populations. Established in 1992, the IHR is responsible for many landmark findings. Among the most notable are recent studies about opioid overdose prevention, vaccine safety, food insecurity, genomics, and cancer screenings. http://kpco-ihr.org/index.html

Click here to read the full description and apply



Harvard

Research Fellow

Harvard Pilgrim Health Care Institute is seeking a Research Fellow. The Fellow will perform research under the guidance of Christine Lu, PhD, Darren Toh, ScD, and (DPM) to expand the portfolio of precision medicine & policy research. The Fellow will have the opportunity to lead and participate in the development of distributed analytic methods for longitudinal evaluation of health policies using multiple data sources. The Fellow will also have opportunities to lead and participate in other precision medicine & policy research studies and comparative effectiveness and safety research studies, including NIH-funded projects, and other federally and non-federally funded projects.

Click here to read the full description and apply

PERMANENTE MEDICINE®

Mid-Atlantic Permanente Medical Group

Kaiser Permanente Mid-Atlantic Permanente Research Institute

Research Project Manager

The Research Project Manager (PM) coordinates research project(s) in accordance with protocol, budget and timelines maintaining compliance with both federal and internal regulations. Responsible for the coordination and completion of highly visible, sensitive and multi-faceted research-related projects involving Kaiser Permanente (KP) and its partners. Oversees various aspects of research projects. Sets deadlines, assigns responsibilities, and monitors and summarizes progress of project according to strict deadlines and within budget. Prepare reports for upper management and/or investigators regarding status of project. Must be familiar with a variety of the healthcare research related field concepts, practices, and procedures.

Maintains compliance when manipulating large volumes of patient data, both internal to MAPMG and from external agencies. Follows the IRB approved protocols on federally funded grants and contracts as well as on internally funded projects. Adheres to the research protocols for maintaining HIPAA compliance when accessing, manipulating, storing, and transferring data.

This position is a 100% grant-funded contract position and is contingent on federal grant funding. Should federal grant funding be eliminated for any given reason, this position may be eliminated.

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Research Associate

The Research Associate supports the Mid-Atlantic Permanente Research Institute (MAPRI) in a mid-level project management support capacity and reports to the Director of Research Operations. The Research Associate supports project managers, research investigators and/or research scientists across multiple initiatives, including clinical trials and observational study management, and advancing strategic initiatives for MAPRI. In addition, the Research Associate is a key resource to the regional Kaiser Permanente

Research Bank program and manages relationships between community members who serve as research advisors and the Institute's leadership and operational team.

This position is a 100% grant-funded contract position and is contingent on federal grant funding. Should federal grant funding be eliminated for any given reason, this position may be eliminated.

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Research Data Analyst II

The Research Data Analyst for the Vaccine Safety Datalink (VSD) contract provides analytic and data infrastructure support for the VSD project team, which includes project managers, scientist team and physicians. The Vaccine Safety Datalink (VSD) is a project led by the Centers for Disease Control and Prevention (CDC) and includes a network of health care systems that collaborate to produce large-scale aggregate data needed to conduct vaccine safety surveillance and epidemiological studies of vaccines. The position will be responsible for building and maintaining the VSD infrastructure within Kaiser Permanente Mid-Atlantic States (KPMAS), fulfilling any VSD based data requests, working with and running distributed code requests, and completing any ancillary request needed by the project teams and/or by the Mid-Atlantic Permanente Research Institute (MAPRI). In addition to fulfilling data requests, this position will play a key role in the design and implementation of research projects; designing and maintaining internal and external databases; running analytical reports and providing statistics; working with the project team to validate, troubleshoot and interpret results; preparing and assisting with manuscripts for publication; actively participate with the project team in discussions to identify key areas of improvement and set priorities. The Research Data Analyst II reports to the Director of Research Analytics for the Mid-Atlantic Permanente Research Institute (MAPRI).

This position is a 100% grant-funded contract position and is contingent on federal grant funding. Should federal grant funding be eliminated for any given reason, this position may be eliminated.

Click here to read the full description and apply









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