



Care Improvement
Research Team
ANNUAL REPORT

2019

ANNUAL REPORT
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DIRECTOR'S MESSAGE

MICHAEL K. GOULD, MD, MS

2019 was another great year for the CIRT program! As described in this report, some of the year's highlights include a successfully completed pragmatic trial of depression screening among breast cancer survivors, led by Erin Hahn, PhD, and research-driven efforts to improve current practices to screen for lung and cervical cancer in our learning healthcare system (LHS) at Kaiser Permanente Southern California. Speaking of the LHS, last March KPSC and CIRT hosted the first ever national conference on embedded research in learning healthcare systems, under the outstanding leadership of Brian Mittman, PhD. This highly influential conference was given high ratings by participants and resulted in no fewer than 5 papers that are currently under review. In 2019 we were also fortunate to add Karen Coleman, PhD, to our team. Karen is an experienced embedded researcher who has done pioneering research in bariatric surgery outcomes and mental health services. Karen also serves as research mentor to Kristin Choi, RN, PhD who, as our inaugural K12 Scholar in Patient Centered Research in the LHS, is evaluating care provided to children with autism spectrum disorder.

Looking ahead, the CIRT program has successfully transitioned to a new business model, which will enable us to more closely track progress and spending on current and future projects. We were gratified to learn that a business case analysis of our program demonstrated that multiple CIRT projects delivered a many-fold return on investment, including projects led by Huong Nguyen, PhD and Adam Sharp, MD, MS that improved physical activity in patients with chronic lung disease and reduced unnecessary hospitalization for members with suspected acute coronary syndrome. These are just a few of the projects that are making a difference in our care settings at KPSC. As always, we offer thanks to our executive sponsors and our many clinical partners, who are instrumental in translating the results of our research into everyday clinical practice. Lastly, on behalf of all the CIRT scientists, I would like to acknowledge our research and administrative support staff members for everything they do. What's true for raising children is also true for embedded research: it takes a village!

With appreciation,
Michael

CIRT OVERVIEW



VISION

To be the model for embedded research within a learning health care system.



MISSION

To enhance the health of individuals and populations through systematic study of ways to improve health care delivery.



RESEARCH SCIENTISTS

9



CIRT PROJECTS

32



SUPPORT STAFF EFFORT (FTE)

10



PUBLICATIONS, PRESENTATIONS & ABSTRACTS

75

GOALS

COLLABORATION

Work closely with Southern California Permanente Medical Group clinicians and KPSC operational leaders to develop sustainable partnerships.

QUALITY IMPROVEMENT

Identify and prioritize opportunities to improve health and health care for KPSC members and the community.

RESEARCH

Create generalizable knowledge by conducting studies of practice variation and outcomes.

IMPLEMENTATION

Develop and test strategies to implement effective interventions and de-implement low-value practices.

EVALUATION

Evaluate new and existing models of care delivery.

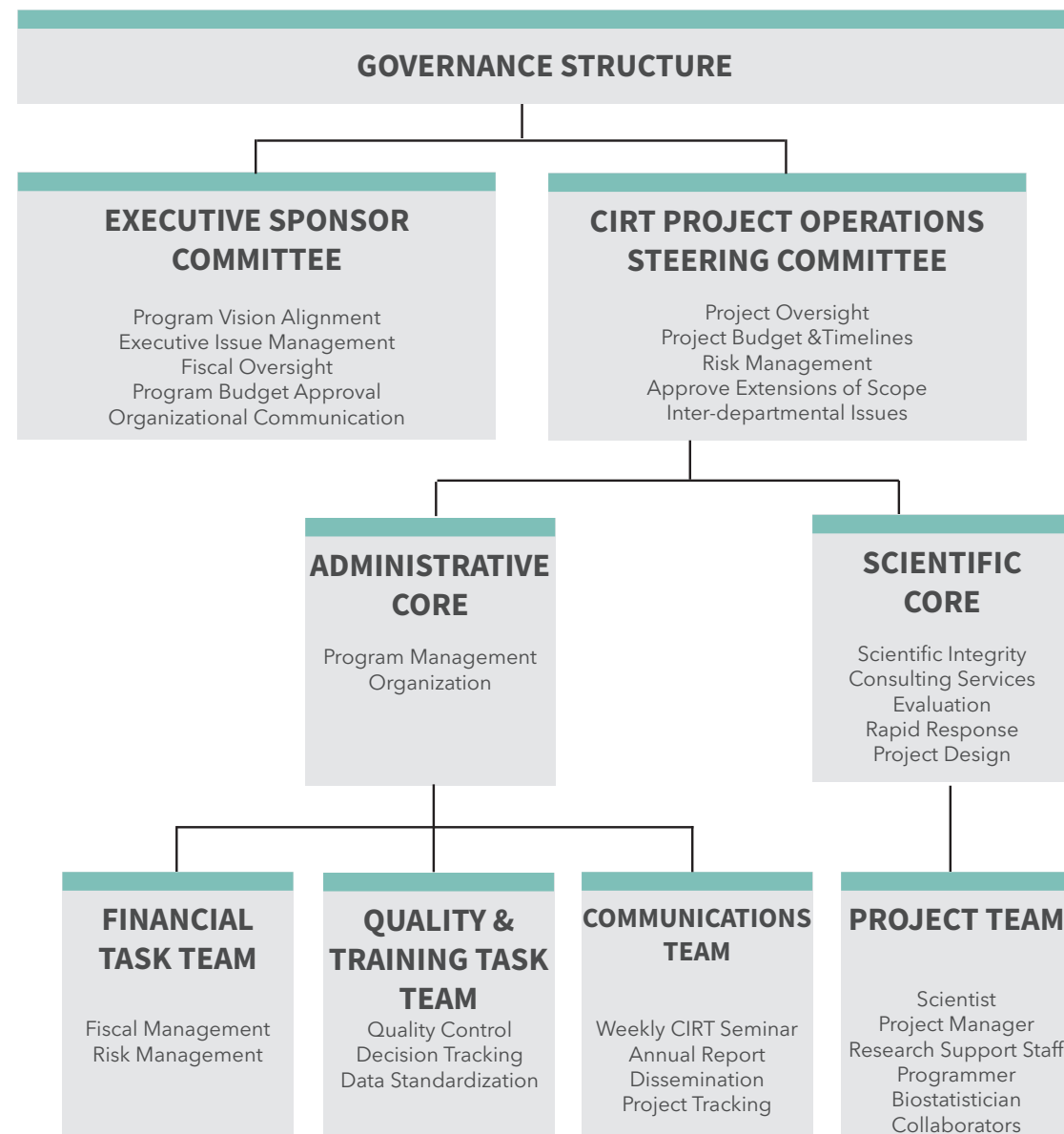
INNOVATION

Help to foster a culture of inquiry and continuous improvement.

ORGANIZATIONAL STRUCTURE

The Care Improvement Research Team (CIRT) was founded in 2012 by Southern California Permanente Medical Group executive leadership with a hard-money investment to build capacity for research that would help to improve access, quality and affordability for health plan members. The team conducts internally-focused research that fulfills a dual mission by simultaneously targeting the practical, operational needs of clinical leaders and creating and sharing generalizable knowledge with the outside world.

Our executive sponsors from Southern California Permanente Medical Group, Kaiser Foundation Hospitals, and Kaiser Foundation Health Plan ensure our projects meet the needs of our stakeholders. Members of our Executive Sponsor Committee include Benjamin I. Broder, MD, PhD; Nancy Gin, MD; Patricia Harvey, RN; Steven J. Jacobsen, MD, PhD; and Jerry Spicer, RN. We are grateful for the continual feedback and insight we receive from our partners.



CIRT COLLABORATION

The CIRT program embeds research scientists with relevant expertise into existing operational workgroups that are poised to lead improvement efforts. Once embedded, CIRT scientists provide expert consultation to help formulate operational research questions and enhance the rigor and relevance of subsequent data collection and analyses. A few successful examples of our strategy for embedded research are described on this page.

01

Behavioral Medicine

Karen Coleman, PhD, works alongside KP Southern California's regional leadership team to assist Psychiatry and Addiction Medicine's implementation of the Zero Suicide Initiative. This group interfaces with Emergency Departments, Crisis Line, and Social Medicine.

02

Hospital Operations

Huong Nguyen, PhD, RN, collaborated with the Readmissions Steering Committee on multiple projects related to care transitions from hospital to home and post-hospital outpatient follow-up visits.

03

Lung Cancer Screening

Michael Gould, MD, MS, worked with the Lung Cancer Screening Steering Committee to identify substantial underuse and inappropriate use of lung cancer screening.

04

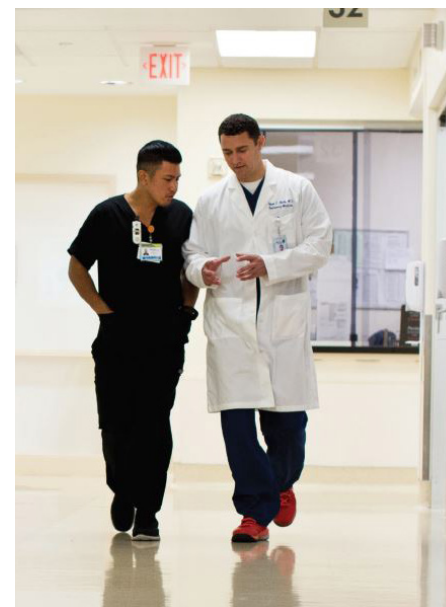
Oncology

Erin Hahn, PhD, MPH, partnered with the regional chiefs of oncology to identify a novel model of survivorship care that is feasible and acceptable for implementation in Southern California.

05

Emergency Medicine

Adam Sharp, MD, MS, validated and implemented a risk assessment model in the electronic health record and reduced unnecessary admissions and non-invasive testing for low-risk patients with chest pain.



The CIRT team participates in workgroups and committees at the international, national, interregional and regional levels.

CIRT WEEKLY SEMINARS

CIRT Seminars occur weekly and provide an opportunity for collaboration and knowledge sharing. CIRT team members, partners, and others throughout the country join the meeting in person or virtually to participate in tailored messages from speakers for our audience of healthcare professionals. Speakers and topics from 2019 are below.

Miriam Bender, PhD, RN

University of California Irvine
The relationality of intervention, context, and implementation

Soo Borson, MD

University of Washington; KPSC
Becoming a dementia capable health system: from primary care to population management

David Braun, MD

KPSC- Neonatology
Birth population-based trends in the burden of NICU admissions and NICU patient days

Diana S.M. Buist, PhD, MPH

Kaiser Permanente Washington Health Research Institute
Designing & testing the future of home-based cervical cancer screening: results from a collaborative academic-embedded delivery system pragmatic randomized trial

Gonzalo Grandes, MD, MS

Basque Healthcare Service
Integration of health promotion into routine primary care through implementation research: scaling-up "prescribe healthy life" program to the Basque healthcare service

Michael S. Johnson, PhD

Kaiser Foundation Health Plan- Utility for Care Data Analysis (UCDA)
KP's Community Affordability Metric: A GIS case study

Yasmina Mohan, MPH

KPSC- Department of Clinical Analysis
Smoke Free KP – Text messaging for smoking cessation: Exemplifying the translation of research into practice

John Ovreteit, PhD

Karolinska Institute, Sweden
Meeting medically-related social needs: an international perspective

Susana Pablo, PhD

BioCruces Bizkaia Research Institute
Added-value of qualitative methods in implementation research: more than collecting and analyzing data

Gery Ryan, PhD

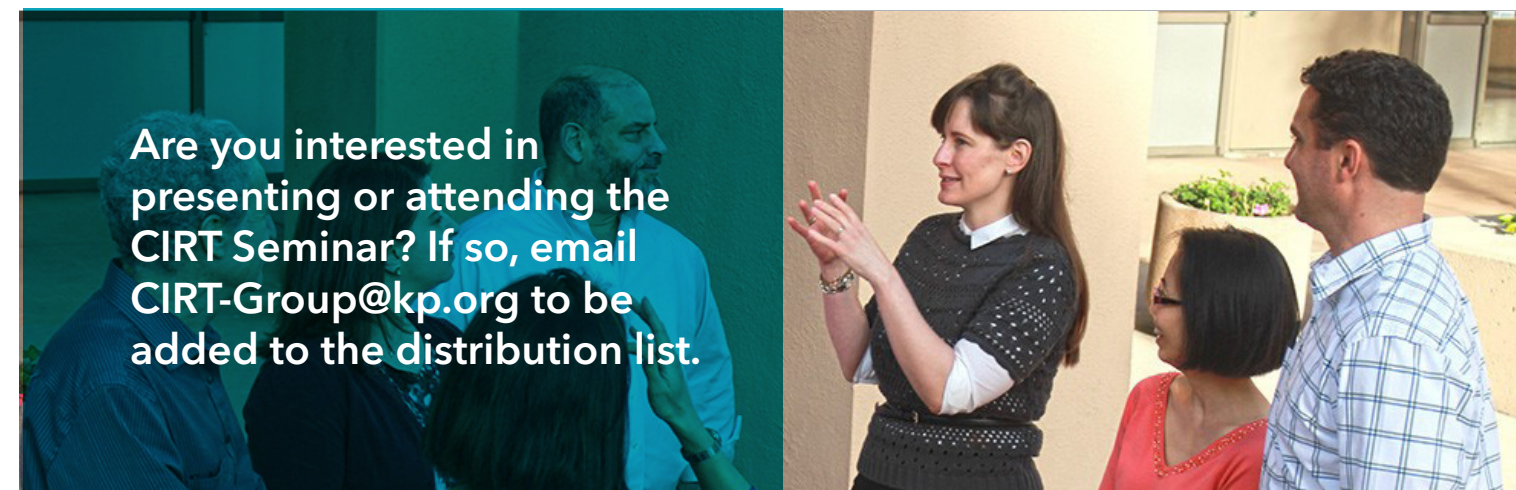
RAND Corporation
The impact gap: how can we get more impact from our research and practice?

Neeraj Sood, PhD

University of Southern California
Role of luck in hospital readmission penalties

Liz W. Walton-Paxton, PhD

KP National Implant Registries
Evidence-based medicine driven by registry findings



WORK IN PROGRESS PRESENTATIONS BY CIRT SCIENTISTS

Michael Gould, MD, MS

Screening for lung cancer at scale: Implementation Science to the rescue!

David Glass, PhD

Overview of adult primary care work life survey

David Glass, PhD

End of life study: deep dive into why so many decedents received CPR who did not want it

Erin Hahn, PhD, MPH

Recruitment efforts for intervention and survey studies

Aniket Kawatkar, PhD, MS

Early non-invasive cardiac testing after Emergency Department evaluation for suspected Acute Coronary Syndrome

Brian Mittman, PhD

Developing core competencies and a training curriculum for multilevel intervention research.

Brian Mittman, PhD

Strengthening research on complex health interventions. What do clinicians and clinical leaders need from researchers?

Claudia Nau, PhD and Huong Nguyen, PhD, RN

Developing a model for identifying inpatients who would benefit from a palliative care consultation

Huong Nguyen, PhD, RN

Implementation learnings from integrating video visits into home-based palliative care (HomePal Study)

Huong Nguyen, PhD, RN

Responders to physical activity coaching

Ernest Shen, PhD

A Bayesian latent class approach for EHR-based phenotyping

MEETING TOPICS

Guest Speakers

Work In Progress

Lecture Series

Journal Club



CIRT PROJECT HIGHLIGHTS

→ ENHANCED IMPLEMENTATION OF LUNG CANCER SCREENING Michael Gould, MD, MS

The US Preventive Services Task Force (USPSTF) recommends lung cancer screening with annual low radiation-dose CT (LDCT) for high-risk current and former smokers who are 55-78 years old, and the Centers for Medicare and Medicaid Services (CMS) mandate the integration of tobacco cessation into lung cancer screening programs. Our team examined LDCT utilization rates and patient characteristics and found that uptake was low (<5% to 10%) among eligible patients. Additionally, many KPSC members who underwent screening did not meet standard eligibility requirements per CMS and USPSTF. In response, the CIRT is working closely with the Regional Lung Cancer Screening Workgroup to develop tools and resources to improve the uptake and appropriateness of lung cancer screening within KPSC. To date, we have helped to create a decision aid for shared decision-making between patients and providers, developed standardized order sets to encourage appropriate utilization of LDCT, introduced templates for reporting LDCT results to document and communicate findings effectively, and designed a novel "safety net" system to make sure that patients with abnormal findings receive appropriate evaluation. Ongoing research is evaluating the effect of these interventions on lung cancer screening uptake and appropriateness.

RELEVANT PUBLICATIONS

→ Raz D, Wu G, Nelson R, Sun V, Wu S, **Alem AC**, Ismail M, **Gould MK**. Perceptions and utilization of lung cancer screening among smokers enrolled in a tobacco cessation program. *Clinical Lung Cancer* 2019;20:e115-e122

→ Raz DJ, Ismail MH, Sun V, **Park S**, **Alem AC**, **Haupt EC**, **Gould MK**. Incorporating lung cancer screening education into tobacco cessation group counseling. *Tobacco Prevention and Cessation* 2020;6:12.



→ PREVENTION OF VENOUS THROMBOEMBOLISM IN SURGICAL PATIENTS Michael Gould, MD, MS

Venous Thromboembolism (VTE) is a common but preventable complication among surgical patients. Our team reviewed VTE risk factors and outcomes among patients undergoing abdominal surgery for cancer, a population with an especially high risk of perioperative VTE. We found that VTE occurred within 3 months following hospital discharge in 2.4% of these patients, and that VTE was especially common following exploratory surgery and pancreatectomy. Strong risk factors for VTE included prior VTE and low serum albumin. Most VTE occurred 31-90 days following discharge and among patients who had received in-hospital prophylaxis with low molecular weight heparin, suggesting that post-discharge, extended duration prophylaxis may help to reduce future VTE events. A strength of this study is that it leverages real-world data to improve the prevention of VTE in clinical practice. Our preliminary results were disseminated to the regional chiefs of General Surgery; a comprehensive approach to VTE reduction in this population is under development and future implementation is anticipated.

→ PILOT EPISODE OF CARE SURVEY David P. Glass, PhD

Our team collaborated with the Care Management Institute (CMI) to design a standard survey for gathering patient perceptions of episodes of care in surgery within an integrated system. The survey first assessed patient perceptions of two Total Joint Replacement (TJR) surgery schedules: same-day care versus inpatient care that spanned more than one day. The Total Joint Replacement survey results revealed patients with same-day surgeries were just as satisfied as those with inpatient stays. These results have been disseminated across the program-wide TJR workgroup. Additionally, KP has increased same-day TJR surgeries, leading to cost savings for the organization. Next, the survey was used to compare patient perceptions of care for bilateral versus single-eye cataract surgeries. Survey responses for the cataract surgery study will be shared with regional leaders when available, with the goal of identifying areas for improvement.

→ PREVENTION OF UNWANTED CPR AT THE END-OF-LIFE David P. Glass, PhD

Our team conducted a follow up study on end of life care wishes to better understand adherence to patients' preferences to receive or decline CPR. After in-depth chart review, we found 74 cases of patients in the cohort that received CPR during the last year of life. 29 of the cases did not want CPR and 45 cases were concordant with patients' preferences. Findings revealed do-not-resuscitate (DNR) status changed more frequently among patients receiving discordant care than those concordant with CPR preferences. End-of-life care discussions and DNR status changes influence concordance of patient's CPR wishes. These results were shared with the KP Shared Decision-Making Group and a manuscript is underway for publication.

→ EVALUATING THE ECONOMIC BURDEN OF ANKYLOSING SPONDYLITIS Aniket A. Kawatkar, PhD

Using a combination of a large retrospective cohort, electronic medical records and a cross-sectional patient-reported outcomes survey, this study will create a validated risk prediction model for early identification of axial spondyloarthritis. The study aims to develop an Axial Spondylitis risk prediction model using data from Kaiser Permanente's electronic medical records (EMR) and to evaluate the model's predictive performance in terms of internal validation, calibration, and discrimination ability using hold-out samples, medical chart review and patient surveys. This study has the potential to improve early diagnosis and treatment of axial spondyloarthritis, which can reduce future downstream costs and complications.



→ PREDICTING PATIENT NEED FOR PALLIATIVE CARE CONSULTS IN THE INPATIENT SETTING Claudia Nau, PhD & Huong Nguyen, PhD, RN

An inpatient palliative care (IPC) consultation is used to discuss difficult to manage symptoms, care decisions regarding life-sustaining treatments, and to address complex family dynamics. IPC teams had a need for real-time information about their hospitalized patients, which would improve the quality and efficiency of patient outreach. The goal of the project is to use a predictive modelling approach to identify hospitalized patients who are likely to benefit from an IPC consultation, and potentially share the list of high-risk patients with the IPC team for appropriate follow-up. A set of over 130 predictors were identified based on literature review and input from our clinical partner, Dr. Peter Khang, including variables related to diagnoses, utilization, vitals, laboratory measures, and time-related variables. We utilized natural language processing (NLP) to identify cases with prevalent metastatic cancer, another predictor of a need for an IPC consultation. We conducted chart reviews to validate these NLP cases, which resulted in 100% specificity, 87% sensitivity, and identification of 37% additional cases meeting criteria. The next steps for this project include using machine learning to further develop the risk score, and to train and test the model.



➔ **PRAGMATIC RANDOMIZED TRIAL OF A DEPRESSION SCREENING PROGRAM USING AN EFFECTIVENESS-IMPLEMENTATION HYBRID DESIGN**

Erin Hahn, PhD, MPH

Breast cancer patients often experience psychological distress during their cancer care journey. New guidelines suggest all cancer patients should be screened for distress on a regular basis yet they are repeatedly not referred to behavioral health specialists when needed. Our team evaluated a guideline-recommended depression screening program for breast cancer patients to assess its effectiveness on identifying distressed patients, completion of referrals to mental health services, and patient reported outcomes. This highly pragmatic study was designed per the Pragmatic Explanatory Continuum Indicator Summary-2 with adaptive workflow. A total of 1,436 patients were enrolled and 80% of members completed screening at intervention sites, whereas at control sites less than 1% completed. Among those who received a screening at the intervention site, 10% needed a referral to mental health services. We found of those referred, 75% completed a visit with a mental health provider. This work has been presented to internal KP groups such as the SCPMG Regional Oncology Chiefs, Workflow consultants, and KP Translational Research in Oncology clinical teams.

➔ **USE OF NOVEL PATIENT-FACING SELF-DIRECTED HEALTH INFORMATION TECHNOLOGY IN THE ONLINE PERSONAL ACTION PLAN (OPAP): FOCUS ON COLORECTAL CANCER SCREENING**

Erin Hahn, PhD, MPH

Our team compared the effectiveness of a commitment device, patient self-ordering fecal immunochemical test (FIT) kits in the oPAP feature on kp.org, to standard colorectal cancer (CRC) screening outreach on completion of CRC screening. We used a retrospective cohort to assess a novel strategy to improve compliance with recommended CRC screenings. The study controlled for patient characteristics and engagement. Our results showed roughly 10% used the self-order function in the oPAP. Inverse probability of treatment weights revealed those who used the self-order were 3.8 times more likely to complete a kit compared to members who did not. These findings are being reviewed for publication and several oral presentations have been discussed at conferences demonstrating the ability of patient self-ordering of CRC screenings to improve overall CRC screening rates. KP Georgia has started implementing the self-order function complimentary to existing outreach for screenings.

RELEVANT PUBLICATIONS

➔ Pergolotti M, Alfano CM, Cernich AN, Yabroff KR, Manning PR, de Moor JS, **Hahn EE**, Cheville AL, Mohile SG. A health services research agenda to fully integrate cancer rehabilitation into oncology care. *Cancer*. 2019;125(22):3908-16.

➔ **Hahn EE, Munoz-Plaza CE**, Schottinger JE, Brasfield FM, Gould MK, Parry C: Developing innovative models of care for cancer survivors: use of implementation science to guide evaluation of appropriateness and feasibility. *Support Care Cancer*. 2018

➔ **Hahn EE**; Ganz PA (2019): Survivorship Care Programs: A Strategy for Improving the Quality of Care for Cancer Survivors. In Holland et al (Eds.), *Psycho-Oncology*, Fourth Edition. New York: Oxford University Press.

➔ Birken SA,* **Hahn EE**,* Yu Y, Haines E, Mayer DK, **Mittman BS** (2019): Implementation science as a means of elucidating survivorship care plans' effectiveness. In: Chambers et al (Eds), *Optimizing the Cancer Control Continuum: Advancing implementation effectiveness*. New York; Oxford University Press, 2019 (pp. 234-239) *Equal contribution of authors.

➔ **EVALUATION OF OUTPATIENT CARDIAC STRESS TESTING AFTER EMERGENCY DEPARTMENT ENCOUNTERS FOR SUSPECTED ACUTE CORONARY SYNDROME**

Adam L. Sharp, MD, MS

Current professional guidelines recommend cardiac stress testing in the emergency department (ED) to be completed within 72 hours after an evaluation for suspected acute coronary syndrome. Our team analyzed rates of completion for the recommended 72-hour cardiac stress tests and assessed the effect on patient outcomes. We performed a retrospective analysis of ED encounters at 13 KP hospitals. The results demonstrated most patients did not complete outpatient stress testing within the recommended 72 hours after initial evaluation, and outcomes did not differ between patients who were tested within 30-days. The results suggest that there is little benefit to completing guideline-suggested stress testing for low-risk patients. Since disseminating these findings, SCPMG has avoided frequent non-invasive cardiac testing in low-risk patients, leading to a reduction in hospital admissions and the associated administrative costs.

Standardizing the approach of health systems' efforts to improve the safety, quality and the efficiency of health care is vital.

➔ **EFFECT OF A HEART CARE PATHWAY ON CHEST PAIN MANAGEMENT AT KPSC**

Adam L. Sharp, MD, MS

Risk stratification tools such as History, ECG, Age, Risk Factors, Troponin (HEART) are designed to assist clinicians in identifying chest pain patients who are at high risk for acute myocardial infarction. Our team implemented a HEART care pathway for emergency department (ED) use in the evaluation of suspected acute coronary syndrome. We used a prospective interrupted time series analysis of patients evaluated for possible acute coronary syndrome at 13 community hospitals. Patient encounters evaluated for chest pain in the ED resulted in fewer hospitalizations and noninvasive stress testing. Ultimately, HEART improved the efficiency and quality of care and led to improved processes in hospital care and decreased hospital admissions. In response, further studies are underway for implementing new troponin lab testing measures for detecting heart injuries in the ED.

➔ **THE IMPACT OF A SOCIAL NEEDS SCREENING AND REFERRAL PROGRAM ON TOTAL UTILIZATION AMONG HIGH UTILIZERS AT KPSC: A QUASI-EXPERIMENTAL STUDY**

Adam L. Sharp, MD, MS

Social programs addressing patient needs are being utilized in health systems to promote overall well-being and health. Our team collaborated with Health Leads to evaluate a novel social needs screening and referral program to assist members in locating resources. We conducted a quasi-experimental study to assess intervention effects among three low socio-economic status samples: patients of low-education areas, low-income areas, and with Medicaid. Many patients screened reported social needs, but only 10% were able to connect with a resource for these needs. All groups receiving the intervention had decreases in total medical utilization visits. As a result, this study has informed the development of the National KP and KPSC Thrive Local efforts.



RELEVANT PUBLICATIONS

➔ Natsui S, Sun BC, **Shen E, Wu YL**, Redberg RF, Lee MS, Ferencik M, Zheng C, **Kawatkar AA, Gould MK, Sharp AL**. Evaluation of Outpatient Cardiac Stress Testing After Emergency Department Encounters for Suspected Acute Coronary Syndrome. *Ann Emerg Med*. 2019;74(2):216-23.

➔ **Sharp AL, Baecker AS, Shen E**, Redberg R, Lee MS, Ferencik M, Natsui S, Zheng C, **Kawatkar AA, Gould MK**, Sun BC. Effect of a HEART Care Pathway on Chest Pain Management Within an Integrated Health System. *Ann Emerg Med*. 2019;74(2):171-80.

➔ **Park S, Sharp AL**. standardizing the approach of health systems' efforts to improve the safety, quality and efficiency of health care is vital 2019;3:9

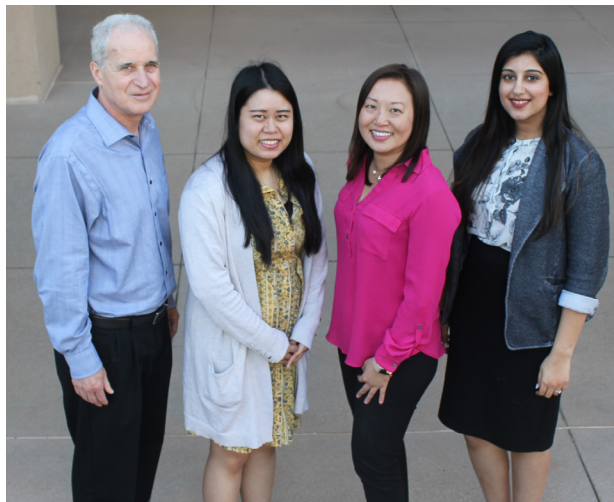
CHARACTERISTICS OF LEARNING HEALTH SYSTEM-BASED RESEARCH PROGRAMS

Brian Mittman, PhD

Interest in learning health care systems is steady growing. While many systems recognize the value and need for embedded research, there is a continued scarcity of such programs and a scarcity of knowledge regarding their prevalence, features, and evidence to guide continued growth and evolution.

In 2019, the CIRT core team led an initiative to strengthen and expand embedded research

“An embedded research program is a key element of a learning health care system.”



Embedded research enhances the relevance, timeliness, value and beneficial use of research in health system decision making by:

- 1 Facilitating the identification of important questions
- 2 Improving study design and conduct
- 3 Providing more valid interpretation of findings
- 4 Increasing the likelihood of adoption of findings

at KPSC. First, the team conducted a literature review and outreach to multiple agencies that conduct health systems research, which resulted in support for an Academy Health Learning Health Care System Interest Group. CIRT, AHRQ and PCORI sponsored the Embedded Research Conference in February 2019, which gathered more than 70 leaders in the field to discuss key issues related to ERPs and the future of such programs. Reports describing the findings from the breakout sessions at the conference are pending publication. Characterizing existing health system-based embedded research programs is a key step toward developing guidance and recommendations for growth and improvement in program design, operations and impact.

FACILITY-SPECIFIC BARRIER ASSESSMENT TO GUIDE LOCAL ADAPTATION OF INTERVENTION STRATEGIES TO INCREASE HPV VACCINATION

Brian Mittman, PhD

HPV vaccination was designated as a KPSC clinical strategic goal for children and women's health in 2016 since HPV vaccines prevent incident infection and pre-cancerous lesions in HPV-naïve individuals. The team conducted a barrier assessment of clinical staff from Montebello and Bellflower Medical Office Buildings (MOB) in early 2019 to identify potential challenges and opportunities for developing locally tailored and co-designed intervention strategies that aim to increase HPV vaccination rates among pre-teen KPSC members. 56 pediatricians, physician assistants, department administrators, nurses, project managers, and medical assistants were included in the survey data collection. Four of the top five barriers were consistent between the two MOB and were all related to parent knowledge and attitude. Bellflower MOB identified a system-level barrier of competing priorities for clinicians as a top barrier to HPV vaccination. This difference, among others found between sites during the barrier assessment, warrants the creation of locally adapted and co-designed interventions for each MOB. The team is assisting stakeholders at each site to develop, implement, and evaluate these interventions that are guided by evidence-based intervention elements for the core functions of HPV vaccination.

RELEVANT PUBLICATION

→ Perez Jolles M, Lengnick-Hall R, Mittman BS. Core Functions and Forms of Complex Health Interventions: a Patient-Centered Medical Home Illustration. *J Gen Intern Med.* 2019;34(6):1032-8.

HOME-BASED PALLIATIVE CARE

Huong Nguyen, PhD, RN

As health care systems strive to meet the growing needs of seriously ill patients with high symptom burden and functional limitations, they need evidence about how best to integrate telehealth tools to optimize the delivery of home-based palliative care (HBPC). During implementation we had to balance the rigors of conducting a clinical trial with pragmatic realities to ensure responsiveness to culture, structures, workforce, workflows of existing programs across multiple sites, and emerging policy and regulatory changes. We built close partnerships with stakeholders across multiple representative groups to define the comparators, prioritize and refine measures and study conduct, and optimize rigor in our analytical approaches. We incorporated extensive fidelity monitoring, mixed-method implementation evaluations, and early planning for dissemination to anticipate and address changes in care delivery and telehealth reimbursement policies.



RELEVANT PUBLICATIONS

→ Nguyen HQ, Mularski RA, Edwards PE, Lynn J, Machado MT, McBurnie MA, McMullen C, Mittman BS, Reinke LR, Shen E, Wang SE, Werch HS, HomePal Research G. Protocol for a Noninferiority Comparative Effectiveness Trial of Home-Based Palliative Care (HomePal). *J Palliat Med.* 2019;22(S1):20-33

→ Wang SE, Liu IA, Lee JS, Khang P, Rosen R, Reinke LF, Mularski RA, Nguyen HQ. End-of-Life Care in Patients Exposed to Home-Based Palliative Care vs Hospice Only. *J Am Geriatr Soc.* 2019;67(6):1226-3

EVALUATION OF PALLIATIVE CARE ACROSS THE CONTINUUM- OUTPATIENT SERVICES

Huong Nguyen, PhD, RN

Research in outpatient, clinic-based palliative care is limited and there is a need to identify effective and scalable models. Our team, in collaboration with City of Hope, set out to evaluate the implementation of a nurse-led lung cancer palliative care intervention and the effect on patient and family caregivers' outcomes. A sequential quasi-experimental study design was conducted at three KPSC sites with a control (phase 1) and intervention (phase 2) cohort. We found quality of life outcomes and care experience for patients had improved. Additionally, caregivers also felt better prepared for their responsibilities (P=0.04). This study led to the standardization of EMR symptom and function assessments across all palliative care services. Videos on palliative care were also disseminated to patients/caregivers for education purposes. This project highlighted the importance of integrating standardized measures that could be used for both research and ongoing quality improvement efforts.

Earlier comprehensive palliative care in patients' home in place of or preceding hospice is associated with fewer hospitalizations and SNF stays and more time at home in the final 6 months of life.

EVALUATION OF PALLIATIVE CARE ACROSS THE CONTINUUM- INPATIENT SERVICES

Huong Nguyen, PhD, RN

Although published studies of inpatient palliative care (IPC) showed improved end-of-life care, the impact of KPSC's IPC services on the quality of end-of-life care and downstream acute care utilization had not been examined. Our team collaborated with the KP Readmissions Steering Committee and palliative care leaders to evaluate the impact of IPC across 11 KPSC medical centers using a retrospective cohort design. Outcomes of IPC exposed patients and non-exposed (controls) before death were compared. IPC exposure was associated with increased utilization, fewer deaths in the ICU (2% vs. 9%) and more deaths at home (51% vs. 41%). Currently a prioritization score for automated referrals into IPC is being developed to proactively identify patients.



SCIENTIST SPOTLIGHT
KRISTEN CHOI, PHD, MS, RN

SCIENTIST SPOTLIGHT

KPSC SPIRIT K12 Project
Evaluation of the Autism Mandate

Dr. Kristen Choi is a health services researcher, child and adolescent psychiatric nurse, and Kaiser Permanente Southern California's (KPSC) first SPIRIT K12 program scholar. SPIRIT (Stakeholder-Partnered Implementation Research and Innovation Translation) is a training program funded jointly by the Agency for Healthcare Research and Quality and the Patient-Centered Outcomes Research Institute. KPSC, UCLA, VA Greater Los Angeles Healthcare System, and the Los Angeles County Department of Health Services partnered to support and mentor early career scientists in patient-centered outcomes research. The program is co-directed by Michael K. Gould, MD, MS (KPSC), and Michael K. Ong, MD, PhD (UCLA).

Dr. Choi participates in mentored, hands-on research projects aimed at bridging the gap between research and practice for improved patient outcomes and health care system performance. According to her mentor, Karen Coleman, PhD, MS, "The addition of Dr. Choi to our department gives us a chance to expand our portfolio in autism health services research. She has been working with our behavioral health leadership in this area for 2 years now and hopes to improve the services we provide for our members with autism. We're looking forward to including Dr. Choi's contributions as part of our growing portfolio in mental health services research."

Dr. Choi's pilot study is titled "Implementation of California's Autism Mandate: Evaluating Services and Patient Outcomes for Children with Autism Spectrum Disorder." The purpose of the project is to evaluate the implementation of California's autism mandate, a requirement for commercial insurers to pay for Applied Behavior Analysis (ABA), within KPSC. The study aims to (1) describe patterns of service referral, receipt, and termination and (2) examine the impact of ASD service receipt characteristics on patient outcomes. The team, which includes Karen Coleman, PhD; Teri Gahre, MS; Tracy Becerra-Culqui, PhD; Elizabeth Knight, MPH; and Bhumi Bhakta, MPH will link public policy implementation to patient outcomes and evaluate patient-centered outcomes and gold standard functional status measures. Preliminary results suggest a need for improved clinical measurement of patient-centered outcomes.

CIRT TEAM DISSEMINATION

The CIRT Team published over 40 peer-reviewed publications and delivered oral presentations, poster presentations, and invited lectures at national conferences, thus demonstrating the relevance of our work outside of Kaiser Permanente Southern California. Selected publications are listed below, highlighting areas of impact in 2019.

Balekian AA, Wisnivesky JP, **Gould MK**. Surgical Disparities Among Patients With Stage I Lung Cancer in the National Lung Screening Trial. *Chest*. 2019;155(1):44-52.

Birken SA, **Hahn EE**, Yu Y, Haines E, Mayer DK, **Mittman BS** (2019): Implementation science as a means of elucidating survivorship care plans' effectiveness. In: Chambers et al (Eds), *Optimizing the Cancer Control Continuum: Advancing implementation effectiveness*. New York; Oxford University Press, 2019 (pp. 234-239).

Burks AC, **Gould MK**, Silvestri G, Yarmus LB, Sears CR, Arenberg DA, Gonzalez AV, Slatore CG, Tanner NT, Vachani A, Nana-Sinkam P, Fuster MM, Wahidi MM, Tanoue LT, Rivera MP. Safely and Effectively Evaluating Computed Tomography-Detected Lung Lesions. Much Work to Be Done. *Ann Am Thorac Soc*. 2019;16(11):1360-2.

Coleman KJ, Johnson E, Ahmedani BK, Beck A, Rossom RC, Shortreed SM, Simon GE. Predicting Suicide Attempts for Racial and Ethnic Groups of Patients During Routine Clinical Care. *Suicide Life Threat Behav*. 2019;49(3):724-34.

Coleman KJ ea. Patterns of Healthcare Utilization Before First Episode Psychosis in Different Racial and Ethnic Groups. *Ethnicity & Disease*. 2019;29:609-16.

Danforth KN, Hahn EE, Slezak JM, Chen LH, Li BH, **Munoz-Plaza CE**, Luong TQ, Harrison TN, **Mittman BS**, Sim JJ, Singh H, Kanter MH. Follow-up of Abnormal Estimated GFR Results Within a Large Integrated Health Care Delivery System: A Mixed-Methods Study. *Am J Kidney Dis*. 2019;74(5):589-600.

Danforth KN, Sidell MA, Luong TQ, Yi DK, Yamamoto A, **Kawatkar AA**, Kim PH, Loo RK, Williams SG. Care Quality and Variability in the Use of Intravesical Therapy for Initial Treatment of Nonmuscle Invasive Bladder Cancer Within a Large, Diverse Integrated Delivery System. *Urology*. 2019;131:93-103.

Dawes AJ, Sacks GD, Needleman J, Brook RH, **Mittman BS**, Ko CY, Cryer HG, Los Angeles County Trauma Consortium. Injury-specific variables improve risk adjustment and hospital quality assessment in severe traumatic brain injury. *J Trauma Acute Care Surg*. 2019;87(2):386-92.

Gould MK, Smith-Bindman R, Kelly K, Altman DE, Barjaktarevic I, **Creekmur B**, de Bie E, Dyer DS, Mortani Barbosa EJ, Jr., Mularski RA, Qi L, Vaszar LT, Yu S, Miglioretti DL. Methods for the Watch the Spot Trial. A Pragmatic Trial of More- versus Less-Intensive Strategies for Active Surveillance of Small Pulmonary Nodules. *Ann Am Thorac Soc*. 2019;16(12):1567-76.

Hahn EE; Ganz PA (2019): Survivorship Care Programs: A Strategy for Improving the Quality of Care for Cancer Survivors. In Holland et al (Eds.), *Psycho-Oncology*, Fourth Edition. New York: Oxford University Press.

Hahn EE, Munoz-Plaza CE, Schottinger JE, Brasfield FM, **Gould MK**, Parry C. Developing innovative models of care for cancer survivors: use of implementation science to guide evaluation of appropriateness and feasibility. *Support Care Cancer*. 2019;27(5):1737-45.

Hahn EE, Wu YL, Munoz-Plaza CE, Garcia Delgadillo J, Cooper RM, Chao CR. Use of recommended posttreatment services for adolescent and young adult survivors of Hodgkin lymphoma. *Cancer*. 2019;125(9):1558-67.

Imam TH, **Coleman KJ**. Obesity and Mortality in End-Stage Renal Disease. Is It Time to Reverse the "Reverse Epidemiology"-at Least in Peritoneal Dialysis? *J Ren Nutr*. 2019;29(4):269-75.

Iyer NP, Reddy CB, Wahidi MM, Lewis SZ, Diekemper RL, Feller-Kopman D, **Gould MK**, Balekian AA. Indwelling Pleural Catheter versus Pleurodesis for Malignant Pleural Effusions. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2019;16(1):124-31.

Kawatkar AA, Gabriel SE, Jacobsen SJ. Secular trends in the incidence and prevalence of rheumatoid arthritis within members of an integrated health care delivery system. *Rheumatol Int*. 2019;39(3):541-9.

Lederer DJ, Au DH, Cooke CR, Dell SD, **Gould MK**, Redline S, Kotloff RM. AnnalsATS: New Developments and Advice for Authors. *Ann Am Thorac Soc*. 2019;16(5):540-2.

Li RA, Liu L, Arterburn D, **Coleman KJ**, Courcoulas AP, Fisher D, Haneuse S, Johnson E, Theis MK, Yoon TK, Fisher H, Fraser JR, Herrinton LJ. Five-year Longitudinal Cohort Study of Reinterventions After Sleeve Gastrectomy and Roux-en-Y Gastric Bypass. *Ann Surg*. 2019.

Natsui S, Sun BC, **Shen E, Wu YL**, Redberg RF, Lee MS, Ferencik M, Zheng C, **Kawatkar AA, Gould MK, Sharp AL**. Evaluation of Outpatient Cardiac Stress Testing After Emergency Department Encounters for Suspected Acute Coronary Syndrome. *Ann Emerg Med*. 2019;74(2):216-23.

Nguyen HQ, Moy ML, **Liu IA**, Fan VS, **Gould MK**, Desai SA, Towner WJ, Yuen G, **Lee JS**, Park SJ, Xiang AH. Effect of Physical Activity Coaching on Acute Care and Survival Among Patients With Chronic Obstructive Pulmonary Disease: A Pragmatic Randomized Clinical Trial. *JAMA Netw Open*. 2019;2(8):e199657.

Nguyen HQ, Mularski RA, Edwards PE, Lynn J, Machado MT, McBurnie MA, McMullen C, **Mittman BS**, Reinke LR, **Shen E**, Wang SE, Werch HS, HomePal Research Group. Protocol for a Noninferiority Comparative Effectiveness Trial of Home-Based Palliative Care (HomePal). *J Palliat Med*. 2019;22(S1):20-33

Park S, Sharp AL. Improving Health and Health Care Efficiency through Risk Management. *J Hosp Manag Health Policy*. 2019;3:9

Perez Jolles M, Lengnick-Hall R, Mittman BS. Core Functions

and Forms of Complex Health Interventions: a Patient-Centered Medical Home Illustration. *J Gen Intern Med*. 2019;34(6):1032-8.

Pergolotti M, Alfano CM, Cernich AN, Yabroff KR, Manning PR, de Moor JS, **Hahn EE**, Cheville AL, Mohile SG. A health services research agenda to fully integrate cancer rehabilitation into oncology care. *Cancer*. 2019;125(22):3908-16.

Raz DJ, Wu G, Nelson RA, Sun V, Wu S, **Alem A, Haupt EC**, Ismail MH, **Gould MK**. Perceptions and Utilization of Lung Cancer Screening Among Smokers Enrolled in a Tobacco Cessation Program. *Clin Lung Cancer*. 2019;20(1):e115-e22.

Reddy CB, DeCamp MM, Diekemper RL, **Gould MK**, Henry T, Iyer NP, Lee YCG, Lewis SZ, Maskell NA, Rahman NM, Serman DH, Wahidi MM, Balekian AA, Feller-Kopman DJ. Summary for Clinicians: Clinical Practice Guideline for Management of Malignant Pleural Effusions. *Ann Am Thorac Soc*. 2019;16(1):17-21.

Schickedanz A, Hamity C, Rogers A, **Sharp AL**, Jackson A. Clinician Experiences and Attitudes Regarding Screening for Social Determinants of Health in a Large Integrated Health System. *Med Care*. 2019;57 Suppl 6 Suppl 2:S197-S201.

Schickedanz A, **Sharp AL**, Hu YR, Shah NR, Adams JL, Francis D, Rogers A. Impact of Social Needs Navigation on Utilization Among High Utilizers in a Large Integrated Health System: a Quasi-experimental Study. *J Gen Intern Med*. 2019;34(11):2382-9.

Sears CR, Peikert T, Possick JD, Naidoo J, Nishino M, Patel SP, Camus P, Gaga M, Garon EB, **Gould MK**, Limper AH, Montgrain PR, Travis WD, Rivera MP. Knowledge Gaps and Research Priorities in Immune Checkpoint Inhibitor-related Pneumonitis. An Official American Thoracic Society Research Statement.

Am J Respir Crit Care Med. 2019;200(6):e31-e43.

Sharp AL, Baecker AS, Shen E, Redberg R, Lee MS, Ferencik M, Natsui S, Zheng C, **Kawatkar A, Gould MK**, Sun BC. Effect of a HEART Care Pathway on Chest Pain Management Within an Integrated Health System. *Ann Emerg Med*. 2019;74(2):171-80.

Stadnick NA, Brookman-Frazee L, Mandell DS, Kuelbs CL, **Coleman KJ**, Sahms T, Aarons GA. A mixed methods study to adapt and implement integrated mental healthcare for children with autism spectrum disorder. *Pilot Feasibility Stud*. 2019;5:51.

Stewart CC, Lu CY, Yoon TK, **Coleman KJ**, Crawford PM, Lakoma MD, Simon GE. Impact of ICD-10-CM Transition on Mental Health Diagnoses Recording. *EGEMS (Wash DC)*. 2019;7(1):14.

Tran KA, Melnick ER, Raja AS, **Sharp AL**, Trottier ME, Archambault PM. Applicability of the Canadian CT Head Rule in Minimal Head Injury. *Ann Emerg Med*. 2019;73(1):97-8.

Van Winkle PJ, Ghobadi A, Chen Q, Menchine M, **Sharp AL**. Opioid prescribing patterns in emergency departments and future opioid use in adolescent patients. *Am J Emerg Med*. 2019; S0735-6757(19)30672-2

Wan ES, Goldstein RL, Fan VS, **Nguyen HQ**, Hart JE, Garshick E, Orr EH, DeVivo I, Moy ML. Telomere length in COPD: Relationships with physical activity, exercise capacity, and acute exacerbations. *PLoS One*. 2019;14(10):e0223891.

Wang SE, **Liu IA, Lee JS**, Khang P, Rosen R, Reinke LF, Mularski RA, **Nguyen HQ**. End-of-Life Care in Patients Exposed to Home-Based Palliative Care vs Hospice Only. *J Am Geriatr Soc*. 2019;67(6):1226-3

Waterman AD, Anderson C, **Alem A**, Peipert JD, Beaumont JL, Henry SL, **Dub B**, Ambriz L, Bijjala N, Lipsey AF, **Mittman B**. A randomized controlled trial of Explore Transplant at Home to improve transplant knowledge and decision-making for CKD 3-5 patients at Kaiser Permanente Southern California. *BMC Nephrol*. 2019;20(1):78.

Yarborough BJH, Ahmedani BK, Boggs JM, Beck A, **Coleman KJ**, Sterling S, Schoenbaum M, Goldstein-Grumet J, Simon GE. Challenges of Population-based Measurement of Suicide Prevention Activities Across Multiple Health Systems. *EGEMS (Wash DC)*. 2019;7(1):13.

Young DR, Nguyen MK, Yamamoto A, Pomichowski M, Cornejo M, Paz S, **Coleman KJ**, Sallis RE, Fortmann SP. Telephone-based motivational interviewing versus usual care in primary care to increase physical activity: a randomized pilot study. *Pilot Feasibility Stud*. 2019;5:6.

INVITED SPEAKER AND ORAL ABSTRACT PODIUM PRESENTATIONS

Coleman KJ. Invited speaker, American College of Epidemiology (ACE) Annual Meeting. Pasadena, CA; August 2019.

Gould MK. Invited speaker, Cedars Sinai Medical Center Symposium. Los Angeles CA; February 2019.

Gould MK. Invited speaker, American College of Epidemiology (ACE) Annual Meeting. Pasadena, CA; September 2019.

Hahn EE. Invited speaker, Kaiser Permanente Interregional Shared Decision-Making Group: Implementation and effectiveness of decision aids for breast cancer screening." Interregional webinar, February 13, 2020.

Hahn EE, Haupt EC, Ahuja A, Wakach W, Imley T, **Mittman BS, Gould MK, Shen E**, Kanter MH. Oral abstract podium presentation, Health Care Systems Research Network Annual Meeting: "Use of Novel Patient-facing, Self-directed Health Information Technology to Improve Patient Engagement in Preventive Care: Focus on Colorectal Cancer Screening"; Portland, OR; April 8-10 2019.

Hahn EE. Invited speaker, Cancer Informatics for Cancer Centers Spring Symposium: "Adolescent and young adult cancer survivors: Current research opportunities." Santa Barbara, CA, April 19-21, 2020.

Hahn EE, Munoz-Plaza CE, Pounds D, Lyons LJ, Lee JS, Shen E, La Cava S, Brasfield F, Durna L, Kwan K, Beard D, Ferreira A, Schottinger JE, **Mittman BS, Gould MK**. Oral abstract podium presentation, American Society of Clinical Oncology Quality Symposium "Pragmatic randomized trial of a distress screening implementation using an effectiveness-implementation hybrid design." San Diego, CA; September 6-8, 2019.

Hahn EE. Invited speaker, Kaiser Permanente National Breast Oncology Meeting: "Kaiser Permanente Southern California Department of Research and Evaluation: Overview of cancer research" Newport Beach, CA, October 4-5, 2019.

Hahn EE, Elkin EB, Munoz-Plaza CE, Wu Y, Pounds D, Wu S, Soto AV, Wood CH, Farr SL, Park Y, **Gould MK**, Polaneczky MM. Oral abstract podium presentation, Society for Medical Decision Making Annual Research Conference: "A mixed-methods hybrid effectiveness-implementation study of an online breast cancer screening decision aid designed to facilitate informed decision-making for low-to-average risk women in their 40s." Portland, OR; October 21-23, 2019.

Mittman B. Invited speaker, Society of Behavioral Medicine. Washington, DC; March 2019.

Mittman B. Invited speaker, American Society of Preventive Oncology (ASPO). Tampa, FL; March 2019.

Mittman B, Dub B, Hsu C, Musigdilok V, Ovretveit J, **Gould MK**. Oral abstract podium presentation, Characteristics of Learning Health System-Based Research Programs. Health Care Systems Research Network Annual Conference; Portland, OR; April 8-10 2019.

Nguyen H. Panel presentation, Optimizing the delivery of home-based palliative care: Experiences from PCORI's ongoing large, multi-site clinical trials. American Academy of Hospice and Palliative Medicine. Orlando, FL. 2019.

Nguyen HQ, Liu AI, Moy ML, Fan VS, **Gould MK**, Desai S, Towner W, Yuen G, **Lee JS, Park SJ**, Xiang A. Oral abstract podium presentation, Effect of Physical Activity Coaching on Acute Care Utilization and Survival in COPD: A Pragmatic Randomized Controlled Trial (Walk On!). ATS 2019 International Conference, Dallas, TX. 2019

Sharp AL. Invited speaker, Integrating Research and Practice. American College of Epidemiology Annual Meeting. Pasadena, CA. September 9, 2019.

Sharp AL. Invited speaker, Health System and Community Organization Partnerships to Address Social Risks. Health Leads Community Health Partnerships Forum. Los Angeles, CA. September 6, 2019.

Sharp AL. Invited speaker, How do we measure and define success of Social Determinants of Health in the Clinical Context: Is ROI achievable? Clarify Health Executive Leadership Conference. San Francisco, CA. June 2019.

Sharp AL. Invited speaker, Embedding Science Within the KPSC Learning Health System. KPSC Research and Evaluation Department's Research Seminar. Pasadena, CA. May 28, 2019

Sharp AL. Invited speaker, Diagnostic Accuracy: Measurement, Implications and Improving Patient Outcomes. Kaiser Permanente National Stroke Conference. Anaheim, CA. April 11, 2019.

Sharp AL. Invited speaker, Head CT After Trauma: Use a Decision Rule. Los Angeles Medical Center Resident Grand Rounds.

Shen E, Lee JS, Creekmur B, Mularski R, Crawford P, Go A, Sung SH, Tahada G, **Gould MK, Nguyen HQ**. Oral abstract podium presentation, A Descriptive Study of Multi-Morbidity in COPD Using a Community-Based Sample. ATS 2019 International Conference, Dallas, TX; January 2019.

ABSTRACTS AND POSTER PRESENTATIONS

Altman D, **Lin B, Baecker A**, Samuels-Kalow M, **Shen E**, Sun B, **Wu YL, Sharp AL**. Physician Adherence to Chest Pain Recommendations in the Emergency Department (ED) Among Patients with Limited English Proficiency. Academy Health National Conference. Washington, D.C. June 2019.

Hsu C, Chao C, Cannizzaro N, **Dub B, Musigdilok V, Mittman B**. Facility-specific barrier assessment to guide local adaptation of intervention strategies to increase Human Papillomavirus (HPV) vaccination. Health Care Systems Research Network Annual Conference; Portland OR. Apr 8-10, 2019

Coleman KJ. American Society for Metabolic and Bariatric Surgery (ASMBS) Annual Meeting: ObesityWeek 2019. Las Vegas, NV; November 2019.

Dragnich AG, Yee A, **Nguyen HQ**, Gyls-Colwell I, Locke ER, Moy ML, Magzamen S, Fan VS. Determinants of Physical Activity in Patients with COPD: A 3-month Cohort Study. ATS 2019 International Conference, Dallas, TX. 2019

Dragnich AG, Pike K, Swenson ER, Adams S, **Nguyen HQ**, Fan VS. Association of anemia and health related quality of life in patients among patients with chronic obstructive pulmonary disease. ATS 2019 International Conference, Dallas, TX. 2019

Hahn EE, Munoz-Plaza CE, Pounds D, Lyons LJ, Lee JS, Shen E, La Cava S, Brasfield F, Durna L, Kwan K, Beard D, Ferreira A, Schottinger JE, **Mittman BS, Gould MK**. Pragmatic randomized trial of a distress screening implementation using an effectiveness-implementation hybrid design. National Oncology Symposium, Los Angeles, CA, November 8-9, 2019.

Kawatkar AA. Evaluation of Rheumatoid Arthritis Patients' Preferences Using Discrete Choice Experiment. American College of Rheumatology (ACR/ARP) Annual Meeting. Atlanta, GA; November 2019.

Kawatkar AA, Sharp AL, Baecker AS, Natsui S, Redberg RF, Lee MS, Ferencik M, **Wu YL, Shen E**, Zheng C, **Musigdilok V**, Sun BC. Risk Stratification to Improve the Benefit of Non-Invasive Cardiac Testing in Suspected Acute Coronary Syndrome. American Heart Association Scientific Sessions. Philadelphia, PN; November 2019.

Haupt EC, Padilla A, Sharma A, Andres G, Khang P, Reich S, **Nguyen HQ**. The HomePal Research Group. Symptom burden at presentation to outpatient palliative care and home-based palliative care. 2019.

Mularski R, **Shen E, Lee JS**, Crawford P, Go A, **Nguyen HQ** (2019, Poster). Multi-Morbidity in Chronic Obstructive Pulmonary Disease Across Three Geographic Regions of a Large Integrated Healthcare Organization. HCSRN Meeting, Portland, OR. 2019

Musigdilok V, Mittman B, Ovretveit J. Research Impact Optimization: Building on Existing Research Impact. Health Care Systems Research Network Annual Conference; Portland OR. April 8-10 2019.

Vanwinkle PJ, Chen Q, Ghobadi A, Menchine MD, **Sharp AL**. Association of Physician Opioid Prescribing Patterns and Future Opioid Use for Adolescents Treated in Community Emergency Departments. Pediatric Hospital Medicine Conference Poster Presentation. Seattle, WA. July 28th, 2019.

Wan ES, Goldstein R, Fan VS, **Nguyen HQ**, Garshick E, DeVivo I, Moy ML. (2019, Poster) Telomere Length in COPD: Relationships with Physical Activity, Exercise Capacity and Acute Exacerbations. ATS 2019 International Conference, Dallas, TX. 2019.

Yohannes A, Kohen R, **Nguyen HQ**, Fan VS. Lack of Association Between the Serotonin Transporter Gene Polymorphism and Depressive Symptoms in Patients with Chronic Obstructive Pulmonary Disease. ATS 2019 International Conference, Dallas, TX. 2019.

Zheng C, Sun BC, Lee MS, **Wu YL, Lin B, Shen E**, Redberg RF, Ferencik M, Natsui S, **Kawatkar AA, Gould MK, Sharp AL**. An Automated Natural Language Processing Algorithm to Identify Electrocardiogram Treadmill Stress Test Results for Emergency Department Patients. Society for Academic Emergency Medicine Annual Meeting, Las Vegas, NV; May 2019.

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ACKNOWLEDGMENTS

The 2019 CIRT Annual Report was produced by the CIRT Communications Team: Angel Alem, Natalie Firmeza, Carol Flores, and Salena Preciado in March 2020.
Photography by Steven Kirk, Zachary Thachet.