Stanford MEDICINE | Department of Medicine

Stanford Medicine Residency Research Interest Group Newsletter

Volume 4 Issue 2 | June 2020

Dear Colleagues,

Welcome to the Spring 2020 edition of our medicine residency research newsletter! This publication is aimed at both highlighting our residents' exciting projects as well as informing trainees and recruits about the types of investigations being performed at Stanford. We define *research* comprehensively, including scholarly work done in quality improvement, global health, outcomes research, medical education, clinical investigation, translational research, implementation science, qualitative studies, clinical trials, and device/service innovation. Without further ado:

Stanford Resident Researcher Spotlight:

This Spring, we have the incredible opportunity to spotlight one of our true research superstars, **Sarah Waliany**!

Tell us a little about yourself
SW: I did not always know that I wanted to become a physician. My first dream was to become a scientist. In eighth grade, I contacted several research labs near my home in Los Angeles. One person replied: Dr. Wendie Johnston, a faculty member at a local community college invited me to join her free biotechnology summer course for high school and college students. The best way for me to describe that course is Disneyland for a kid with a scientist's soul. That summer, I learned pipetting, gel electrophoresis, and other very basic techniques. Dr. Johnston introduced me to Dr. Susan Kane at City of Hope Comprehensive Cancer Center. I spent three summers in high school in Dr. Kane's lab studying mechanisms underlying resistance of HER-2 positive breast cancer cells to trastuzumab.

Hoping to gain context to the significance of my lab work, the summer before senior year of high school, I shadowed breast oncologist Dr. Joanne Mortimer in her clinic at City of Hope. In those months, I felt a surreal sense of humility in learning from the resilient women who were the basis behind my research. Those months were a turning point in my life. Previously on a path towards becoming a basic science investigator, I changed directions towards becoming a physician.

As an undergraduate at University of Southern California, I worked as a Clinical Research Assistant at City of Hope. For 4 years, I scheduled my courses around Dr. Mortimer's clinic, allowing me to continue shadowing her while recruiting patients for a prospective study evaluating whether measures of physical function were correlated with self-reported fatigue in patients with cancer. As a medical student at Stanford, I co-enrolled in the Master's Degree Program in Epidemiology and Clinical Research. Discovering my interest in cardio-oncology, I worked with Dr. Sandy Srinivas and Dr. Ronald Witteles on a retrospective study evaluating adverse cardiac events from tyrosine kinase inhibitors that target vascular endothelial growth factor in patients with metastatic renal cell carcinoma.

Tell us about your current QI/research activities
SW: As a resident at Stanford, I have been fortuitous enough to work on several clinical and translational studies in the field of cardio-oncology. Under the mentorship of Dr. Joel Neal, Dr. Ronald Witteles, and cardiology fellow extraordinaire Dr. Han Zhu, I have been working on a prospective study evaluating the role of troponin-based cardiotoxicity surveillance in detecting myocarditis from immune checkpoint inhibitors in patients with multiple malignancy types. This study has truly transformed my experience as a resident. With Dr. Zhu and me working together as a "cardio-oncology response team," efficiency has become essential in allowing me to balance my duties as a resident with my role in responding in real time to cases of positive troponins.

Why Stanford?
SW: Having been a medical student at Stanford, I knew well before the residency application process that Stanford provides ample opportunities to find fantastic clinical and research mentors. Stanford also has an incredible group of faculty who share my interest in cardio-oncology, which has allowed me to continue my research pursuits in this field as a resident. Additionally, having seen first-hand as a medical student just how tirelessly the Stanford internal medicine residents pull together to help each other through difficult, unpredictable life circumstances, I also knew that the Stanford IM residents are a family at their core, and I have been honored to become a part of that family.

What advice do you have for interns and residents interested in scholarly activity?
SW: Start looking for mentors during the first half of intern year. By asking senior residents about their experiences with different faculty members, look for faculty who have a strong track record for mentoring and publishing with residents. If you have a chance to work in clinic or on the inpatient side with faculty in your field of interest, discuss your academic interests with them, and you may be surprised what opportunities come your way.

Resident Research Symposium:

Not even a pandemic could stop the Third Annual Stanford Internal Medicine Research Symposium, which took place virtually on April 21st. Twenty-five of our residents presented their research to a panel of some of the most prestigious research faculty at Stanford, all over Zoom. The turnout from residents and faculty was tremendous and inspiring.

We would like to thank Dr. Angela Rogers and the Internal Medicine Residency Staff for organizing the symposium as well as the incredible research mentors and panelists who made this possible. Most of all we would like to congratulate all the residents for their inspiring work over the last year.

Symposium Presenters

Nadeem Abou-Arraj: Improving long-term care for patients with drug and alcohol use disorders admitted to internal medicine
Duaa Al-Rawi: Stressed out: DNA damage delivered at ultrahigh dose rates reduces cellular stress and apoptosis
Jason Batten: Variation in the Design of Do-Not-Resuscitate Orders and Other Hospital Code Status Options: A Multi-Institutional Qualitative Study
James Dickerson: Health Disparities in Variants of Unknown Significance in Cancer Care
Theresa Dunham: Electronic Antibiotic Allergy Decision Tool Increases Decision Confidence Among Residents
Erik Ekhert: Assessing the Adequacy of HIV Pre-Exposure Prophylaxis and STI Prevention in MSM at the Stanford Internal Medicine Clinics
Jiho Han: Take the first available heart: Use of higher-risk donors in recipients with pre-transplant mechanical circulatory support
Mita Hoppenfeld: Resident Obesity Management: Comfort Correlates with Action
Rebecca Linfield: Does cost transparency affect prescribing patterns?
Max McClure: Presence of antibodies against Haemophilus influenzae serotype a in Alaska prior to and after the emergence of invasive infections
Eugenia Miranti: Epidemiology of Invasive Fungal Infections During Induction Chemotherapy in Adults with Newly Diagnosed Acute Myeloid Leukemia Without Antifungal Prophylaxis: A Retrospective Cohort Study
Andrew Moore: High Plasma IL-18 is Predictive of Mortality Independent of Latent Class Analysis Subphenotype: A Secondary Analysis of the SAILS and HARP-2 Trials
Olufolarin Oke: The $2.4 million dollar reminder: Reducing Medicare 1-day write-offs due to inappropriate admission orders
Shaun Pienkos: Effect of Rosuvastatin on Mortality in ARDS Patients with Low Cholesterol: A Secondary Analysis of the SAILS Study
Meera Ragavan: Impact of Dual-Eligible Status on Survival in Medicare patients with Lung Cancer
Ramon Ramirez: Characterization of Hispanics with PAH in the US: The Pulmonary Hypertension Association Registry
Manan Shah: Burden of unplanned lung cancer care attributable to therapy
Gabriela Spencer-Bonilla: Statin Use in Older Adults with Stable Atherosclerotic Cardiovascular Disease
Elena Vasti: Patients with Methamphetamine-Associated Pulmonary Arterial Hypertension (PAH) Have Less Favorable Hemodynamics Than Other Patients with Group 1 PAH
Sarah Waliany: Cardiotoxicity Surveillance with Troponin I during Treatment with Immune Checkpoint Inhibitors
Benjamin Weia: Suboptimal Screening for Primary Hyperparathyroidism Among Veterans with Urinary Stones
Thomas Yang Sun: Comparative genomic analysis of high-grade neuroendocrine neoplasms across diverse organs
Aaron Yeoh: Effects of Bariatric Surgery on Obesity-Related Visual Processing Impairment
Maggie Zhou: Single-Institution Retrospective Review of Patients with Advanced Soft Tissue Sarcoma Treated with Ipilimumab and Nivolumab Followed by Maintenance Nivolumab

Papers and Presentations:

Congratulations to the following authors for their recent publications and presentations in the past year!

Third Year Residents:

Nadeem Abou-Arraj, Goel A, Shieh L, Raheemullah A. Improving long-term care for patients with drug and alcohol use disorder admitted to internal medicine. Quality Improvement & Patient Safety Symposium. Palo Alto, CA. 5/2020. [Poster Presentation]

Julia Armendariz, **Carla Tamayo**, Slade J, Belitskaya-Levy I, Gray C, Allaudeen N. Characterizing interruptions to attending rounds on an academic general medicine service. Quality Improvement & Patient Safety Symposium. Palo Alto, CA. 5/2020. [Poster Presentation]

Julia Armendariz, Andrew Moore, Caton J, Hom J, Hosamani P. Communication skills workshop. Stanford School of Medicine. 4/2020. [Curriculum development and first annual workshop]

Julia Armendariz, Keller T, Xu S, Chen J, Rogers A. Differences in volume resuscitation in elderly patients with sepsis. American Thoracic Society International Conference. Dallas, TX. 5/2019. [Poster Presentation]

Erik Ekhert, Caceres W. Preliminary Results of an intervention to improve HIV PrEP administration & STI screening for MSM in the Stanford Internal Medicine clinics. Quality Improvement & Patient Safety Symposium. Palo Alto, CA. 5/2020. [Poster Presentation]

Mayhew MB, Buturovic L, Luethy R, Midic U, **Andrew Moore**, Roque J, Shaller B, Asuni T, Warling D, Remmel M, Choi K, Wacker J, Khatri P, Rogers AJ, Sweeney TE. A 29-mRNA neural-network classified for acute bacterial and viral infections generalizes across settings and platforms. Nature Communications. 2020. [PMID: 32132525]

Brian Brady, **Meera V Ragavan**, Simon M, Chertow G, Milstein A. Exploring attributes of high-value nephrology care. Journal of the American Society of Nephrology. 2019; 30 (12) 2464-2472. [PMID: 31727849]

Meera V Ragavan, Das M. Systemic therapy of extensive stage small cell lung cancer in the era of immunotherapy. Current Treatment Options in Oncology. [Accepted- In Press, doi 10.1007/s11864-020-00762-8]

Tara Ramaswamy, Srinivasan M. Improving the quality and ease of outpatient preoperative evaluations. Quality Improvement & Patient Safety Symposium. Palo Alto, CA. 5/2020. [Poster Presentation]

Aaron Yeoh, Wong K, Smart J, Liston D, Papademetriou S, Azagury D, Okafor P. Effects of Bariatric Surgery on Obesity-Related Visual Processing Impairment. Digestive Disease Weekly Conference. Chicago, IL 2020 [Abstract]

Second Year Residents:

Theresa Dunham, Fasani D, Lippner E, Halpern-Felsher B, Liu A. Antibiotic Decision Support Tool Improves Management of beta lactam allergies. Quality Improvement & Patient Safety Symposium. Palo Alto, CA. 5/2020. [Poster Presentation]

Fletcher CE, Suplice E, Combe S, Shibakawa A, Leach DA, **Mark P Hamilton,** et al. Androgen receptor-modulatory microRNAs provide insight into therapy resistance and therapeutic targets in advanced prostate cancer. 2019. Oncogene. [PMID: 31043708]

Bader DA, Hartig SM, Putluri V, Foley C, **Mark P Hamilton**, et al. Mitochondrial pyruvate import is a metabolic vulnerability in prostate adenocarcinoma. 2019. Nature Metabolism, 1(1). [PMID: 31198906]

Rheinbay E, Nielsen MM, Abascal F, Wala JA, Shapira O, Tiao G, Hornshøj H, Hess JM, Juul RI, Lin Z, Feuerbach L, Sabarinathan R, Madsen T, Kim J, Mularoni L, Shuai S, Lanzós A, Herrmann C, Maruvka YE, Shen C, Amin SB, Bandopadhayay P, Bertl J, Boroevich KA, Busanovich J, Carlevaro-Fita J, Chakravarty D, Chan CWY, Craft D, Dhingra P, Diamanti K, Fonseca NA, Gonzalez-Perez A, Guo Q, **Mark P Hamilton**, et al. Analyses of non-coding somatic drivers in 2,658 cancer whole genomes. 2020. Nature Feb;578(7793):102-111. [PMID: 32025015]

Koh EH, Chernis N, Saha PK, Xiao L, Bader DA, Zhu B, Rajapakshe K, **Mark P Hamilton**, Lui X, Perera D, Chen X, York B, Trauner M, Coarfa C, Bajaj M, Moore DD, Deng T, McGuire SE, Hartig SM. miR-30a remodels subcutaneous adipose tissue inflammation to improve insulin sensitivity in obesity. 2018. Diabetes, Jul, db171378. [PMID: 30002134]

Ashwin Nayak, Ouyang D, Ashley EA. A deep learning algorithm accurately detects pericardial effusion on echocardiography. 69th Annual Convocation of the American College of Cardiology. Chicago, IL. March 28, 2020. [Moderated Poster Presentation]

Gabriela Spencer-Bonilla, Thota A, Organick P, Ponce OJ, Kunneman M, Giblon R, Branda ME, Sivly AL, Behnken EM, May CR, Montori VM. Normalization of a conversation tool to promote shared decision making about anticoagulation in patients with atrial fibrillation within a practical randomized trial of its effectiveness. Trials. 2020 May 12. [PMID: 32398149]

Eagen D, **Gabriela Spencer-Bonilla**, Maraka S Aggarwal M, Singh Ospina N. Management of hypothyroidism in patients with acute myocardial infarction. Medicina. 2020 Apr 28. [PMID 32353935]

Rodríguez-Gutiérrez R, Salcido-Montenegro A, Singh-Ospina NM, Maraka S, Iñiguez-Ariza N, **Gabriela Spencer-Bonilla**, Tamhane SU, Lipska KJ, Montori VM, McCoy R. Hypoglycemia as a Quality Measure in Diabetes Study Group. Documentation of hypoglycemia assessment among adults with diabetes during clinical encounters in primary care and endocrinology practices. Endocrine. 2019 Dec 4. [PMID: 31802353]

Gabriela Spencer-Bonilla, Chung S, Heidenreich P, Palaniappan L, Rodriguez F. Statin use in elderly patients with atherosclerotic cardiovascular disease. American College of Cardiology's 69th Annual Scientific Sessions. Chicago, IL 2020 [E-Poster Presentation]

First Year Residents:

Shearer E, **Jason Batten**, Ramkumar M, Kopecky K, Manella H, Shieh L, Harman S, Teuteberg W, Magnus D. Decreasing discordance in code status ordering and interpretation at SHC. Quality Improvement & Patient Safety Symposium. Palo Alto, CA. 5/2020. [Poster Presentation]

Michelle Chiu, Lipka MB, Bhateja P, Fu P, Dowlati A. A detailed smoking history and determination of MYC status predict response to checkpoint inhibitors in advanced non-small cell lung cancer. Translational Lung Cancer Research. 2020. [PMID: 32206553]

Rebecca Linfield, Wang B, Desai J, Shieh L. Cost transparency affected expensive drug prescribing and IV to PO substitution. Quality Improvement & Patient Safety Symposium. Palo Alto, CA. 5/2020. [Poster Presentation]

Max McClure, Machalaba C, Zambrana-Torrelio C, Feferholtz Y, Lee KD, Daszak P, Future Earth oneHEALTH Global Research Project, Karesh WB. Incorporating health outcomes into land-use planning. Ecohealth. 2019. [PMID: 31705335]

Wang H, Bilbao MS, Miller SL, **Christian T. O'Donnell**, Boyd JH. Endoscopic radial artery harvesting during anesthesia line placement reduces the time and cost of multivessel coronary artery bypass grafting. Innovations: Technology and Techniques in Cardiothoracic and Vascular Surgery. 2020. [PMID: 31903868]

Wang H, Bajaj SS, Williams KM, **Christian T. O'Donnell**, Sanchez M, Boyd JH. Defining the academic coronary surgical specialist: a multi-dimensional analysis of New York state surgeon-specific public-reporting data. International Coronary Congress. New York City, New York. 2019. [Abstract]

Matthaiou EI, **Christian O'Donnell**, Sharifi H, Owyang C, Brondstetter T, Hsu JL. Safety and tolerability of pirfenidone for bronchiolitis obliterans syndrome after hematopoietic cell transplant (STOP-BOS) – an interim analysis". American Thoracic Society 2020 International Conference. Philadelphia, Pennsylvania. 2020. [Oral Presentation]

Christian O'Donnell, Lawerence KA, Sow M, Fatehi P, Hennessey EK. The integration of a multi-organ system case-based approach with step-1 preparation material to improve the science of medicine Q6 course at Stanford School of Medicine. Virtual Stanford Innovations in Medical Education Conference V (SIMEC V). Stanford, California. 2020. [Oral Presentation]

Chan J, **Aditya Ullal, Benjamin Catanese**, Tamura L, Blomain E, **Nivetha Subramanian**, Mitchell A, Meneses J, Vyas A, Shieh L. "Ask Me How!" a provider-driven intervention to increase usage of the inpatient MyHealth app. Quality Improvement & Patient Safety Symposium. Palo Alto, CA. 5/2020. [Poster Presentation]

Maggie Zhou, Joshi N, Raj K, Wakelee H, Neal J. PD-1/PD-L1 checkpoint inhibitor immunotherapy for malignant pleural mesothelioma: case series and literature review. Clinical Lung Cancer. [In-Press]

Best,
Stanford Internal Medicine Research Interest Group

If you have research you'd like to have highlighted in the newsletter (or know of work other residents or recent graduates have taken part in) or are interested in being involved in the research interest group please make sure to email us at gspencer@stanford.edu