JUNIOR LEVEL PROMOTION (CLINICAL ASSISTANT PROFESSOR)

M-CV Entry

My focus is to improve the hands-on training of neurosurgical skills for the neurosurgery residents. I perform spine surgeries exclusively and use the five most commonly performed surgeries as a framework to improve all of their surgical skills. This training is sorely needed and my goal is for all residents to be independent spine surgeons prior to graduation.

Scholarly Clinical Portfolio

I am currently a Clinical Instructor seeking promotion to Clinical Assistant Professor. I am still establishing a clinical pathway but am currently focusing on the Clinical Educator pathway.

SENIOR LEVEL PROMOTION (CLINICAL ASSOCIATE OR CLINICAL PROFESSOR)

Clinician-Individualized

M-CV Entry

My scholarly contributions have focused on the impact of emerging health policy programs and, more recently, have converged on the role of insurance in infertility care. I have published broadly and deeply about the local impact of federal health policy including new alternative payment models like bundled payment programs. As a result, I have been invited to serve on or lead several national committees and was awarded the American Urological Association's James Gallagher Health Policy Scholar Award in 2017. Of late, I have concentrated on applying my skills to the clinical focus of my career, male infertility. I have published about inequities in state insurance laws for infertility care and have developed a national reputation for being a leading scholar in this field, as witnessed by my invited publications and election to the Board of Directors of the Society for the Study of Male Reproduction.

Scholarly Clinical Portfolio

My scholarly contributions have focused on the impact of emerging health policy programs on physicians and their patients and, more recently, have converged on the role of health policy and insurance in infertility care.

I have published broadly and deeply about the local impact of federal health policy including new alternative payment models like bundled payment programs. For the past 3 years, I have also led the Michigan Value Collaborative, a statewide quality improvement organization that aims to help hospital leaders respond to state and federal payment reform efforts and improve the value of patient care. As a result, I have been invited to serve on or lead several national committees and was awarded the American Urological Association’s James Gallagher Health Policy Scholar Award in 2017.

Of late, I have concentrated on applying the skills I learned studying federal health policy to my clinical focus, male infertility care. I have published about inequities in state insurance laws for infertility care and have developed a national reputation for being a leading clinician and scholar in this field, as witnessed by my invited publications, invitations to participate in national meetings, and election to the Board of Directors of the Society for the Study of Male Reproduction.

Clinician-Leader/Administrator

M-CV Entry

I currently serve as the Director of Transplant Anesthesia which involves coordination between transplant surgical and hepatology teams in addition to organizing the schedule for clinical coverage. In addition, I serve as the Fellowship Director for Transplant Anesthesia, am a member of the Anesthesia Resident Program Evaluation Committee and regularly take part in the resident selection process. At an institutional level, I was nominated to be part of Michigan Medicine's Glycemic Control Committee in writing a protocol for perioperative management. At a national level, I have been working with the Society for Advancement in Transplant Anesthesia to establish a formalized fellowship in transplant anesthesia. I was elected to the Quality and Clinical Improvement Committee of the Society for Advancement in Transplant Anesthesia and was invited to join the American Society of Anesthesiologists Abstract Review Subcommittee on Patient Safety and Practice Management.

Scholarly Clinical Portfolio

My main areas of research include Ventricular assist device and non-cardiac surgery and perioperative glycemic control. My initial inspiration on this subject was a clinical situation I was involved when looking after a patient with an assist device for a major colorectal surgery. This led to an initial publication of a case report with a literature review. I had a constant quest to keep myself up to date on this subject and answers to improve care. This led to a publication in anesthesiology as one of the largest retrospective study in the literature to date. Along this line of interest, I was the senior corresponding author of a concise review of management of patient with ventricular assist device for non-cardiac surgery. We are continuing to collaborate with our cardiac surgical team to access the national assist device registry to answer some of the unanswered questions.

My other research focus is glycemic control in the perioperative period. My work on this subject started in 2014 when we studied the impact of an audio-visual aid impact on behavioral modification when testing and treating blood sugar intraoperatively. We are glad to find that secondary monitoring with alerting did have a positive impact on improving compliance treating and testing hyperglycemia. I subsequently got involved in writing a peer reviewed hospital wide protocol for managing blood sugar in patients undergoing surgery.

I was also a co-author of a retrospective single center study looking in to impact of intraoperative blood glucose and outcomes. This study has been accepted for publication with some minor revision. I am also in the process of finishing up an analysis of a randomized controlled study comparing strict vs standard intraoperative glycemic control and postoperative outcomes in patients undergoing liver transplant. I am confident this would be published in a high impact journal in the near future. Finally, I am a senior author on a multicenter Michigan surgical quality data base study looking at impact of intraoperative hyperglycemia on postoperative outcomes. This manuscript is ready for submission.

In terms of my future plans, I look forward to continue clinically impactful research focusing on the above mentioned areas. I am in the process of acquiring data looking at hyperglycemia in kidney transplant patient using data direct and transplant database. I am also in the process of setting up a randomized controlled study comparing two different regional blocks for kidney donors. I am confident of securing a grant for a multi-disciplinary study assessing the efficacy and impact of regional block on AV fistula maturation and patency.

Clinician-Research Scholar

M-CV Entry

Collaborative clinical research in dementia, as either a Site Principal Investigator for clinical trials or as Clinical Core co-Leader of the Michigan Alzheimer's Disease Center. My research explores novel therapeutic agents to prevent/treat Alzheimer's disease, transitions between normal aging and dementia, and the role of neuroimaging in dementia diagnosis.

Scholarly Clinical Portfolio

My scholarly contributions have been in the diagnosis, treatment, and prevention of Alzheimer's dementia and related disorders. As a steering committee member and site principal investigator in 3 national consortia (the Alzheimer's Disease Cooperative Study, the Alzheimer's Disease Neuroimaging Initiative, and the Alzheimer's Clinical Trials Consortium), I assist in the design and conduct of multicenter clinical research in Alzheimer's disease. I co-lead the Clinical Core of the Michigan Alzheimer's Disease Center and oversee the clinical characterization of its research participants. My publications have arisen from these roles and include the results of multiple clinical trials and studies of brain imaging in dementia. Through my research collaborations, I have helped establish large repositories of clinical and biomarker data that are available to the dementia research community worldwide. Thus, the impact of my contributions to team science extends well beyond my individual publications. The Clinician-Research Scholar Pathway best fits my accomplishments and goals. My clinical research is described in further detail in my research portfolio.

Clinician-Educator

M-CV Entry

My vision for an exceptional academic clinician educator is one that develops and excels in each of the major pillars of academic medicine - clinical excellence, medical education, scholarly pursuit, and administrative leadership, all while creating a professional niche. The past 10 years of my career have been spent developing into a clinician who embodies this vision. The clinical educator track has allowed me to craft a career in academic emergency medicine where I can be exceedingly productive in multiple realms culminating in the education of students, trainees, faculty, staff and patients. Achieving structured goals has allowed me to become a leading clinician educator and national expert in the emergency management of neurologically injured patients.

Scholarly Clinical Portfolio

The major efforts of my scholarly clinical contributions have been in the fields of stroke and graduate medical education, forming the primary focus of my career. Throughout my time as a junior faculty member, I have had a strong affinity for medical education. I have crafted my personal education to maximize my effectiveness as a clinician educator to make an impact both locally at the University of Michigan Medical School and Emergency Medicine Residency Program, as well as on a national level. Through specialized training within the Medical Education Scholars Program, I was able to obtain the necessary skills to take my clinical teaching to the next level.

Being part of the leadership team of the emergency medicine clerkship allowed me to identify the void in educational communication between the undergraduate and graduate medical education spheres as medical students transition to become residents. I was able to evaluate first-hand how inefficient this transition is for our trainees and through the research group I chaired, we developed a novel, formal educational hand-off process to more accurately identify strengths and weaknesses of trainees as they transition to residency. This has enabled program directors to tailor their educational offerings to more directly impact deficiencies in their trainees. This work has led to multiple invitations to speak nationally as well publication of a manuscript in Academic Medicine, which was selected as a top impactful graduate medical education manuscript the year it was released. This concept is now being studied and incorporated throughout many specialties at multiple different academic institutions.

My work in the field of stroke began through an interest in stroke systems of care. My clinical research focuses on the effects of educational efforts and barrier assessments to improve the timely delivery of treatments for patients presenting to emergency departments with acute ischemic stroke. This investigation has led to the creation of one of the largest cohorts of patients treated with IV tPA in community hospitals, allowing for better national understanding of the complexities and challenges for patients living in rural America to obtain treatment for their devastating neurological injuries. Fueled by a desire to make a change both locally and nationally in the positive impact emergency providers and improved stroke systems of care can have, I obtained subspecialty training both in the clinical management of stroke and neurological

emergencies as well as developing clinical trials investigating brain injuries. These educational endeavors have led to further research in the field of stroke with invitations to present abstracts and manuscripts broadly. Through these efforts, I have established a national leadership profile in stroke systems of care and the critical intersection of emergency medicine and vascular neurology. I have been an invited speaker at multiple national events focused on stroke care sponsored by the American Heart Association, as well as international events focusing on best practices for treating neurologically injured patients. Due to my interests and achievements in medical education, for the past 4 years I have been selected to serve on the training and education core of StrokeNet, an NIH national research network dedicated to training the next generation of clinical researchers studying prevention, rehabilitation and acute treatment of patients suffering from stroke. As a testament to my national leadership within my field, last year I was selected by my peers as the national president of the Neurological Emergencies group within the Society for Academic Emergency Medicine and inducted as a Fellow of the American Heart Association.

My efforts have led to the culmination of a career spent becoming an expert clinician educator both here at the Michigan Medical School, and nationally. My interests span throughout multiple hospital departments in addition to emergency medicine which culminate to care for some of the most critically injured patients at Michigan Medicine. By setting and accomplishing aggressive goals, and through educational, clinical, and leadership opportunities provided by the Medical School, I have maximized my achievements and have begun transitioning to a senior leader nationally in clinical stroke care, education and research.

Clinician-Patient Safety/Quality Innovator

M-CV Entry

At the institutional level, in my role as chair of the quality improvement committee for the Nephrology Division, I have overseen two large-scale QI activities (2014 and 2017), one of which was done in conjunction with the Divisions of Endocrinology and Cardiology. For both of these project, participating faculty received ABIM Maintenance of Certification Credit. As co-chair for the Hypertension Quality Assurance Committee for the health system, I provided guidance on several successful interventions (2016-2017) to improve control of hypertension in primary care, endocrinology, cardiology, and nephrology. At the regional level, I have overseen quality improvement projects in my role as the Chair of the Medical Review Committee for the Midwest Kidney Network. Recent projects have focused on reduction in long-term catheter use and reduction in blood-stream infections. Lastly, at the national level, my work at UM Kidney Epidemiology and Cost Center (KECC) has focused on quality measure development for dialysis facilities that is used in both public reporting and CMS payment reform. I have developed the following measures: (1) Standardized Fistula Rate and Long-Term Catheter Rate (2015) which adjusts AVF rates for comorbidity. As part of this project, I completed an ad hoc report (2017) for CMS comparing vascular access outcomes in Puerto Rico compared to US mainland. (2) Standardized Emergency Department Utilization Ratio and Emergency Department Utilization within 30 days of Hospital Discharge (2016). (3) Medication Reconciliation and Management (2017). (4) Physician Level Performance Metrics (2018). In summary, the work I do at KECC in measure development has a significant impact in identifying gaps in dialysis quality of care while the work I do at the regional level with the Midwest Kidney Network helps dialysis facilities actually achieve their quality improvement goals.

Scholarly Clinical Portfolio

Over the past six years I have focused my scholarly work on the advancement of quality improvement at the institutional, regional, and national levels.

- Institutional Quality Improvement Activities: In my role as chair of the quality improvement committee for the Nephrology Division, I have overseen two large-scale QI activities: (1) LDL testing in patients with diabetes and ischemic vascular disease (2014) that was done in conjunction with endocrinology and cardiology and (2) Improvement in control of hypertension in patients with chronic kidney disease (2017). For both of these project, participating faculty received ABIM Maintenance of Certification Credit. As co-chair for the Hypertension Quality Assurance Committee for the health system, I provided guidance on several successful interventions (2016-2017) to improve control of hypertension in primary care, endocrinology, cardiology, and nephrology.

- Midwest Kidney Network Quality Improvement Activities: since 2014 I have overseen quality improvement projects in my role as the Chair of the Medical Review Committee. The network covers five states in the upper mid-west and recent projects have included:
  (1) Reduction in Long-term Catheter Use - Through a combination of webinars, teleconferences, and on-site review, we have been successful in reducing the percentage of facilities with long-term hemodialysis catheters. (2) Reduction in blood- stream infections - Through a combination of webinars and coaching calls to focus on root cause analysis and implementation of CDC guidelines, we have reduced the rate of blood-stream infections in dialysis facilities in our network.

- ESRD Quality Measure Development: In 2014 I began working on dialysis facility quality measure development at UM Kidney Epidemiology and Cost Center (KECC). I have developed the following measures: (1) Standardized Fistula Rate and Long-Term Catheter Rate: I moderated a Technical Expert Panel (2015), led the development of the standardization methodology which adjusts AVF rates for comorbidity, responded to public comments on the measure, and stewarded the measure through the National Quality Forum (NQF) endorsement process. It is now used in public reporting by CMS. As part of this project, I completed an ad hoc report (2017) for CMS comparing vascular access outcomes in Puerto Rico compared to US mainland. (2) Standardized Emergency Department Utilization Ratio and Emergency Department Utilization within 30 days of Hospital Discharge: I moderated a Technical Expert Panel (2016), led the development of the measures, and have submitted to the NQF for endorsement (2018). (3) Medication Reconciliation and Management: I moderated a Technical Expert Panel (2017), and have led the development of the measure specifications. (4) Physician Level Performance Metrics: I assisted moderation of a Technical Expert Panel (2018) and have contributed to analyses to support the measure.

The measures developed at KECC are used in public reporting so that the quality between two or more facilities can be directly compared. In addition, the measures are also used as part of the Quality Incentive Program through CMS that impacts Medicare payments for dialysis services. Thus, the work I do at KECC in measure development has a significant impact in identifying gaps in dialysis quality of care while the work I do at the regional level helps dialysis facilities actually achieve their quality improvement goals.
