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## Education and Training

- 10/1995 – 01/2001 Bachelor of Medicine, Bachelor of Surgery (M.B.B.S). Grant Medical College and Sir JJ Group of Hospitals, Mumbai, India
- 07/2002 – 06/2005 Internship and residency in Internal Medicine, (M.D.) Mount Sinai School of Medicine and the James J Peters Veterans Administration Medical Center (New York, NY and Bronx, NY)
- 07/2010 – 12/2011 Master of Science (MSc) Health and Health Services Research. Rackham Graduate School (Robert Wood Johnson Clinical Scholars Program) University of Michigan (Ann Arbor, MI)
- 09/2014 – 10/2014 Emerging Leaders Program, Ross School of Business, University of Michigan
- 07/2016 – 08/2016 Human Factors Engineering, Department of Integrative Systems and Design, University of Michigan (Ann Arbor, MI)
- 09/2017 – 10/2017 Positive Leadership Program, Ross School of Business, University of Michigan

## Academic Appointments

- 09/2001 – 06/2002 Research Assistant, Department of Family Medicine, Thomas Jefferson University Hospital and Jefferson Medical College, Philadelphia, PA
- 07/2004 – 06/2005 Chief Resident, Bronx Veterans Affairs Medical Center. Bronx, NY
- 07/2008 – 06/2012 Assistant Professor of Medicine, Clinical Track, University of Michigan School of Medicine. Ann Arbor, MI
- 07/2012 – 06/2017 Assistant Professor of Medicine, Instructional Track, University of Michigan School of Medicine. Ann Arbor, MI
- 06/2016 – Present Adjunct Professor, Menzies Health Institute, Griffith University, Queensland, Australia
- 07/2017 – 06/2021 Associate Professor of Medicine (with Tenure), Instructional Track. University of Michigan School of Medicine. Ann Arbor, MI.
- 07/2017 – Present Co-Director, Health Services Research Unit, Divisions of General Medicine and Hospital Medicine, University of Michigan Health System, Ann Arbor, MI
- 09/2021 – 10/2021 Professor of Medicine (with Tenure), Instructional Track. University of Michigan School of Medicine. Ann Arbor. MI.
- 10/2021 – Present Adjunct Professor of Medicine, Instructional Track. University of Michigan School of Medicine. Ann Arbor. MI.
- 10/2021 – Present Visiting Professor of Medicine. University of Colorado School of Medicine. Denver, Colorado.

## **Administrative and Clinical Appointments**

08/2005 – 06/2008	Medical Director and Lead Physician. Division of Hospital Medicine, St. Josephs Mercy Regional Health Center, Hot Springs, Arkansas
08/2007 – 06/2008	Chief Quality Improvement Officer. St. Josephs Mercy Regional Health Center, Hot Springs, Arkansas
06/2007 – 06/2008	Chair, Infection Control Committee. St. Josephs Mercy Regional Health Center, Hot Springs, Arkansas
07/2008 – Present	Assistant Professor of Medicine, University of Michigan Health System, Ann Arbor, MI
07/2012 – Present	Attending and Staff Physician, Ann Arbor Veterans Affairs Medical Center, Ann Arbor, MI
04/2016 – Present	Co-Director, Patient Safety Enhancement Program, Ann Arbor Veterans Affairs Medical Center, Ann Arbor, MI
07/2017 - Present	Co-Director, Integrated Research Unit, Divisions of General and Hospital Medicine, University of Michigan Health System, Ann Arbor, MI
07/2017 – 10/2021	Chief, Division of Hospital Medicine, Department of Medicine, University of Michigan Health System, Ann Arbor, MI
10/2021 – Present	Chairman, Department of Medicine, University of Colorado School of Medicine, Denver, Colorado.

## **Honors and Awards**

06/2005	Outstanding Resident in Internal Medicine, Dept. of Internal Medicine, Bronx VA Medical Center, Bronx, New York
03/2006	Physician of the Quarter, St. Josephs Mercy Medical Center, Hot Springs, AR
12/2006	Physician of the Quarter, St. Josephs Mercy Medical Center, Hot Springs, AR
01/2007	Physician of the Quarter, St. Josephs Mercy Medical Center, Hot Springs, AR
04/2009	Best of Innovations “MComm: Redefining Medical Communications in the 21st Century” Society of Hospital Medicine, 2009. Chicago, IL
07/2009	America’s Top Physicians, 2010. Consumer Research Council of America
02/2010	Best Reviewers, Annals of Internal Medicine
08/2010	Clinical and Translational Science Award, Michigan Institute for Clinical and Health Research (MICHR). University of Michigan, Ann Arbor, MI
06/2013	Fellow in Hospital Medicine, Society of Hospital Medicine
08/2013	Young Investigator Award, Society of Hospital Medicine
09/2013	Research Career Development Core Claude D. Pepper Center Salary Support Award (given to the two most promising early career aging investigators)
04/2014	Frank J. McDevitt Award for Excellence in Clinical Research, Blue Cross/Blue Shield Foundation of Michigan
04/2015	Best Abstract, Society for Healthcare Epidemiology of America 2015
04/2016	Excellence in Research Award, Society of Hospital Medicine
05/2016	Kaiser Permanente Award for Excellence in Clinical Teaching of Medical Students, University of Michigan School of Medicine
06/2016	H. Marvin Pollard Award for Outstanding Teaching of Residents, Department of Medicine, University of Michigan Health System
06/2016	Richard D. Judge Award for Medical Student Teaching, Department of Medicine, University of Michigan School of Medicine

06/2016	Jerome W. Conn Award for Excellence in Research, Department of Medicine, University of Michigan Health System
09/2016	Hospitalist of the Year Award, Society of Hospital Medicine/American College of Physicians - Michigan Chapter. Traverse City, Michigan
11/2016	Deans Award for Excellence in Teaching, University of Michigan School of Medicine
11/2016	Impact and Innovation Award, Institute for Healthcare Policy and Innovation, University of Michigan
05/2018	Token Appreciation from Medical Students (TAMS) Award (awarded by graduating class to faculty members who have served as role models)
10/2018	Gold Humanism Award Nominee
11/2018	Americas Top Doctors, 2018
11/2018	Evan Newport Hope Award Nominee
04/2019	Golden Apple Teaching Award Nominee (Best Teacher award across all schools, University of Michigan)
05/2019	Token Appreciation from Medical Students (TAMS) Award
06/2019	Distinguished Clinical and Translational Research Mentor Award, Michigan Institute for Clinical & Health Research, University of Michigan Health System
08/2019	Best Doctors in America 2019-2020
06/2020	Chairs Award for Impact - Department of Internal Medicine (for mobilizing and leading hospital medicine efforts during COVID-19)
11/2020	EMS Medal Award for Outstanding Clinical Service for COVID-19 in Michigan. National Society of the Sons of the American Revolution, Huron Valley Chapter
02/2022	Elected Member, American Society of Clinical Investigation (ASCI)

### **Memberships in Professional Societies**

07/2002 – Present	American College of Physicians
08/2006 – Present	American Heart Association/American Stroke Association
10/2006 – Present	Society of Hospital Medicine
06/2007 – Present	Society of General Internal Medicine
04/2008 – Present	American College of Physicians
01/2012 – Present	Society of Healthcare Epidemiology America
03/2013 – Present	Association of Vascular Access
07/2016 – Present	Society for Improvement in Diagnosis in Medicine
11/2021 – Present	Association of Professors in Medicine (APM)
02/2022 – Present	American Society of Clinical Investigation (ASCI)

### **Committee, Organizational and Volunteer Service**

#### **a. Institutional**

09/2009 – 06/2012	Congestive Heart Failure Steering Committee, University of Michigan Health System, Ann Arbor, MI
02/2011 – Present	Faculty Member, Cardiovascular Research Group (C3RG). Division of Cardiovascular Medicine, University of Michigan Health System, Ann Arbor, MI.
07/2011 – 06/2012	Sponsor, Undergraduate Research Opportunities Program (C. Healy, N. Dagher)
03/2012 – Present	Member, Institute for Healthcare Policy and Innovation (IHPI), University of Michigan, Ann Arbor, MI.

08/2012 – 04/2015 Faculty Mentor, Biomedical Engineering Senior Capstone Design Class (BME 450/451) University of Michigan School of Engineering, Ann Arbor, MI.

06/2014 – 06/2019 Research Curriculum Redesign Committee, Internal Medicine Residency Program. Division of General Medicine. University of Michigan Health System.

01/2015 - Present CLABSI Steering Committee, University of Michigan Health System.

01/2019 – Present Adult Palliative Care Steering Committee, University of Michigan Health System.

09/2019 – 03/2020 Steering Committee, Center for Global Health Equity (M-GLOBE), University of Michigan and Institute for Healthcare Policy and Innovation.

12/2020 – 03/2021 Chief Clinical Officer Selection Committee, University of Michigan Health System.

10/2021 – Present Voting Member, Medical Executive Committee, University of Colorado School of Medicine, Denver, CO

10/2021 – Present Board of Directors, CU Medicine, University of Colorado - Denver, Denver, CO

10/2021 – Present Voting Member, Medical Executive Committee, CU Medicine, University of Colorado - Denver, Denver, CO

10/2021 – Present Member - Medical Board, University of Colorado Hospital - Anschutz Medical Center, Denver, CO

**b. National**

04/2008 – 06/2012 Early Career Committee, Society of Hospital Medicine, Philadelphia, PA

07/2011 – Present Research Committee, Society of Hospital Medicine, Philadelphia, PA

01/2012 Annual Meeting Program Committee – Hospital Medicine. Society of General Internal Medicine, Orlando, FL.

06/2013 Data, Design and Publications Committee, Hospital Medicine Safety (HMS) Consortium. Blue Cross/Blue Shield of Michigan.

10/2013 Choosing Wisely Steering Committee, Society of General Internal Medicine. Alexandria, VA.

11/2013 Annual Meeting Program Committee – Research Track. Society of Hospital Medicine, Las Vegas, NV.

04/2014 Outcomes Clinical Science Study Group, Study Section Member, American Heart Association. Dallas, TX.

11/2014 Annual Meeting Program Committee – Research Track. Society of Hospital Medicine, Washington, DC.

12/2015 South Asian Healthcare Leaders Forum, Harvard University, Boston, MA.

4/2016 Healthcare Infection Control Practice Advisory Committee (HICPAC) Liaison for Society of Hospital Medicine. Center for Disease Control (CDC). Atlanta, GA.

1/2016 – 4/2018 Chair, Research Committee, Society of Hospital Medicine, Philadelphia PA.

7/2016 – Present Member, Steering Committee, iHOPE Patient Engagement Project, Patient Centered Outcomes Research Institute (PCORI).

7/2017 – Present Chair, Products and Practices Workgroup, Department of Healthcare Quality and Promotion. Centers for Disease Control. Atlanta, GA.

9/2017 – Present Co-Chair, National Healthcare Safety Network (NHSN) Data Design Workgroup. Department of Healthcare Quality and Promotion. Centers for Disease Control. Atlanta, GA.

4/1/2021 – Present Council member (elected), Society of General Internal Medicine (SGIM).

### **c. International**

- 10/2011 Invited Grant Reviewer, Myles, P. Medical Research Council Fellowship. “The association between the use of statins, fibrates, glitazones, metformin and influenza outcomes.” University of Nottingham, United Kingdom.
- 01/2012 Invited Grant Reviewer, Van de Garde, EM, Proposal Klinische Fellow 40-00703-98-11430. Netherlands Organization for Health Research and Development, (ZonMw). Amsterdam, Netherlands.
- 11/2013 Leadership Team, University of Michigan and All India Medical Institute for Medical Sciences (AIIMS) Research Collaboration. New Delhi, India.
- 02/2014 Invited External Peer Referee, Cochrane Peripheral Vascular Disease Review Group, Edinburgh, United Kingdom.
- 04/2014 Associate Investigator, "Nurse-led Interventions for Patient Safety and Wellbeing in Vascular Access; Advancing the Science Through Partnering with Patients. National Health and Medical Research Council (NHRMC). Sydney, Australia.
- 11/2014 Research Methods Faculty Leader. All India Institute of Medical Sciences (AIIMS). New Delhi, India.
- 1/2015 Associate Investigator, "Novel and Enhanced Securement of Peripherally Inserted Central Catheters: A Multisite Randomized Controlled Trial." Alliance for Vascular Access Teaching and Research. Griffith University, Brisbane, Australia.
- 2/2015 Member, Data Safety and Monitoring Board, "Replace after Standard Versus Prolonged Use (The RSVP Trial). Griffith University, Melbourne, Australia.
- 10/2015 Associate Investigator: Center for Research Excellence in Vascular Access Implementation Research (CREVAIR). Griffith University, Brisbane, Australia.
- 10/2019 Chief Investigator: Wiser Wound Care; Investing in High Volume, High Risk Wound Care Centre of Research Excellence. Griffith University, Brisbane, Australia.
- 4/4/2021 Invited grant reviewer, Swiss National Science Foundation, “Ambizione” Application number 201672. Careers Division. Berne, Switzerland.
- 2/1/2021 Invited reviewer – Fellowship Competition, The Healthcare Improvement Studies (THIS) Institute, London, United Kingdom.

### **Certification and Licensures**

- 01/2001 – Present Registered Practitioner of Medicine. Mumbai, India
- 01/2002 – Present Certification, Educational Commission for Foreign Medical Graduates (ECFMG)
- 08/2005 – Present Diplomate, American Board of Internal Medicine
- 08/2005 – 07/2010 Physicians License, State of Arkansas
- 08/2005 – Present Federal Controlled Substance License, DEA
- 04/2008 – Present Physicians License, State of Michigan
- 04/2008 – Present Controlled Substance License, State of Michigan
- 01/2002 – Present ACLS Certification

### **Patents and Intellectual Property Development**

- 02/2009 *US Patent #61/148,783: Medical Communication System for Health Care Practitioners.*  
This invention enhances sharing of medical information among health care teams. It maps medical-staff workflow and messaging to wireless, mobile-client systems using intelligent rules and privacy principles for healthcare application. The patent is currently

licensed to Synaptin, LLC, an Ann Arbor based healthcare technology firm. The concept leading to this patent was honored as “Innovation of the Year,” at the Society of Hospital Medicine Annual Meeting, 2010.

02/2014 *US Patent Pending: Intelligent Safety Intervention System.* This invention features an electronic, wireless sensor system that tracks the presence and duration of indwelling urinary and vascular catheters and other medical devices in hospitalized patients. The system uses a proprietary technology and workflow to graphically alert providers to catheter presence and duration using a light-panel affixed to patient beds.

### **Editorial Positions and Boards**

01/2010 - Present Editorial Board, *American Journal of Medicine*  
01/2012-12/2018 Associate Editor, *Journal of Hospital Medicine*  
12/2013 - Present Editorial Board, *Journal of the Association of Vascular Access*  
01/2014 - Present Editorial Board, *Journal of Vascular and Interventional Radiology*  
08/2014 - Present Editorial Board, *Journal of Infusion Nursing*  
01/2016 - 2018 Feature Editor, Annals for Hospitalists, *Annals of Internal Medicine*  
11/2018 – 10/2020 Editorial Board, *Annals of Internal Medicine*  
1/2019 – 09/2020 Deputy Editor, *Journal of Hospital Medicine*  
2/2021 – Present Deputy Editor, *Annals of Internal Medicine*

### **Peer Review Service**

01/2012 - Present Peer reviewer for multiple journals including New England Journal of Medicine, Journal American Medical Association, Lancet, Annals of Internal Medicine, British Medical Journal, Circulation, Journal Hospital Medicine among 30 others.

10/24/2019 Temporary member (Primary Assigned Reviewer), Clinical Trials Review Committee. Heart, Lung and Blood Initial Review Group National Heart Lung and Blood Institute (CLTR 377472).

02/01/2021 Invited External reviewer, The Healthcare Improvement (THIS) Institute, United Kingdom

### **Visiting Professorships, Seminars and Extramural Invited Presentations**

04/2010 *Making Your Mark: How to Create Effective PowerPoint Presentations.* Society of Hospital Medicine Annual Meeting. Washington, DC.

05/2010 *Perioperative Medicine – State of the Art.* Internal Medicine Grand Rounds. St. Mary’s Mercy Hospital. Livonia, Michigan.

11/2011 *Prevention of Perioperative Myocardial Infarction: Meet The Experts.* Using statins and biomarkers to prevent perioperative myocardial infarction. American Heart Association Scientific Sessions. Orlando, FL.

- 04/2012 *Is Current Statin Use Associated with Reduced Mortality After Pneumonia?* Oral Research Presentation. Society of Hospital Medicine Annual Meeting. San Diego, CA.
- 05/2012 *Eye Candy: Making Your Presentations Irresistible.* Society of General Internal Medicine Annual Meeting. Orlando, FL.
- 09/2012 *"Can Bundles Produce Sustained Reductions in catheter-related bloodstream infection?"* American Society of Microbiology and Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) Annual Meeting. San Francisco, CA.
- 04/2013 *"PICC Related Infectious Complications."* 33<sup>rd</sup> Annual Infectious Disease Symposium. Creighton University, Omaha, Nebraska.
- 06/2013 *"Why We Need to be Piccy: The Problem with Peripherally Inserted Central Catheters."* Internal Medicine Grand Rounds, Department of Internal Medicine. University of Michigan Health System.
- 09/2013 *"Diagnosis and Management of PICC-Related Deep Vein Thrombosis."* Association for Vascular Access Annual National Meeting. Nashville, TN.
- 09/2013 *Choosing Wisely: Avoid placing PICCs in hospitalized patients for convenience.* Society of General Internal Medicine Midwest Meeting. Chicago, IL.
- 09/2014 *"PICC-Associated Bloodstream Infection: Patterns and Predictors."* Association of Vascular Access National Scientific Meeting. National Harbor, Washington, DC.
- 09/2014 *"PICC-DVT: The Elephant is in The Room."* Keynote address. Association of Vascular Access National Scientific Meeting. National Harbor, Washington, DC.
- 09/2014 *"PICC Use in Michigan Hospitals: A Work in Progress."* Keystone Safer Care Conference. Michigan Hospital Association. East Lansing, MI.
- 09/2014 Visiting Professor, Internal Medicine Grand Rounds Speaker. Baystate Medical Center. Springfield, MA
- 10/2014 *"Engineering new safety solutions: The Case for Peripherally Inserted Catheters."* Center for Healthcare Engineering and Patient Safety (CHEPS). Department of Industrial and Operational Engineering, University of Michigan. Ann Arbor, MI
- 12/2014 *"Asking Scientifically Valid Research Questions: True, True and Related."* All India Institute for Medical Sciences and University of Michigan Research Symposium. New Delhi, India.

- 12/2014 *"Designing for Success: Cohort, Case Control and Cross-Sectional Studies."* All India Institute for Medical Sciences and University of Michigan Research Symposium. New Delhi, India.
- 05/2015 *"Are PICCs the Central Venous Catheters of the Future?"* European Society of Anesthesiology. Berlin, Germany.
- 06/2015 *"Novel approaches to Improving Central Venous Catheter Design and Safety."* Bard Vascular Access Systems. Salt Lake City, UT.
- 09/2015 *"PICCs: The Right Line for Everyone?"* American College of Physicians Michigan Meeting, Traverse City, MI.
- 11/2015 *"What's New in Catheter Thrombosis."* National Academy of Infusion Nurse Training. Dallas, TX.
- 12/2015 *"The Role of Hospitalists in the Prevention of Hospital-Acquired Infection."* International Symposium on Hospital Medicine in India. Kochi, India.
- 02/2016 *"Are PICCs the Central Venous Catheters of the Future?"* St. Josephs Mercy Medical Center, Livonia, Michigan.
- 02/2016 *"Choosing the Right Vascular Device: Does Science Meets Practice?"* Annual Continuing Medical Education Meeting, Winchester Medical Center, Winchester, VA.
- 03/2016 *"How to Become an Effective Mentee."* Society of Hospital Medicine Annual Meeting. San Diego, CA.
- 03/2016 Visiting Professor, Internal Medicine Grand Rounds Speaker. Lincoln Memorial Medical Center (Columbia University). New York, NY.
- 04/2016 *"Device Selection: Evidence of Absence or Absence of Evidence?"* Keynote speaker, Australian Vascular Access Society, Brisbane, Australia.
- 05/2016 *"Being PICCy: Why We Need to Choose Wisely."* Princess Alexandria Hospital, Medicine Grand Rounds, Brisbane, Australia.
- 05/2016 Visiting Professor, Grand Rounds Speaker, Division of Healthcare Research and Health Policy. Weill Cornell University School of Medicine. New York, NY.
- 06/2016 *"Choosing the Right Vascular Device: Does Science Meets Practice?"* Second Annual Interdisciplinary Ultrasound Symposium. St. Joseph's Health System. Patterson, NJ.
- 06/2016 *"Chlorhexidine and the Exit Site"* World Congress of Vascular Access. Lisbon, Portugal.
- 09/2016 *"Are PICCs the CVC of the Future?"* Lakeland Health, St. Joseph, MI.



- 09/2016 “*Are PICC’s the CVC of the Future?*” ICU Workshop, MHA Keystone Center, Grand Rapids, MI.
- 09/2016 “*Introducing MAGIC for Venous Access.*” Association for Vascular Access (AVA) 30<sup>th</sup> Annual Scientific Meeting, Orlando, FL.
- 01/2017 “*Vascular Access Device Choices: Why It Matters.*” University of Texas, San Antonio. Visiting Professor, San Antonio, TX.
- 01/2017 “*Are PICC’s the CVC of the Future?*” State University of New York (SUNY) Brooklyn. Visiting Professor, Brooklyn, NY.
- 1/2017 “*Are PICCs the CVC of the Future?*” Buckeye Infusion Nurses Society (INS), Cincinnati, OH.
- 02/2017 “*Chlorhexidine for prevention of healthcare-associated infections: What’s New, What’s Not.*” Infectious Diseases Symposium, Amrita Institute, Kochi, Kerala, India.
- 2/2017 “*The Michigan Appropriateness Guide for Intravenous Catheters (MAGIC).*” Saxe Communications Webinar.
- 02/2017 “*Gearing up for a Research Career.*” Visiting Professor at Okinawa Kyodo-University. Okinawa, Japan.
- 02/2017 “*Inserting the Correct Vascular Access Device for the Correct Indication.*” American Society for Parenteral and Enteral Nutrition (ASPEN), Orlando, FL.
- 03/2017 “*Infection Prevention: A Hierarchy of Controls Approach.*” Medscape/CDC CME Recording, Atlanta, GA.
- 04/2017 “*Are PICCs the CVC of the Future?*” Cincinnati Children’s Hospital Medical Center, Cincinnati, OH.
- 04/2017 “*Are PICCs the CVC of the Future?*” Visiting Professor, Henry Ford Hospital, Detroit, MI.
- 04/2017 “*Are PICCs the CVC of the Future?*” League of Intravenous Nursing and Trainers 2016 Annual Conference “A Bright Future for Vascular Access, Farmington, PA.
- 07/2017 “*Why We Need a Little Bit of MAGIC*” Albert Einstein Israelita Hospital, International Symposium on Intravenous Infusion and Therapy. Sao Paulo, Brazil.
- 09/2017 “*Making MAGIC in Michigan*” Keynote Presentation. Association of Vascular Access Annual Scientific Meeting. Phoenix, AZ.

- 09/2017 Visiting Professor, Baylor College of Medicine and VA Quality Scholars Program. Houston, TX.
- 09/2017 *“The Truth about PICCs: Why You Need some MAGIC”* Internal Medicine Grand Rounds, Baylor College of Medicine, Houston, TX.
- 09/2017 *“Introducing MAGIC”* VA Quality Scholars Program, iQUEST, Michael DeBakey VA Medical Center (transmitted to 19 VA sites across the US) Houston, TX.
- 10/2017 *“Systems for Patient Safety: Social Engagement, Leadership and Mindfulness to Improve Hand Hygiene.”* International Safety and Quality Conference (ISQUA). London, UK.
- 10/2017 *“Applying MAGIC to Improve Outcomes in Michigan.”* Arkansas Hospital Association Annual Scientific Meeting. Little Rock, AR.
- 10/2017 Visiting Professor, St. Vincent’s Infirmary/Catholic Health Initiatives. *“An Update on Central Venous Catheters – What’s New with PICCs?”* St. Vincent’s Infirmary/Catholic Health Initiatives. Little Rock, AR.
- 11/2017 *“Revisiting Vascular Access – What do we really know?”* Infusion Nursing Academy. Atlanta, GA.
- 01/2018 Visiting Professor, Mayo Clinic, Hospital Internal Medicine. *“The Truth About PICCs.”* Rochester, MN.
- 02/2018 *“PICC Associated Bloodstream Infection: What’s New, What’s True?”* Hospital Samaritano Americas, Sao Paulo, Brazil.
- 02/2018 *“Making MAGIC in Michigan – A Tiered Implementation Strategy.”* Hospital Samaritano Americas, Sao Paulo, Brazil.
- 03/2018 *“The Michigan Appropriateness Guide for Intravenous Catheters: A Primer.”* Intravenous Nursing Society, New Zealand.
- 03/2018 *“Preventing PICC-Associated Complications: What’s Michigan got to do with it?”* Auckland District Health Board, Auckland, New Zealand.
- 03/2018 Visiting Professor, Griffith University. Brisbane, Australia. *“Making Safety of IV devices your business – and how to grow your research in this field.”*
- 04/2018 *“How to become an effective mentee.”* Academic Summit, 2018 Society of Hospital Medicine Annual Meeting. Orlando, FL.
- 04/2018 *“How to conduct an effective (and publishable) systematic review.”* 2018 Society of Hospital Medicine Annual Meeting. Orlando, FL.

- 04/2018      *“Home infusion therapy: how a little bit of MAGIC can help.”* 2018 National Home Infusion Association. Phoenix, AZ.
- 05/2018      *“Are PICCs the CVC of the Future?”* Visiting Professor, Allegheny General Hospital. Pittsburgh, PA.
- 05/2018      *“What Every Clinician Should Know Before Choosing a PICC.”* Department of Medicine Grand Rounds. Allegheny General Hospital. Pittsburgh, PA.
- 06/2018      *“Who is ready for a little bit of MAGIC?”* Department of Medicine Grand Rounds, St. Johns Hospital. Central Michigan University. Saginaw, MI.
- 07/2018      *“Diagnosis, Treatment and Prevention of Catheter-Associated Thrombosis.”* Hospital de Clinicas Porto Alegre, Porto Alegre, Brazil (*delivered via Skype*)
- 10/2018      *“Choosing a Central Venous Catheter in Hospitalized Patients.”* Department of Medicine Grand Rounds. Mid-Michigan Health Center, Midland MI.
- 10/2018      *“Using Peripherally Inserted Central Catheters in Skilled Nursing Facilities – What (not) to do!”* Preventing Resistance and Infection by Integrating Sites in Michigan (PRIISM) Collaborative. Ann Arbor, MI.
- 11/2018      *“Is the PICC the right device for your patient?”* Section of Hospital Medicine Grand Rounds, Cleveland Veterans Health Administration System and University Hospitals Case Western. Cleveland, OH.
- 11/2018      Visiting Professor, Department of Infectious Diseases and Infection Prevention. Singapore General Hospital and National University Hospital of Singapore. Republic of Singapore.
- 11/2018      Visiting Professor and Internal Medicine Grand Rounds Speaker, Juntendo University Hospital, Tokyo, Japan.
- 11/2018      *“Whose Line is it Anyway?”* Michigan Vascular Access Network State Meeting. Plymouth, Michigan.
- 12/2018      *“Are PICCs the CVC of the Future?”* Visiting Professor and Department of Medicine Grand Rounds Speaker, Rush University School of Medicine, Chicago, IL.
- 01/2019      *“What Makes for Good Decision-Making in Vascular Access”* GulfVAN Florida Network State Meeting. Tampa, FL.
- 02/2019      *“What Mentors Wish Their Mentees Knew”* Visiting Professor and Department of Medicine Grand Rounds Speaker, Weill Cornell Medical Center, New York, NY.

- 03/2019      *“Islands of Mindfulness Within Oceans of Chaos”* Positive Links Speaker Series. Ross School of Business and Center for Positive Organizational Science. University of Michigan. Ann Arbor, Michigan.
- 04/2019      *“Are PICCs the CVC of the Future?”* Visiting Professor and Department of Medicine Grand Rounds Speaker, University of Wisconsin, Milwaukee. Milwaukee, WI.
- 04/2019      *“A Culture of Safety in 2019 – An Organizational Perspective”* Society for Healthcare Epidemiology of America. Boston, MA.
- 04/2019      *“Mentor-Mentee Relationships – How to Make the Most of Your Relationship.”* Society for Healthcare Epidemiology of America. Boston, MA.
- 05/2019      *“Rethinking Vascular Access: The Case for (and against) Peripherally Inserted Central Catheters.”* Department of Medicine Grand Rounds Speaker, University of Michigan, Ann Arbor, MI.
- 06/2019      *“Use of Peripherally Inserted Central Catheters in Chronic Kidney Disease: Too Much of a Bad Thing.”* World Congress of Vascular Access, Sao Paulo, Brazil.
- 06/2019      *“Introducing the i-Decided tool to identify, remove and replace idle venous catheters.”* World Congress of Vascular Access, Sao Paulo, Brazil.
- 09/2019      *“Vascular Access in Cancer Patients – Clinical Implications”* Invited presentation and Invited External Reviewer/Faculty Opponent for Ph.D. dissertation (Dr. Knut Taxbro). Linköping University, Linköping, Sweden.
- 10/2019      *“Tracking and Preventing Complications of Central Lines in Outpatient Settings.”* Infectious Disease (ID) Week. Washington, DC.
- 11/2019      *“Rethinking Vascular Access – Whats New?”* Department of Internal Medicine Grand Rounds, Massachusetts General Hospital, Harvard Medical School. Boston, MA.
- 01/2020      *“Quality, Quantity and Vascular Access Devices”* Thorndike Visiting Professor and Quality Grand Rounds, Brigham and Womens Hospital, Harvard Medical School, Boston, MA.
- 01/2020      *“Mindful Mentoring: How to Achieve the Best Relationship with Your Mentor.”* Grand Rounds, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Boston, MA.
- 01/2020      *“Are PICCs the CVC of the Future?”* Visiting Professor and Department of Medicine Grand Rounds Speaker, Section of Hospital Medicine, Department of Medicine. University of Pennsylvania, Philadelphia, PA.

- 01/2020      *“Vascular Access in Cancer.”* Plenary Session, Society for Interventional Oncology, New Orleans, Louisiana.
- 10/2020      *“COVID and Michigan: What have we learned?”* Keynote lecture, Association for Vascular Access, National Scientific Meeting, Phoenix, AZ (delivered virtually)
- 11/2020      *“Introducing the Center for Disease Control and Preventions Novel Approach to Evaluating Products for Infection Prevention.”* Association for Vascular Access, National Scientific Meeting, Phoenix, AZ (delivered virtually)
- 11/2020      *“Are PICCs the Central Venous Catheter of the Future?”* Department of Medicine Grand Rounds, Henry Ford Hospital, Detroit, MI.
- 07/2021      Keynote speaker: *“Appropriate IV Access: MAGIC and More.”* Cleveland Clinic Update in Hospital Medicine. OH, Cleveland.
- 02/2022      *“Mindful Mentorship”* Grand Rounds, NYU Grossman School of Medicine, New York, NY.
- 04/2022      Keynote speaker/*Conferencia Magistral: “The Greatest Hits – The Best of Vascular Access Evidence.”* National Congress of Vascular Access, SEINAV, Malaga, Spain.
- 05/2022      *“Rethinking PICCs: What does the evidence tell us?”* Kaiser Permanente Northern California Infection Prevention Regional HEROES Summit. Redwood, CA.

### **Intramural Lectures and Presentations**

- 07/2008      *“Acute Coronary Syndromes.”* Invited Lecture, Medicine Faculty Hospitalist Physician-Assistant Training Program. University of Michigan, Ann Arbor, MI
- 08/2008      *“Osteomyelitis: A Medical Bone Disease.”* Invited Lecture, Medicine Faculty Hospitalist Physician-Assistant Training Program. University of Michigan, Ann Arbor, MI
- 09/2008      *“Perioperative Consultations – Paradigms and Pitfalls.”* University of Michigan Residency Program, Newburgh Service. University of Michigan, Ann Arbor, MI
- 02/2009      *“Redefining Medical Communication: Introducing MComm.”* Hospital Medicine Grand Rounds. University of Michigan, Ann Arbor, MI
- 12/2009      *“Atrial Fibrillation: Avenues and Advances.”* University of Michigan IM Residency Program, Medicine Sturgis Service. University of Michigan, Ann Arbor, MI
- 12/2009      *Intrinsic Renal Failure.* University of Michigan IM Residency Program, Medicine Sturgis Service. University of Michigan, Ann Arbor, MI

- 12/2009 Antiplatelet therapies and GI-bleeding: pros and cons. University of Michigan IM Residency Program, Medicine Sturgis Service. University of Michigan, Ann Arbor, MI
- 12/2009 Intern and Resident Morning Report-Faculty. University of Michigan IM Residency Program, Ann Arbor, MI
- 01/2010 Resident Board Review – MKSAP Made Easy. University of Michigan IM Residency Program, Ann Arbor, MI
- 02/2010 Resident Board Review – MKSAP Made Easy. University of Michigan IM Residency Program, Ann Arbor, MI
- 03/2010 *Perioperative Practice: A, B, Cs.* Division of Geriatric Medicine Grand Rounds. University of Michigan, Ann Arbor, MI
- 02/2011 Resident Grand Rounds – Perioperative Risk Stratification: State of the Art. University of Michigan IM Residency Program, Ann Arbor, MI
- 03/2011 *Perioperative Evaluation 101.* Resident Noon Conference, Division of General Internal Medicine. University of Michigan, Ann Arbor, MI
- 08/2011 Resident Morning Report, “Case Presentation” University of Michigan IM Residency Program, Ann Arbor, MI
- 08/2011 Intern Report, University of Michigan IM Residency Program, Ann Arbor, MI
- 08/2011 MS1/MS2 Decision Based Learning and Evidence Based Medicine-Small Group Leader. University of Michigan School of Medicine, Ann Arbor, MI
- 09/2011 Intern Report, University of Michigan IM Residency Program, Ann Arbor, MI
- 10/2011 Resident Morning Report, “Case Presentation” University of Michigan IM Residency Program, Ann Arbor, MI
- 12/2011 Resident Morning Report, “Case Presentation” University of Michigan IM Residency Program, Ann Arbor, MI
- 01/2012 Resident Morning Report, “Case Presentation” University of Michigan IM Residency Program, Ann Arbor, MI
- 02/2012 Resident Morning Report, “Case Presentation” University of Michigan IM Residency Program, Ann Arbor, MI
- 03/2012 Resident Morning Report, “Case Presentation” University of Michigan IM Residency Program, Ann Arbor, MI

- 04/2012 Resident Morning Report, "Case Presentation" University of Michigan IM Residency Program, Ann Arbor, MI
- 05/2012 Resident Morning Report, "Case Presentation" University of Michigan IM Residency Program, Ann Arbor, MI
- 07/2012 Resident Morning Report, "Case Presentation" University of Michigan IM Residency Program, Ann Arbor, MI
- 09/2012 Resident Morning Report, "Case Presentation" University of Michigan IM Residency Program, Ann Arbor, MI
- 10/2012 Resident Morning Report, "Case Presentation" University of Michigan IM Residency Program, Ann Arbor, MI
- 12/2012 Resident Morning Report, "Case Presentation" University of Michigan IM Residency Program, Ann Arbor, MI
- 02/2013 Resident Journal Club. University of Michigan IM Residency Program, Ann Arbor, MI.
- 06/2013 Medicine Grand Rounds "Why we should be Piccy: The Problem with Peripherally inserted Central Catheters", University of Michigan, Department of Internal Medicine, Ann Arbor, MI
- 07/2013 Resident Morning Report, "Case Presentation" University of Michigan IM Residency Program, Ann Arbor, MI
- 09/2013 Resident Morning Report, "Case Presentation" University of Michigan IM Residency Program, Ann Arbor, MI
- 10/2013 Resident Morning Report, "Case Presentation" University of Michigan IM Residency Program, Ann Arbor, MI
- 12/2013 Resident Morning Report, "Case Presentation" University of Michigan IM Residency Program, Ann Arbor, MI
- 04/2014 Research Career Development Core Seminar: "The Use of PICCs in Skilled Nursing Facilities," Department of Geriatrics, University of Michigan Health System, Ann Arbor, MI
- 08/2014 Resident Research Curriculum Seminar: "Getting Research Done," Department of Internal Medicine, University of Michigan Health System, Ann Arbor, MI
- 09/2014 Resident Morning Report, "Case Presentation" University of Michigan IM Residency Program, Ann Arbor, MI

- 07/2015 Resident Research Curriculum Seminar: "Jumpstarting Research," Department of Internal Medicine, University of Michigan Health System, Ann Arbor, MI
- 12/2015 Clinical Approach and Evaluation of Acute Dyspnea. M3 Internal Medicine Clinical Sequence Lecture Series. University of Michigan School of Medicine, Ann Arbor, MI
- 3/2016 Resident Noon Conference: "Writing a Professional CV," Department of Internal Medicine, University of Michigan Health System, Ann Arbor, MI
- 6/2016 Intern Boot Camp: "How to Find a Research Mentor and Project." Department of Internal Medicine, University of Michigan Health System, Ann Arbor, MI
- 8/2016 Institute for Healthcare Policy and Innovation (IHPI) Clinician Scholars Cohort, "Literature Review and Meta-Analysis." University of Michigan Health System, Ann Arbor, MI
- 2/2017 University of Michigan and India Collaboration: A Research Overview. General Medicine Research Conference. University of Michigan Health System, Ann Arbor, MI
- 2/2018 Resident Noon Conference: "Writing a Professional CV," Department of Internal Medicine, University of Michigan Health System, Ann Arbor, MI
- 3/2018 Center for Positive Organizations. "Mindfulness in Medicine." Ross School of Business and the Center for Positive Organizations. Ann Arbor, MI.
- 10/2018 University of Michigan School of Medicine. "How to be an Effective Mentee." M1 medical students, IMPACT Program, Ann Arbor, MI.
- 11/2018 University of Michigan Internal Medicine Research Retreat. "Achieving the Best Relationship with Your Mentor." Ann Arbor, MI.
- 02/2019 University of Michigan Internal Medicine Residency Program. "When Men Mentor Women: What You Need to Know." Gender Equity Initiative, Ann Arbor, MI.
- 09/2019 Inclusive Mentoring: A Discussion for Staff and Faculty. Invited Panelist, Diversity Week. Michigan Institute for Clinical and Health Research (MICHR). Ann Arbor, MI.
- 09/2019 How to Be an Outstanding Mentor and Mentee. Diagnostics and Therapeutics Branch, University of Michigan School of Medicine. Ann Arbor, MI.
- 11/2020 Mindful Mentorship: Achieving the best relationship with your mentor (and mentee). Division of Hospital Medicine. University of Michigan. Ann Arbor, MI
- 01/2021 Mindful Mentorship: Achieving the best relationship with your mentor (and mentee). Cancer care and coordination training program (T32) invited seminar speaker. University of Michigan. Ann Arbor, MI.



## Teaching

01/2006- 07/2008	Site Director, University of Arkansas College of Pharmacy, Hospitalist Monitoring Service. Hot Springs, Arkansas
07/2008 – 06/2009	Teaching Faculty, Medicine Faculty Hospitalist Physician-Assistant Service, University of Michigan Health System, Ann Arbor, MI
07/2008 – Present	General Internal Medicine Ward Attending, University of Michigan Health System, Ann Arbor, MI
07/2009 – 06/2010	Faculty Mentor, PGY-III Research Project. Benjamin Plaisance, MD “Cardiac Troponin – New Ways to Look at An Old Friend.”
07/2009 – 06/2010	Faculty Mentor, PGY-III Research Project. Sarah Toner, MD “The clinical significance of incidental findings detected via chest CT for Pulmonary Embolism.”
12/2009 – 12/2010	Faculty Mentor, PGY-II Research Project. Brian Mott, MD. “Nebivolol: An Unusual beta-blocker.”
05/2012 – 06/2013	Faculty Mentor, PGY-II Patient Safety and Quality Improvement Project. Sushant Govindan MD, Melissa Langdon MD, Beth Brenner MD, “House staff awareness of indwelling central venous catheter use.”
02/2012 – 06/2013	Faculty Mentor, PGY-II Patient Safety and Quality Improvement Project. David Saxon, MD and Alexander Pearson, MD. “Using hyperlinks to improve statistical teaching in journal articles.”
10/2011 – 06/2013	Faculty Mentor, PGY-II Research Project. Rajesh Patel, MD. “The Role of Social Media in Management of Chronic Disease.”
10/2011 – 06/2013	Faculty Mentor, PGY-II Research Project. Christopher Petrilli, MD. “Does Physician Attire Influence Patient Satisfaction?”
05/2012 - Present	Faculty Mentor, Summer Biomedical Research Program, University of Michigan School of Medicine.
08/2013 - Present	Instructor - Systematic Review and Meta-Analysis: Summer and Fall Methods Series. Robert Wood Johnson Clinical Scholars Program, Ann Arbor, MI.
07/2014 - Present	Faculty Mentor, Internal Medicine Residency Research Curriculum, University of Michigan Health System, Ann Arbor, MI.

07/2014 - Present	Junior Mentor, Sushant Govindan MD (Institute for Healthcare Policy and Innovation Fellowship/Pulmonary and Critical Care T32 Program)
07/2015 – 06/2017	Primary Mentor, Valerie Vaughn, MD (Institute for Healthcare Policy and Innovation Fellowship/Hospital Medicine Fellowship Program)
07/2015 – Present	Junior Mentor, Pooja Lagisetty, MD, Research Fellow, Robert Wood Johnson Clinical Scholars Program
07/2015 – 06/2016	Junior Mentor, Elena Byhoff, MD, Research Fellow, Robert Wood Johnson Clinical Scholars Program
07/2015 – Present	Primary Mentor, Rachel Kramer, Medical Student, Class of 2018, University of Michigan Medical School
09/2015 – 06/2017	Primary Mentor, Jasleen Tiwana, MD, Internal Medicine Resident/Health Services Research Trainee, University of Michigan
12/2015 – Present	Primary Mentor, David Paje, MD, Director Medical Short Stay Unit, University of Michigan Health System
07/2016 – Present	Primary Mentor, David Bozaan, MD, Medicine Faculty Hospitalist and Staff Physician at the VA Ann Arbor Health System
07/2016 – 06/2018	Primary Mentor, Christopher Petrilli, MD. Assistant Professor, Medicine Faculty Hospitalist and Staff Physician at the VA Ann Arbor Health System
07/2016 – Present	Primary Mentor, Valerie Vaughn MD, MSc. Assistant Professor of Medicine and Research Scientist. Division of Hospital Medicine, University of Michigan Health System.
07/2016 – Present	Primary Mentor, Nuzley Abedini. National Clinician Scholars Program Research Fellow. Division of Hospital Medicine, University of Michigan Health System.
09/2016 – Present	Primary Mentor, Tessa Adzemovic, Medical Student, Class of 2020. University of Michigan Medical School
11/2016 – Present	Primary Mentor, Ashwin Gupta MD. Assistant Professor, Medicine Faculty Hospitalist and Staff Physician at the VA Ann Arbor Health System
11/2018 – Present	Faculty Mentor, PGY-II Research Project. Julian Buchinger MD. “What do patients families think about contact isolation precautions?”
07/2018 – Present	Primary Mentor, David Flood. National Clinician Scholars Program Research Fellow. Division of Hospital Medicine, University of Michigan Health System.

- 07/2020 – Present Primary Mentor, Jaimie Patel. Clinical Instructor, Medicine Faculty Hospitalist, Division of Hospital Medicine, University of Michigan Health System.
- 02/2022 – Present Co-Mentor, Kristin Erlandson. Division of Infectious Disease, Department of Medicine, University of Colorado.

## Grants and Funding

### *Pending*

- Principal Investigator: “Midline Vs. PICCs for Intravenous Antibiotic Therapy: The MVP Trial.” Agency for Healthcare Quality and Safety (AHRQ). 1-R01 HS028399-01-A1. \$1,680,220
- Co-Principal Investigator (Krein): “Using a Veteran-Centered Design Approach to Improve Home Vascular Access Device Care.” Veterans Health Administration Health Services Research and Development. 1 I01 HX003232-01 - \$1,199,707.
- Principal Investigator: “A Patient-Centered Design Approach to Improving Home Vascular Device Care.” Agency for Healthcare Quality and Safety (AHRQ). 1-R01 HS028797-01.”
- Co-Principal Investigator: “The Ann Arbor VA Patient Safety Center of Inquiry [PSCI]” VA HSR&D. \$1,840,230
- Co-Investigator (PI: Raghavendran): “Capacity building for traumatic brain injury in India.” 1-D43NS125879-01. \$1,233,349.

### *Current Funding*

- 08/01/18 – 07/30/22 Principal Investigator: “Implementing MAGIC to Improve Peripherally Inserted Central Catheter Safety. Agency for Healthcare Quality and Safety (AHRQ). 1 R18 HS025891-01 - \$1,220,045.
- 01/11/2018-10/30/22 Co-Investigator (PI: Ullman) Peripherally Inserted Central Catheter Innovation to Reduce Infections and Clots: The PICNIC Trial. APP1157178 National Health and Medical Research Council, Australia. AUSS\$706,582
- 09/01/20 – 07/30/24 Chief Investigator E (CI-E): Center for Research Excellence in Wiser Wound Care. National Health and Medical Research Council, Australia. APP-11-96436. AUSS\$ 2,500,000.
- 7/01/15-6/30/24 Co-Investigator (PI Flanders): “Michigan Hospital Medicine Safety (HMS) Consortium.” Blue Cross/Blue Shield Foundation of Michigan - \$1,058,063

### *Past Funding*

- 9/30/15-9/29/19 Co-Investigator and Project Lead (PI Saint): “Enhancing Patient Safety through Cognition & Communication: The "M-Safety Lab". 1P30HS024385-01. Agency for Healthcare Research and Quality (AHRQ) - \$3,967,320
- 1/01/16-12/31/19 Co-Investigator (PI: Rickard) "Peripherally InSerted Central catheter dressing and Securement: the PISCES Trial." National Health and Medical Research Council, Sydney, Australia. AUS\$1,101,717
- 06/01/18 – 05/30/20 Principal Investigator: “Understanding use of Peripherally Inserted Central Catheters (PICCs): System, Provider, Patient Perspectives.” Veterans Health Administration Health Services Research and Development. 1 I01 HX-002025-01A1 - \$ 884,545.
- 07/01/14-3/31/18 Co-Investigator (MPI Saint/Krein): “Identifying and Reducing Catheter-Related Complications.” 1 I01 HX001101-01. Department of Veterans Affairs, HSR&D - \$1,186,637
- 10/01/15-09/30/18 Co-Investigator and Project Lead (PI Saint): “Enhancing Patient Safety by Preventing Device-Associated Harm” (PSCI II). VA National Center for Patient Safety – \$842,000
- 10/01/15-9/30/18 Co-Investigator (PI Saint): “Engaging Partners in Infection Prevention and Control in Acute Care Hospitals;” Center for disease Control (CDC) and American Hospital Association - \$1,372,035.
- 05/1/14-04/30/18 Principal Investigator: "Improving Peripherally Inserted Central Catheter Use in Hospitalized Patients." 1K08 HS022835– 01. Agency for Healthcare Research and Quality (AHRQ) - \$607,953
- 9/21/15-6/30/17 Co-Investigator (Rajajee/Raghavendran): “Optic nerve ultrasound in severe traumatic brain injury” R03. National Institutes of Health (NIH). - \$232,875
- 9/14/15-3/13/17 Co-Investigator (Saint/Meddings): “Comprehensive Unit-based Safety Program (CUSP) to reduce Central Line-associated Blood Stream Infections (CLABSI) and Catheter-associated Urinary Tract Infections (CAUTI) in Intensive Care Units (ICU) with persistently elevated infection rates. Health Research & Educational Trust (HRET)/ Agency for Healthcare Research and Quality (AHRQ) - \$602,393
- 1/01/13-12/31/13 Principal Investigator: “Prevalence and Patterns of PICC-Associated Bloodstream Infection: A Retrospective Study of Veterans.” VA LIP 41-127 - \$25,731
- 12/01/12-11/30/13 Principal Investigator: “Hospitalist Patterns of Use, Knowledge and Experiences Associated with Peripherally Inserted Central Catheters: A Michigan and National Survey.” 1931.PIRAP Blue Cross/Blue Shield Foundation of Michigan - \$9,900

- 08/01/13-07/30/14 Principal Investigator: "Improving the Appropriateness of Peripherally Inserted Central Catheter Use in Hospitalized Patients." Society of Hospital Medicine Foundation Award. - \$25,000
- 09/01/13-08/30/14 Principal Investigator: "Improving Vascular Access Safety in Older Adults." Claude D. Pepper Older Americans Independence Center (OAIC), National Institute of Aging. – \$19,036
- 09/01/13-8/31/14 Principal Investigator: "Prevalence, Patterns and Problems Associated with Long-term Venous Access in Skilled Nursing Facilities: A mixed-methods study." Claude D. Pepper Older Americans Independence Center (OAICs) PESC Pilot Award, National Institute of Aging. \$40,000
- 01/15/15-01/14/16 Principal Investigator: "Vascular Access Nursing Practices Related to Peripherally Inserted Central Catheters: The PICC One Survey". Blue Cross/Blue Shield Foundation of Michigan - \$75,000.

## Bibliography

### *Peer-Reviewed Publications*

1. **Chopra V**, Cavusoglu E, Marmur JD. The role of clopidogrel in the management of patients with ischemic heart disease. *Cardiovasc Drugs Ther.* 2003;17(5-6):467-477.
2. Cavusoglu E, Ruwende C, **Chopra V**, Yanamadala S, Eng C, Clark LT, Pinsky DJ, Marmur JD. Tissue Inhibitor of Metalloproteinase-1 [TIMP-1] is an independent predictor of all-cause mortality, cardiac mortality and myocardial infarction. *Am Heart J.* 2006;151(5):1108-1120.
3. Cavusoglu E, Ruwende C, **Chopra V**, Yanamadala S, Eng C, Clark LT, Pinsky DJ, Marmur JD. Adiponectin is an independent predictor of all-cause mortality, cardiac mortality, and myocardial infarction in patients presenting with chest pain. *European Heart J.* 2006;27(19):2300-2309.
4. Cavusoglu E, Gupta A, **Chopra V**, Clark LT, Eng C, Marmur JD. Usefulness of anemia in men as an independent predictor of two-year cardiovascular outcomes in patients presenting with acute coronary syndromes. *Am J Cardiol.* 2006;98:580-584.
5. Cavusoglu E, **Chopra V**, Gupta A, Ruwende C, Yanamadala S, Eng C, Clark LT, Pinsky DJ, Marmur JD. Usefulness of the white blood cell count as a predictor of angiographic findings in an unselected population referred for coronary angiography. *Am J Cardiol.* 2006;98(9):1189-1193.
6. **Chopra V**, Choksi P, Cavusoglu E. Beyond lipid lowering: the anti-hypertensive role of statins. *Cardiovasc Drugs Ther.* 2007;21(3):161-169.
7. Cavusoglu E, Eng C, **Chopra V**, Clark LT, Pinsky DJ, Marmur JD. Low plasma RANTES levels are an independent predictor of cardiac mortality in patients referred for coronary angiography. *Arterioscler Thromb Vasc Biol.* 2007;27(4):929-935.

8. Cavusoglu E, Ruwende C, Eng C, **Chopra V**, Yanamadala S, Clark LT, Pinsky DJ, Marmur JD. Usefulness of baseline plasma myeloperoxidase levels as an independent predictor of myocardial infarction at two years in patients presenting with acute coronary syndrome. *Am J Cardiol.* 2007;99(10):1364-1368.
9. Cavusoglu E, Eng C, **Chopra V**, Ruwende C, Yanamadala S, Clark LT, Pinsky DJ, Marmur JD. Usefulness of the serum complement component c4 as a predictor of stroke in patients with known or suspected coronary artery disease referred for coronary angiography. *Am J Cardiol.* 2007;100(2):164-168.
10. Cavusoglu E, Kornecki E, **Chopra V**, Sobocka M, Babinska A et al. Association of plasma F11-receptor/junctional adhesion molecule-1(F11R-JAM-A) levels with human atherosclerosis. *J Am Coll Cardiol.* 2007;50(18):1768-1776.
11. Cavusoglu E, Chhabra S, **Chopra V**, Eng C, Gupta A, Yanamadala S, Pinsky DJ, Marmur JD. Relation of baseline plasma phospholipid levels to cardiovascular outcomes at two years in men with acute coronary syndrome referred for coronary angiography. *Am J Cardiol.* 2007;100(12):1739-1743.
12. Cavusoglu E, **Chopra V**, Battala V, Ruwende C, Yanamadala S, Eng C, Pinsky DJ, Marmur JD. Baseline plasma adiponectin levels as a predictor of left ventricular systolic dysfunction in patients referred for coronary angiography. *Am J Cardiol.* 2008;101(8):1073-8. PMID Not Required.
13. **Chopra V**, Plaisance B, Cavusoglu E, Flanders SA, Eagle KA. Perioperative beta-blockers for major non-cardiac surgery: *Primum Non Nocere.* *Am J Med.* 2009;122(3):222-229. PMID Not Required.
14. Cavusoglu E, **Chopra V**, Gupta A, Battala VR, Podalosu S, Eng C, Marmur JD. Relation between Red Blood Cell Diameter Width (RDW) and all-cause mortality at two years in an unselected population referred for coronary angiography. *Int J Cardiol.* 2009;141(2):141-146. PMID Not Required.
15. Cavusoglu E, Ruwende C, **Chopra V**, Yanamadala S, Eng C, Pinsky DJ, Marmur JD. Relationship of baseline ADMA levels to cardiovascular outcomes at two years in men with acute coronary syndrome referred for coronary angiography. *Coron Artery Dis.* 2009;20(2):112-117. PMID Not Required.
16. Choksi P, **Chopra V**, Faas FH. Recurrent renal-cell carcinoma presenting as a sellar- mass: Case report and review of literature *The Endocrinologist* 2009;19:237-240. PMID Not Required.
17. Cavusoglu E, **Chopra V**, Gupta A, Choksi PU, Ruwende C, Yanamadala S, Frishman W, Pinsky DJ, Marmur JD. Relation of baseline serum potassium levels to angiographic findings in patients with known or suspected coronary artery disease. *Am J Hypertension.* 2009;22(7):754-62. PMID Not Required.

18. **Chopra V**, Flanders SA. Does statin use improve pneumonia outcomes? *Chest*, 2009;136(5):1381-1388. PMID Not Required.
19. Cavusoglu E, Marmur JD, Chhabra S, **Chopra V**, Eng C, Jiang XC. Relation of baseline Plasma Phospholipase Transfer Protein (PLTP) activity to left ventricular systolic dysfunction in patients referred for coronary angiography. *Atherosclerosis*. 2009;207:261-265. PMID: PMC4351717
20. **Chopra V**, Flanders SA, Froehlich JB, Lau WC, Eagle KA. Perioperative practice: time to throttle back. *Ann Intern Med*. 2010;152:47-51. PMID Not Required.
21. Cavusoglu E, Ruwende C, **Chopra V**, Poludasu S, Yanamadala S, Frishman WH, Eng C, Pinsky DJ, Marmur JD. Relation of baseline plasma ADMA levels to cardiovascular morbidity and mortality at two years in men with diabetes mellitus referred for coronary angiography. *Atherosclerosis*. 2010;210(1):226-231. PMID Not Required.
22. **Chopra V**, Eagle KA. Perioperative beta-blockers for cardiac risk reduction – time for clarity. *JAMA*, 2010;303(6):551-552.
23. Eagle KA, **Chopra V**. Statins before coronary procedures – a new indication for an old friend. *J Am Coll Cardiol*, 2010;56(14):1110-1112. PMID Not Required.
24. **Chopra V**, Eagle KA. Cardiac biomarkers in the diagnosis, prognosis and management of coronary artery disease: A primer for internists. *Indian J Med Sci*. 2010;64(12):561-573. PMID Not Required.
25. **Chopra V**, Davis MA. In search of equipoise. *JAMA*. 2011;305(12):1234-1235.
26. **Chopra V**, Flanders SA. Statins and pneumonia. *BMJ*. 2011 Apr 6;342:d1907. PMID Not Required.
27. **Chopra V**, McMahon LA. HITECH, electronic health records and Facebook: A health information trifecta. *Am J Med*. 2011;124(6):477-479. PMID Not Required.
28. Cavusoglu E, Marmur JD, Hojjati MR, **Chopra V**, Butala M, Subnani R, Huda MS, Yanamadala S, Ruwende C, Eng C, Pinsky DJ. Plasma interleukin-10 levels and adverse outcomes in acute coronary syndrome. *Am J Med*, 2011;124(8):724-730. PMID Not Required.
29. **Chopra V**, Wesorick D, Sussman JB, Hickner A, Greene T, Rogers MA, Eagle KA, Saint S. Effect of perioperative statins on death, myocardial infarction, atrial fibrillation and length of stay: A systematic review and meta-analysis. *JAMA Surgery*, 2012;147(2):181-9. PMID Not Required.
30. McMahon LA, **Chopra V**. Healthcare cost and value: the way forward. *JAMA*, 2012;307(7):671-2. PMID Not Required.

31. Rogers MA, Levine DA, Blumberg N, Flanders SA, **Chopra V**, Langa KM. Triggers of hospitalization for venous thromboembolism. *Circulation*, 2012;125(17):2092-2099. PMID: PMC3342773
32. **Chopra V**, Hayward RA. Why *P* is not perfect. *Am J Med*, 2012;125(6):e1-2. PMID Not Required.
33. Fallouh NA, **Chopra V**. Statin withdrawal after major noncardiac surgery: risks, consequences and preventative strategies. *J Hosp Med*, 2012;7(7):573-579. PMID Not Required.
34. **Chopra V**, Rogers MA, Buist M, Govindan S, Lindenauer PK, Saint S, Flanders SA. Is statin use associated with reduced mortality after pneumonia: a systematic review and meta-analysis. *Am J Med*, 2012 Nov;125(11):1111-23. PMID Not Required.
35. **Chopra V**, Anand S, Krein SL, Chenoweth C, Saint S. Bloodstream infection, venous thrombosis and peripherally inserted central catheters: reappraising the evidence. *Am J Med*, 2012;125(8):733-741. PMID Not Required.
36. **Chopra V**, Eagle KA. Perioperative mischief: the price of academic misconduct. *Am J Med*, 2012;125(10):953-955. PMID Not Required.
37. **Chopra V**, Flanders SA, Saint S. The problem with peripherally inserted central catheters. *JAMA*, 2012;308(15):1527-1528. PMID Not Required.
38. **Chopra V**, Eagle KA. Rethinking cardiac risk reduction after noncardiac surgery: the post-operative “carpe diem.” *J Hosp Med*, Nov-Dec 2012;7(9):721-723. PMID Not Required.
39. **Chopra V**, Shojania KG. Recipes for checklists and bundles: one-part active ingredient, two parts measurement. *BMJ Qual Saf*, October 2012;22(2):93-96. PMID Not Required.
40. **Chopra V**, McMahon LA. Introducing *Forensic* health services research. *Am J Managed Care*, 2013;e76. PMID Not Required.
41. Saint S, Green MT, Olmsted RN, **Chopra V**, Meddings J, Safdar N, Krein SL. Perceived strength of evidence supporting practices to prevent health care-associated infection: Results from a national survey of infection prevention personnel. *Am J Infect Control* 2013;41(2):100-106. PMID: 23369314. PMID:PMC3646483.
42. **Chopra V**, Kuhn LK, Coffey C, Salameh M, Barron J, Krein S, Flanders SA, Saint S. Hospitalist experiences, practice, opinions and knowledge regarding peripherally inserted central catheters: A Michigan Survey. *J Hosp Med*, 2013;8(6):309-314. PMID Not Required.
43. **Chopra V**, Anand SA, Hickner A, Buist MB, Rogers MA, Saint S, Flanders SA. Risk of venous thromboembolism associated with peripherally inserted central catheters: a systematic review and meta-analysis. *Lancet*, 2013;382(9889):311-325. PMID Not Required.



44. Fallouh N, **Chopra V**. Perioperative statins therapy: current knowledge and future directions. *Expert Opinion on Pharmacotherapy*, 2013;14(9):1107-1110. PMID Not Required.
45. **Chopra V**, O'Horo JC, Rogers MA, Maki D, Safdar N. The risk of bloodstream infection associated with peripherally inserted central catheters compared with central venous catheters in adults: A Systematic Review and Meta-Analysis. *Infect Control Hosp Epidemiol*, 2013 Sep;34(9):908-18. PMID Not Required.
46. Hartley S, Kuhn LK, Valley S, Fallouh N, Dussan K, Judd S, Murphy SL, Saint S, **Chopra V**. Off-label Ondansetron use in hospitalized medical patients: prevalence, patterns, and predictors. *J Clin Outcomes Management*, 2013;20(9):1-17. PMID Not Required.
47. **Chopra V**, Kuhn LK, Flanders SA, Saint S. Hospitalist experiences, practice, opinions and knowledge regarding peripherally inserted central catheters: results of a national survey. (*J Hospital Medicine*, 2013;8(11):635-638. PMID Not Required.
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49. Chang T, **Chopra V**, Zhang C, Woolford SJ. The role of social media in online weight management: systematic review. *J Med Internet Res*, 2013;15(11):e262. PMID:24287455. PMID: PMC3868982.
50. **Chopra V**, Kuhn L, Ratz D, Lopus T, Chenoweth C, Krein S. PICC-associated bloodstream infections: Prevalence, Patterns and Predictors. *Am J Med*, 2014;127(4):319-328. PMID:24440542. PMID Not Required.
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53. **Chopra V**, Wijesundera DN. The right time and PLACE: optimal management of perioperative angiotensin-converting enzyme inhibitors. *J Hosp Med*. 2014;9(5):334-336. PMID Not Required.

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57. Petrilli C, Mack M, Hickner A, Petrilli J, Saint S, **Chopra V**. Understanding the role of physician attire on patient perceptions: a systematic review of the literature – targeting attire to improve likelihood of rapport (TAILOR) investigators. *BMJ Open*. 2015;5(1):e005678. PMID: PMC4312788
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