



MCCORRP

MICHIGAN CLINICAL OUTCOMES
RESEARCH AND REPORTING PROGRAM



“Improving Care Through Quality Research”

2023 ANNUAL REPORT

SUMMER INTERNSHIP EDITION



OUR VISION

The goal of MCORRP is to improve the quality of cardiovascular care at Michigan Medicine and University of Michigan Health, as well as in our state, across the nation, and around the world. To accomplish this we are studying cardiovascular conditions and procedures among large populations, developing advanced tools to assess risk and outcomes, and promoting evidence-based care models incorporating the latest research and innovation for implementation by our physicians and nurses, leading to improved patient outcomes. We will take a larger role in disseminating new information and best practices more broadly through presentations at regional, national, and international meetings while publishing our findings in leading peer-reviewed publications. In addition, we will partner with local and national organizations to broaden access to quality cardiovascular care for everyone. Finally, MCORRP is committed to creating a vibrant, rigorous, diverse, and collegial research environment to promote the investigative development of our students, house officers, fellows, and junior faculty.

Table of Contents



Executive Summary.....	5
Letters from our Founding Director.....	7
Letters from our Directors.....	8
Project Team Leaders.....	10
Project Timelines.....	11
Meet our MCORRP & Collaborating Team..	12
Meet our MCORRP Student Interns.....	13
Michigan Medicine Faculty.....	14
MCORRP Visiting Faculty.....	15
Research Initiatives.....	17
Publications.....	43
Grants & Funding.....	47
Lectures.....	49
Meet our MCORRP Team.....	53
Meet Our Student Interns.....	69
MCORRP Named Intern Program.....	84
MCORRP Donors.....	85

*A digital version of the MCORRP Annual Report is available online at
www.med.umich.edu/mcorrp*

Global Impact



28 Years

- ✓ Registries across all 50 states and 22 countries
- ✓ Over 1,900 Papers/Presentations made at national and international conferences.
- ✓ Over 450 student have participated our summer internship program.

EMAIL: MCORRPadmin@med.umich.edu

WEBSITE: www.med.umich.edu/mcorrp

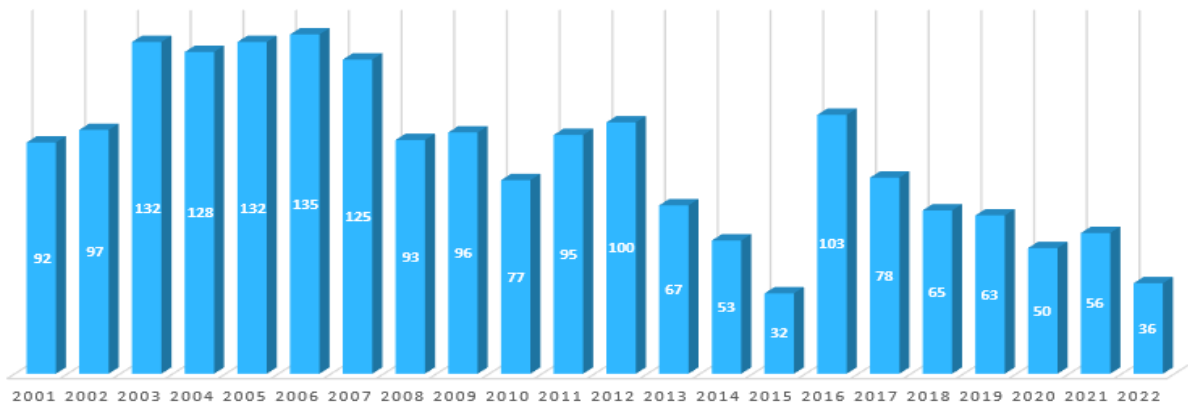
- **MAQI²** is expanding its site participation with the addition of Ascension St John and St Joseph Mercy
- **MAQI²- DOAC Dashboard** is live and being used by 4 sites.
- **MAQI²** had a major publication which was selected by the AHA as one of the most impactful articles of the year.
- **MHYH Registry** got a 'post covid' reboot with the addition of Venezuela which has randomized 20 patients and Kenya is ready to randomize
- **Cardiac Sarcoidosis Consortium** added 2 new sites, and had 3 major publications in JAMA Cardiology, JAHA, and European Heart Journal
- **IRAD** has been reorganized to create a new, representative publications committee which includes multiple surgeons from various institutions
- **IRAD** has published 9 papers in 2022 for a total of 110 publications since inception.
- **Venous Database** is being created to begin enrollment
- **C3TN Database** got a kickstart from the summer interns this summer by abstracting data for this new registry.
- **COVID-19 Registry** has made impactful progress in patient follow-up of "long covid" symptoms with email and telephone surveys.
- **PHS** participates in over 100 schools and has impacted more than 112,000 students.
- **WMR** Students were able to volunteers over 300 hours in the summer of 2022 to assist with sorting medical devices, interrogating pacemakers and assisted in sending medical supplies to Gambia
- **PERT Registry** has over 166 patients enrolled in the database, and over 75% of follow-up have been completed.
- **PH** has collected follow-up data for all 2020-2021 patients in the registry.
- **FMD** has over 3,100 patients currently enrolled

"Improving Care Through Quality Research"

A Year In Review

MCORRP continues to grow every year by expanding our registries and increasing our student internship program. The faculty, staff, fellows, residents and student interns of our 10+ registries collect data on thousands of patients and hundreds of thousands of patient follow-up. Our global presence has expanded. We coordinate our registries with national and international sites across all 50 states and in 22 countries. Our work will be highlighted at numerous national and international meetings this year, along with many local internal research symposiums.

MCORRP
NUMBER OF PUBLICATIONS



MCORRP continues to publish manuscripts, opening the door to more intensive and in-depth studies and improvements in care. In the coming years, we will continue to expand participation in our multisite registries, many into new countries. We will also be increasing our output of peer-reviewed publications, presentations at scientific meetings, as well as launching additional quality improvement initiatives. We also look forward to continuing our exciting participation in training tomorrow's health services researchers, health care providers and health care leaders.

MCORRP is a vibrant, forwarding thinking, impactful health services research laboratory. Through teamwork, global collaboration, and commitment to excellence in science, we are changing the world.





FOSTERING COLLABORATION

“ MCORRP, the Michigan Anticoagulation Quality Improvement Initiative (MAQI²) and the Michigan Medicine Anticoagulation Management Service (AMS) collaborate on several projects to improve the quality of care for patient on anticoagulation. They have identified methods to measure and develop performance markers to enhance patient safety, improve quality of care and increase the knowledge of patients while taking anticoagulants.”

Our Founding Director

Dear Colleagues, Supporters and Friends:

I am delighted to provide a letter of introduction for this, the 28th annual report from the **Michigan Clinical Outcomes Research and Reporting Program**.

When I was recruited to come to the University of Michigan in 1994, one of my recruitment mandates was to establish a rigorous and impactful outcomes research laboratory that would serve patients at the University of Michigan, those cared for across the state and region and hopefully well beyond, to other states and nations. This mandate came with significant support from the hospital, the Medical School, the Department of Medicine, the Division of Cardiovascular Medicine and more recently the Frankel Cardiovascular Center to accomplish this purpose. Looking back, it is extremely exciting to reflect that the recruitment mandate has been fulfilled, and indeed surpassed, through the efforts of so many committed individuals.

Over the years, our team has taken on a host of clinical research challenges, which are leading to better care for a variety of conditions. No doubt our efforts to establish statewide registries in coronary angioplasty and peripheral intervention are having a lasting effect on care for citizens throughout the state of Michigan. Importantly, our work to establish a multicenter international effort to study acute aortic syndromes has had a profound effect on the field. Indeed the reports from our core laboratory now provide the basis for our current understanding of this rare and deadly disease and its various complications and most effective management. In recent years, we have been able to take on other rare diseases, such as fibromuscular dysplasia (with the Fibromuscular Dysplasia Society of America), Cardiac Sarcoidosis, cardiac involvement with COVID-19 and others.

In thinking about global health care, in our program entitled Project My Heart Your Heart, we are trying to make pacemaker recycling a reality in the world, hoping to extend pacemaker care to patients in low income countries who otherwise would die from lack of a pacemaker. It is also appropriate that the University of Michigan would take a leadership role in community health. Through Project Healthy Schools, our team is now trying to fight the ravages of childhood obesity in 140 schools throughout Michigan and in other states as well. Our work to study and improve quality of care has led to significant changes in the way that we manage acute coronary care and heart failure both in our center, and in the state. This is especially true for the management of anticoagulation through our joint project with Blue Cross Blue Shield of Michigan. This project is improving health of patients in Michigan, the U.S. and across the world.

The impact of our research is great. Equally important is the impact **MCORRP** has had on education. We have given the opportunity to participate in clinical research to numerous medical students, residents, fellows and junior faculty. **MCORRP** provides a research home for developing outcome scientists interested in a variety of conditions and procedures. We also highly value our summer internship program, which in our most recent iteration served 29 students from 15 different universities to spend a summer with us learning about health care, immerse in a clinical research project, partner with World Medical Relief to deliver used medical supplies to needy nations, and experience a variety of shadowing experiences to help them discern whether a health care profession is the right choice for them. Through the years, we have touched more than 450 students who have gone on to medical school, nursing programs, public health degrees and other health related fields.

We are very fortunate to be at a place like the University of Michigan, which has allowed us to develop and grow **MCORRP** and its various initiatives. Equally, we are extremely fortunate to have an incredible group of staff, faculty, residents, students, and fellows who honor and care for one another as individuals, seek our mutual goals of collaboration and innovation and are firmly committed to excellence, in everything that they do. As you read our 2022 report, I hope that you capture the depth, quality, and amazing range of the work that **MCORRP** is currently doing and will do as it proceeds into the future. Importantly, our work would not be possible without critical support from granting agencies, foundations, the University and Frankel Cardiovascular Center and individual donors who extend our impact through their generous support.

John A. Eagle



Our Directors

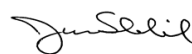
Welcome! I am so glad you have taken an interest in our team. We at the **Michigan Clinical Outcomes Research and Reporting Program (MCORRP)** feel very fortunate to be a part of the effort to study and improve healthcare. I am very proud of the group of dedicated team members you will meet in these pages. The **MCORRP** family has grown dramatically, from a single faculty member, our founding director Kim Eagle, M.D., to the current 14 staff, 19 U-M faculty, and 20 nationwide visiting faculty, as you will see in this, our 28th Annual Report! Our team is proof that you can have fun and do great work.

The **MCORRP** summer student internship program brings tremendous enrichment and excitement to our year, and we were so pleased to resume last summer. We have seen this internship grow from a single student, to a well-organized, 8–10-week program. The summer student internship, organized and run by returning students, provides them with research, clinical, and health care quality improvement opportunity that is second to none. (Please refer to the summer internship section for more details)

Our current portfolio of projects runs a very wide spectrum, from collaborative studies of uncommon diseases (The US Registry for Fibromuscular Dysplasia, and the International Registry of Acute Aortic Dissection), to an extensive public-school health and lifestyle intervention (Project Healthy Schools), and international efforts to repurpose used pacemakers and defibrillators (My Heart Your Heart). Our biggest program is one of a unique group of statewide collaborative quality improvement initiatives sponsored by Blue Cross Blue Shield of Michigan. Michigan Anticoagulation Quality Improvement Initiative (MAQI2), is a consortium of anticoagulation management services which explores and implements quality improvement efforts across the state of Michigan and shares them around the country and around the world.

One particular focus here at **MCORRP** has been studying rare diseases. By collaborating around the country and around the world, we seek to gain sufficient experience and knowledge to better understand patterns of disease and potential causes. Our team has focused on three rare diseases: cardiac sarcoidosis, fibromuscular dysplasia, and aortic dissection. We have succeeded in assembling enough expertise and patient experience to make novel observations, which have and continue to lead to new investigations and approaches to diagnosis and treatment, as you will learn in the following pages. We are motivated by this thought: if I or a loved one had a serious but rare condition, wouldn't we want to know that someone, somewhere, is looking for solutions?

As you will see in the following pages, you will be hard pressed to find a research team that incorporates more volunteerism, philanthropy, global outreach, education, and fun into their work! Other than my own family, being a part of the **MCORRP** family gives me the greatest pride and joy. I hope you enjoy reading about our great program, and the talented people who make it happen!



Our Directors

What began as Dr. Eagle's vision over 25 years ago has resulted in an outcomes research laboratory that continues to thrive and challenge faculty, staff, and students to improve health care worldwide.

We are fortunate to have a team of committed, dedicated, hard-working staff and extraordinary passion and commitment of investigators from around the world. Dr. Eagle's leadership has been essential; his exemplary commitment to excellence, inclusiveness and mentorship continues to promote collaboration among a variety of disciplines and professionals.

Our team is diverse, with collaborators from Nursing, Pharmacy, Medicine, Public Health, and others contributing to knowledge needed to improve care in a complex healthcare system. Not only do we measure clinical outcomes in cardiovascular patients and student populations, we also examine the delivery of care, ethics of health care, efficiency of care, and assess quality of life.

Our team continues to expand our horizons and challenge our students to expand as well, exemplified by the following. We are working with faculty in critical care to observe treatment and outcomes in patients admitted to the Cardiac Intensive Care Unit with a particular focus on patients in cardiogenic shock. This registry has engaged our staff and students, challenging them to learn how the complexities of hemodynamic monitoring affect treatment and outcomes. As part of our work with school children in Project Healthy Schools, we are working with a team to examine the effects of the COVID-19 pandemic on school nutrition directors in the state. Our work with the my heart your heart project has heightened our awareness of cultural differences across countries, while re-affirming the universal goal of improving patients' lives.

*Each day I am grateful for the opportunity to be involved with this vibrant group of dedicated professionals. In my 40-year career at Michigan, I have never worked with a better group of faculty – who are not only intellectual and thought leaders in their respective fields, but are also genuinely compassionate and nice people! I am also grateful to the many donors and granting agencies who continue to invest in our work. I am confident that **MCORRP** will continue to provide a vibrant, challenging and caring environment for our staff and continue to prepare our students for the challenges which lie ahead. We will face these challenges with thoughtfulness and compassion, armed with the collective support of members of the **MCORRP** Family.*

Erin Kline-Propp



MCORRP Project Team Leaders

	PROJECT	Director(s)	Project Manager(s)
	BRIDGE	Melvyn Rubenfire, MD Todd Koelling, MD	Rachel Krallman
	Cardiac Critical Care Registry	Michael Thomas MD Andrea Thompson, MD	Eva Kline Rogers RN, NP Elise Woznicki
	Cardiac Rehabilitation	Melvyn Rubenfire MD John Bisognano MD	Eva Kline Rogers, RN, NP
	Cardiac Tumor	Monica Leja, MD	Elise Woznicki
	COVID-19 Registry	Nadia Sutton MD	Eva Kline Rogers RN, NP
	CSC: Cardiac Sarcoidosis Consortium	Thomas Crawford MD	Eric Puroll
	FMD: FibroMuscular Dysplasia	James Froehlich MD	Eva Kline-Rogers RN, NP Rachell Krallman
	IRAD: International Registry of Aortic Dissection	Kim Eagle MD	Elise Woznicki
	MAQI: Michigan Anticoagulation Quality Improvement Initiative	James Froehlich, MD Geoffrey Barnes, MD	Brian Haymart RN Deb DeCamillo RN Tina Alexandris-Souphis RN
	MCORRP Summer Internship	Eva Kline Rogers	Rachel Krallman Tina Alexandris-Souphis, RN Elise Woznicki
	MHHY: My Heart Your Heart	Thomas Crawford MD	Eric Puroll Eva Kline-Rogers RN, NP
	OVERCOME HF:	Todd Koelling MD	Rachel Krallman
	PE Registry	Geoffrey Barnes, MD Colin Greineder MD	Eva Kline-Rogers RN, NP Deb DeCamillo, RN Tina Alexandris-Souphis RN
	PERT Consortium	Geoffrey Barnes MD	Eva Kline-Rogers RN, NP Tina Alexandris-Souphis RN
	PH: Pulmonary Hypertension	Vallerie McLaughlin MD	Eva Kline Rogers RN, NP

MCORRP Project Timeline

2023 and beyond



MCORRP Team & Collaborating Teams

FOUNDING DIRECTOR

Kim Eagle MD

DIRECTORS

Geoffrey Barnes MD, MSc
Thomas Crawford MD
James Froehlich MD, MPH
Eva Kline-Rogers RN, NP, MS
Mel Rubenfire, MD

SUPERVISOR

Brian Haymart RN, BS, MS

PROJECT MANAGERS

Tina Alexandris-Souphis RN, BSN, BS
Debbie Decamillo RN, BSN
Rachel Krallman BS
Eric Puroll BS
Elise Woznicki BS

IRB SPECIALISTS

Patricia Bruenger BA, CCRN

STATISTICIANS

Xiaokui Gu MA, MD
Xiaowen Kong MS
Chih-Wen Pai PhD, MSPH

PROGRAMMERS

Scott Ash BA, MS
Brian Shensky BS

RESEARCH COORDINATOR:

Amy DeLellis, BS

RESEARCH ASSISTANT:

Alice Horgrow



MICHIGAN MEDICINE Residents, Fellows, & Staff

Neil Ardesna MD *Internal Medicine*
Taylor Dawson MD *Internal Medicine*
Frank Seagull *Research Specialist Lead*
Danielle Helminski, BS MPH *Project Manager*

MICHIGAN MEDICINE Cardiac Rehabilitation:

Melvyn Rubenfire MD *Project Director*
John Bisognano MD *Project Director*
Joe Bryant BS *Project Manager*
Samantha Fink *Met Fit Team Leader*
Josh Garfein *Statistician*
Chih-Wen Pai PhD, MSPH *Statistician*
Cindy Harper *Administrative Assistant*

MICHIGAN MEDICINE Pulmonary Hypertension

Vallerie McLaughlin MD *Project Director*
Victor Moles MD *Assistant Professor*
Susanne McDevitt RN, NP *Project Manager*
Chih-Wen Pai PhD, MSPH *Statistician*

MHealthy Promotion Division, PHS

Melissa Boguslawski PhD, MPH *Program Manager*
Miriam Dineen *Administrative Specialist*
Grace James MHSA *Wellness Specialist*
Benjamin Ransier MEd *Curriculum/Training Coordinator*
Jacob Robidou BS *Wellness Coordinator*
Nathan Saulter BS *Web Designer/Administrator*
Bradley Newman MS *Wellness & Grants Coordinator*

MCORRP Student Internship Team

MANAGERS

Jake McDevitt	University of Michigan	Ann Arbor, MI
Drake Rosenberg BS	University of Michigan	Ann Arbor, MI

TEAM LEADERS PROJECT

Mahee Doshi	PH		
Chloe Kazaglis	MAQJ ²	University of Michigan	Ann Arbor, MI
Zoe Michos	CCCTN	Case Western Reserve University	Cleveland, OH
Olivia Mueller BS	IRAD & FMD	Wayne State University	Detroit, MI
Brindha Rajakumar	MAQJ ²	University of Michigan	Ann Arbor, MI

MEDICAL STUDENTS

Mohamed Awada BS	University of Michigan Medical School	Ann Arbor, MI
Mathew Benson BA	University of Michigan Medical School	Ann Arbor, MI
Trey Feldeisen BS	Donald & Barbara Zucker School of Medicine	New York, NY
Tahsin Najmi BS	University of Nevada, Reno School of Medicine	Reno, NV
Andrew Zhang BS	University of Michigan Medical School	Ann Arbor, MI

STUDENT INTERNS UNIVERSITY

Kacie Alexander BS	University of Michigan	Ann Arbor, MI
Kiyan Aslani	Nova Southeastern University	Fort Lauderdale, FL
Clara Bowman	University of Michigan	Ann Arbor, MI
Amber Co, BS	Oregon State University	Corvallis, OR
Mary Grace Farmer BS	Michigan State University	East Lansing, MI
Varsha Karthikeyan	Oregon State University	Corvallis, OR
Vincent Maribao	University of Michigan	Ann Arbor, MI
Hannah Nemeth	Northwestern University	Evanston, IL
Emma Sorter	University of Michigan	Ann Arbor, MI
Sofia Zestos	Michigan State University	East Lansing, MI

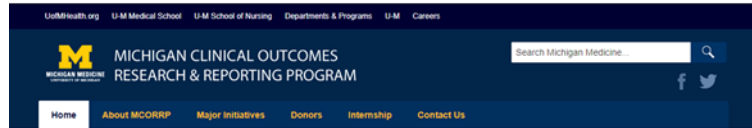
Michigan Medicine Faculty

Faculty	Specialty	Areas of Practice
Barnes, Geoffrey MD, MSc Assistant Professor	Cardiovascular Disease, Internal Medicine	Vascular disorders (including venous thromboembolism, peripheral artery disease and Raynaud's disorders), anticoagulation and general cardiac care.
Bisognano, John MD, PhD Clinical Professor	Advanced Heart Failure and Transplant Cardiology, Cardiovascular Disease, Internal Medicine	General Cardiology; Severe and resistant hypertension, hyperlipidemia, preventative cardiology, chronic heart failure, ischemic coronary, and vascular disease
Crawford, Thomas MD Associate Professor	Cardiac Electrophysiology, Cardiovascular Disease, Internal Medicine	Electrophysiology, Atrial Fibrillation, Ventricular Tachycardia, Wolf-Parkinson-White Syndrome (WPW), Cardiac Sarcoidosis, Sudden Cardiac Death
Eagle, Kim MD, MACC Professor	Cardiovascular Disease, Internal Medicine	Cardiovascular outcomes research; Thoracic Aortic Disease; Childhood Obesity; Pacemaker re-use in underserve countries
Froehlich, James MD, MPH FACC, FSVM Professor	Cardiovascular Disease, Internal Medicine	Peripheral vascular disease, venous thromboembolic disease, preventive cardiology cerebrovascular disease, aneurysmal disease, fibromuscular dysplasia, and general cardiology
Greineder, Colin MD Assistant Professor	Emergency Medicine	Emergency Medicine: Research focuses on the development of novel technologies for targeted delivery of biotherapeutics and drug carriers to the vascular endothelium, with the overarching hypothesis that intervention at the endothelial cell can improve disease outcomes in a variety of emergent and critical illnesses
Koelling, Todd MD Professor	Advanced Heart Failure & Transplant Cardiology, Cardiovascular Disease, Internal Medicine	Congestive heart failure, cardiomyopathy, cardiac amyloidosis, cardiac sarcoid, hypertrophic cardiomyopathy, mitral valve regurgitation, heart transplantation and ventricular assist device therapy
Kurlander, Jacob	Gastroenterology, Internal Medicine	Gastroenterology
LaBounty, Troy MD Associate Professor	Cardiovascular Disease, Internal Medicine	Echocardiography, general cardiology and cardiac computed
McLaughlin, Vallerie MD Professor	Cardiovascular Disease, Internal Medicine	Pulmonary Hypertension
McLaughlin, Vallerie MD Clinical Assistant Professor	Cardiovascular Disease, Internal Medicine	Pulmonary Hypertension
Moles, Victor MD Clinical Assistant Professor	Cardiovascular Disease, Internal Medicine	Cardiovascular Diseases, Pulmonary Hypertension
Obi, Andrea Tara MD Assistant Professor	Department of Surgery, Vascular Surgery	Superficial and deep venous disease
Patel, Himanshu MD Professor	Department of Surgery, Thoracic Surgery	Surgery for thoracic aortic disease and aortic valve disease, Trans catheter, Endovascular and minimally invasive cardiac surgery. Surgery for heart failure, including cardiac valvular disease and high-risk coronary bypass grafting. Off pump coronary artery surgery.
Rubens, Melvyn MD Professor	Cardiovascular Disease, Internal Medicine	Atherosclerosis detection, general cardiology, preventive cardiology, lipid clinic, lipid management, metabolic syndrome, pulmonary hypertension:
Shaefer, Jordan MD Assistant Professor	Internal Medicine, Hematology	Thrombotic disorders (including deep vein thrombosis, pulmonary embolism, thrombophilia, and cancer associated thrombosis), anticoagulating, bleeding disorders and nonmalignant hematology.
Sherk, William MD Clinical Assistant Professor	Diagnostic Radiology Vascular and Interventional Radiology	Chronic Vein Obstruction,
Thompson, Andrea MD/PhD Assistant Professor	Cardiovascular Disease, Internal Medicine	Genetic Cardiomyopathies, Chemical Biology, Molecular Chaperones, Cardiac Critical Care. Our research program is interested in using chemical biology tools to understand molecular perturbations driving the pathogenesis of cardiomyopathies. We are particularly interested in understanding the influence of environmental stressors and aging.

MCORRP Visiting Faculty

Visiting Faculty	University/Hospital Affiliation	Area of Practice
Ballotta, Andrea MD	IRCCS Policlinic San Donato, Italy	Aortic Dissection
Bossone, Eduardo MD, PhD	Amalfi Coast Hospital University Hospital Salerno, Italy	Aortic Dissection
Braverman, Alan MD	Washington University St Louis, Missouri	Aortic Dissection
Bumpus, Sherry PhD, FNP-BC	Eastern Michigan University Ypsilanti, Michigan	Transitional Care
Dansey, Kristen	Beth Israel Deaconess Medical Center Boston, Massachusetts	Aortic Dissection
De Beaufort, Hector MD	IRCCS Policlinic San Donato, Italy	Aortic Dissection
DeVisser, Rosa BS, MS, PhD	Vrije Universiteit Amsterdam, Netherlands	Public Health
Foley, Mathew MD	Vanderbilt University Nashville, Tennessee	Cardiac Surgery
Gorla, Riccardo MD, PhD	IRCCS Policlinic San Donato, Italy	Aortic Dissection
Gornik, Heather MD	University Hospitals Cleveland, Ohio	Fibromuscular Dysplasia
Jackson, Elizabeth MD	University of Alabama Birmingham, AL	Cardiology
Kamman, Arnoud MD	Policlinic San Donato IRCCS, Italy University of Utrecht, Amsterdam, Netherlands	Aortic Dissection
Lindsay, Mark MD, PhD	Massachusetts General Hospital Boston, Massachusetts	Genetic Aortic Disease
Myrmel, Truls MD, PhD	Tromso University Hospital Norway	Aortic Dissection
Olin, Jeffrey MD	Mount Sinai Heart Center New York, NY	Fibromuscular Dysplasia
Olomu, Ade MD, MS	Michigan State University East Lansing, Michigan	Acute Coronary Syndrome
Pupovac, Stevan MD	Northwell Health New York City, New York	Aortic Dissection
Reutersberg, Benedikt MD	Technical University of Munich Munich, Germany	Aortic Dissection
Spinelli, Domenico MD	IRCCS Policlinic San Donato, Italy	Aortic Dissection
Trimarchi, Santi MD, PhD	Policlinic San Donato IRCCS, Italy University of Milan, Italy	Aortic Dissection
Zubair, Muhammad MD	Houston Methodist Hospital Houston, Texas	Aortic Dissection

www.med.umich.edu/mcorr



WELCOME!

The goal of Michigan Clinical Outcomes Research and Reporting Program (MCORRP) is to improve the quality of cardiovascular care at Michigan Medicine, in the state of Michigan, and throughout the United States and world. This will be accomplished by studying common cardiovascular conditions and procedures among large populations; developing modern mathematical tools to assess risk and outcomes; promoting evidence-based care models which incorporate best science into care itself by targeting physicians, nurses, and patients.

MCORRP will extend its reach by presenting and publishing in peer-reviewed publications as well as by partnering with other organizations to overcome barriers to providing quality cardiovascular care, and collegial research environment which promotes and supports junior faculty.



MCORRP in the NEWS!

LIVING THE MISSION: Michigan Medicine Nurse Practitioner makes impact across the globe
PHS receives President's Staff Award of Distinction



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Initiatives Overview

Project My Heart Your Heart

Pacemaker Reutilization Program

As we enter the 21st century, the healthcare disparities between the industrialized world and those in underserved nations have become all too apparent. Cardiovascular disease has an increasing impact on morbidity and mortality in many developing countries, many of which already face a disproportionate burden of infections leading to abnormalities of the conduction system. Novel methods of delivering costly electrophysiological healthcare to impoverished nations are needed.

My Heart Your Heart is a collaboration between citizens, physicians, and funeral directors in the state of Michigan, the University of Michigan, and the University of Michigan hospitals in the PHS.



3 likes

projecthealthyschools Boyne City Public Schools Annual Salsa Making Contest organized by Senora



published numerou

Project My Heart Y
mortem pacemaker
countries without re



Tweets 989 Following 4,786 Followers 4,551 Likes 478

Kim Eagle

@keaglemd
Editor, ACC.org Director-University of Michigan Frankel Cardiovascular Center: "All opinions are my own"

Ann Arbor, MI

Joined November 2016

33 Photos and videos



Tweets Tweets & replies Media

Kim Eagle retweeted
Gilead Lancaster, MD @GileadLancaster · 19h
Thank you @keaglemd for your poster judging and great keynote on pre-op clearance

Kim Eagle @keaglemd
The "connective tissues" of the ACC are the local chapters...these are the caregivers, educators, and advocates who drive our mission to bring better heart health and care to every corner of every state and beyond! The fellows are our horizon, in them we see our future... twitter.com/connectoutacc...

Kim Eagle retweeted
University of Michigan @UMich · May 29
Is a poor diet sabotaging your heart health? The food you eat can be crucial to recovery following a cardiac event.
@umichcvc dietitian Susan Rykamp examines the benefits offered by a Mediterranean diet. myumich.org/SA/10



Search



- @ProjectMHH
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- @FMDartery
- @MAQI_2
- @MAQItoolkit
- @umichmedicine
- @IRADissection
- @WorldMedicalRelief



M CORRP

PROJECT INITIATIVES



CSC

Cardiac Sarcoidosis Consortium

Midwestern United States

Columbus, OH (The Ohio State University)
Ann Arbor, MI (University of Michigan)
Detroit, MI (Henry Ford Health System)
Greater Chicago, IL (Advocate Christ Medical Center, Northwestern University, University of Chicago)
Minneapolis, MN (University of Minnesota)

Northeastern United States

Greater Boston, MA (Boston, Tufts, & Beth Israel Deaconess Medical Centers)
New Haven, CT (Yale University)

United Kingdom

London (King's College Hospital)

The Netherlands

Leiden (Leiden University)

Sweden

Lund (Lund University)
Malmo (Skane University)

Mid-Atlantic United States

Rochester, NY (Rochester Regional Health)
Albany, NY (Albany Medical Center)
Camden, NJ (Cooper Health System)
College Park, MD (University of Maryland)
Richmond, VA (Virginia Commonwealth University)

Southern United States

Atlanta, GA (Emory University)
Houston, TX (University of Texas, Houston)

Japan

Tokyo (Kyorin University Hospital)
Tenri (Tenri Hospital)

Western United States

San Francisco, CA (University of California, San Francisco)
Seattle, WA (University of Washington)
Denver, CO (University of Colorado, Denver)

India

Hyderabad (CARE Hospital)

Site Map December 2022



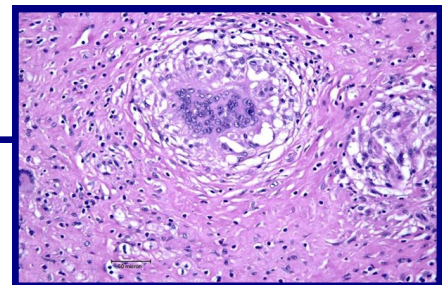
CSC Cardiac Sarcoidosis Consortium

Sarcoidosis is an inflammatory disease in which clumps of abnormal tissues, called granulomas, form in organs of the body. The lungs are most frequently affected, but granulomas can form in many other organs/tissues including the heart, liver, and kidneys. Cardiac Sarcoidosis can lead to arrhythmias, heart failure, sudden death and other heart problems. The natural history, effective treatments and outcomes of cardiac sarcoidosis are not well understood.

By increasing the amount of research into this condition, we hope to better identify risk factors for adverse events and factors contributing to improved treatments and outcomes. The Cardiac Sarcoidosis project is a multi-center initiative, that focuses on collecting retrospective and prospective health and imaging data on patients with Cardiac Sarcoidosis, including demographics, comorbidities, diagnostic testing, treatments, and long-term outcomes.

MCORRP has been working with Dr. Frank Bogun and Dr. Thomas Crawford, the project's co-principle investigators, over the last few years to develop an online clinical registry to collect and store project data. Abstraction, entry and reporting began three years ago in 22 sites in the U.S. and four International sites and have enrolled 618 subjects. The consortium holds an annual meeting every year during the Heart Rhythm Society Scientific Sessions to collaborate on improvements to the database and care of patients with the disease. Several scientific abstracts regarding outcomes in patients with CSC have been presented at national meetings.

A Steering Committee has recently been established consisting of national and international experts in cardiac sarcoidosis who are currently participating in the registry. The committee plans to meet quarterly with the goal of providing scientific oversight of the registry, determine research/publication priorities, and discuss opportunities for fundraising to support the registry.



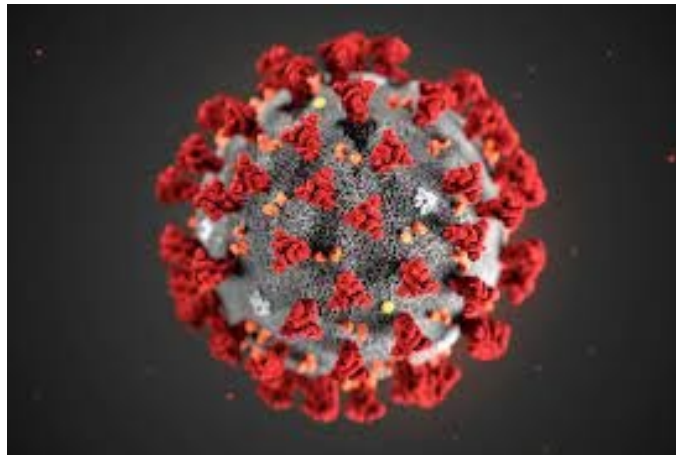


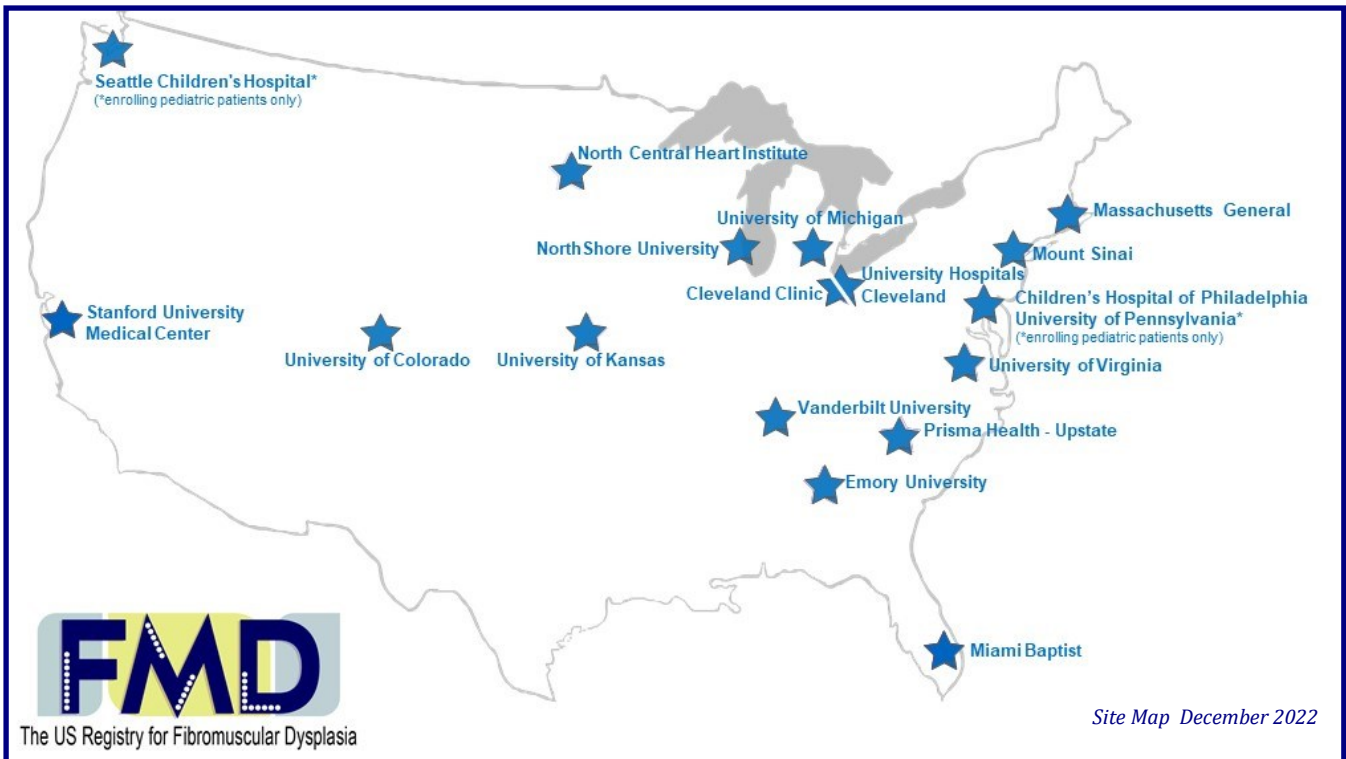
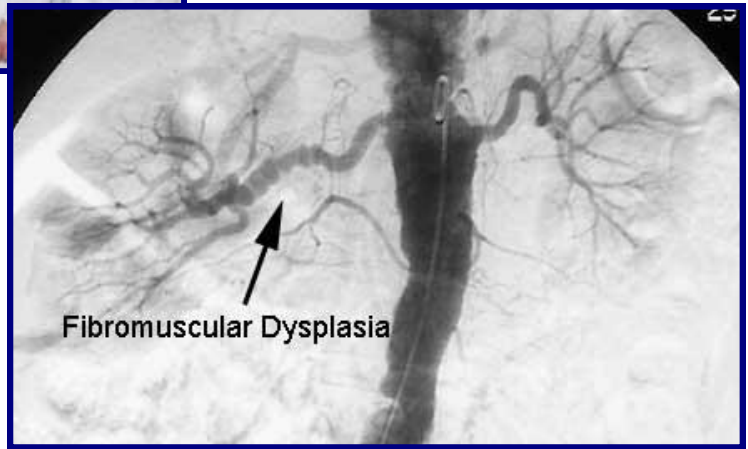
American Heart Association COVID-19 Registry

To facilitate better understanding of the COVID-19 pandemic, the American Heart Association (AHA) developed a registry for hospitals and health systems caring for COVID-19 patients. The University of Michigan, through MCORRP, has been a contributing site to this national registry. The National Registry ended in 2022 but MCORRP has continued to collect follow-up data.

The AHA registry was designed to assess the clinical treatment patterns, variations and cardiovascular outcomes in hospitalized COVID-19 patients across the nation. The registry will focus on real-time data from acute care hospitals to better help clinicians and researchers understand and provide feedback to healthcare organizations on how to best treat COVID-19 patients. The AHA's COVID-19 Registry powered by Get With The Guidelines builds on 20 years of successful hospital quality improvement efforts.

MCORRP collects data on patients one year after discharge. Since many people diagnosed with COVID-19 experience symptoms long after they were first diagnosed, a follow-up questionnaire is sent to patients via e-mail. For those patients without a current e-mail address, a follow-up telephone call is conducted for patients in whom baseline data has been collected.





FMD

Fibro muscular Dysplasia Registry



Fibromuscular dysplasia (FMD) is a non-atherosclerotic, non-inflammatory vascular disease that most commonly affects the renal and internal carotid arteries but has been described in almost every arterial bed in the body. It may be entirely asymptomatic and discovered incidentally through imaging, or it may present with a variety of symptoms. In addition, little is known about the prevalence and natural history of FMD.

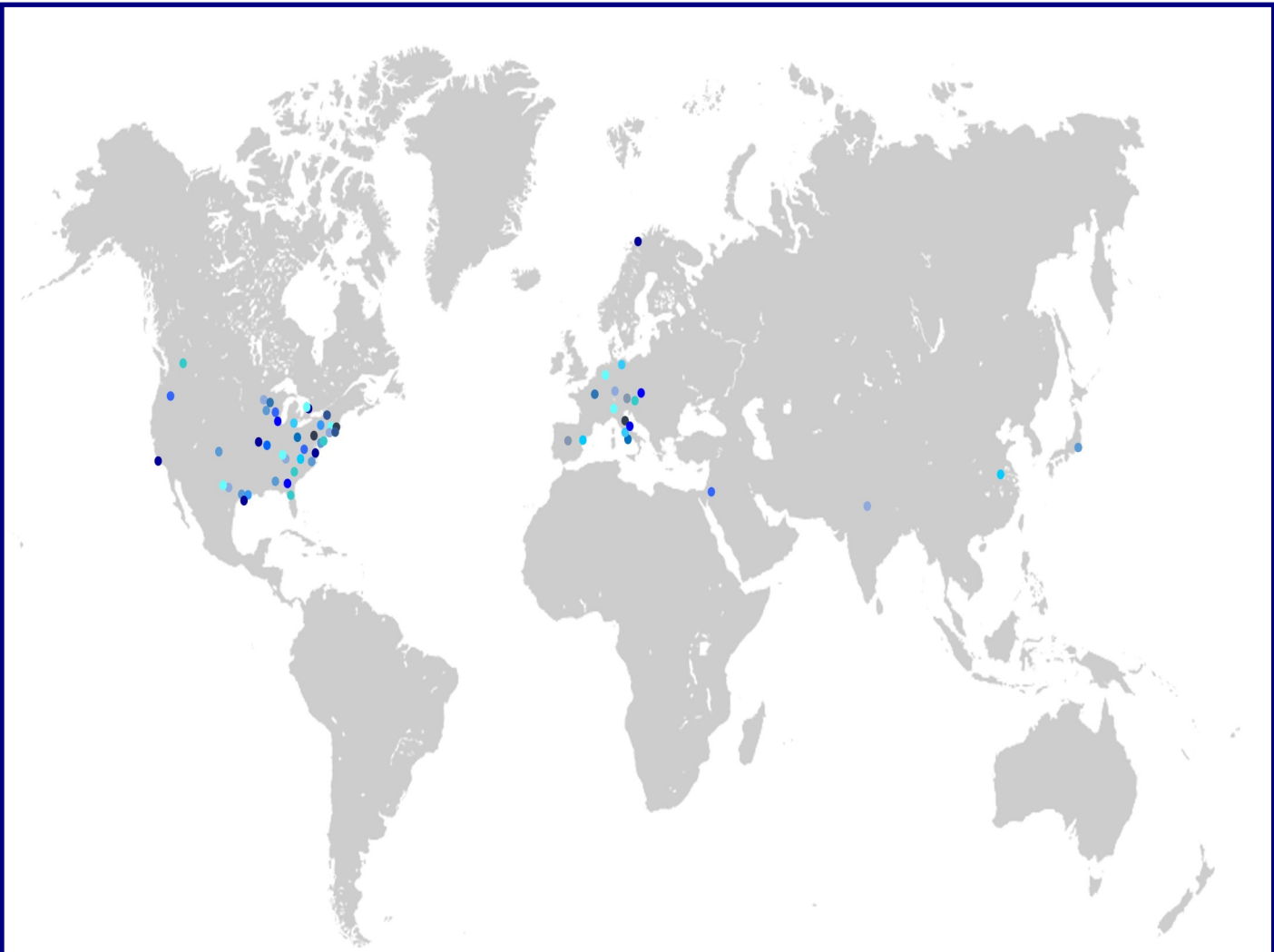
In 2007, the Fibromuscular Dysplasia Society of America (FMDSA) committed to funding the U.S. Registry for FMD. The goals of this registry are to identify patient characteristics associated with FMD, potential genetic markers of the disease, commonly used imaging and treatment modalities, outcomes in patients with FMD, and to provide recommendations for best practices in caring for patients with FMD.

MCORRP is the coordinating center for the FMD Registry. The registry began initially with seven sites, with data entry from the first patient in 2009. There are now 18 active sites and more than 3,700 patients in the registry, including over 10,800 follow-ups in the database. The initial findings of the registry were reported in *Circulation* in 2012. Since then 14 manuscripts, including a patient page, and 21 abstracts have been published or presented at national meetings. In addition, several studies focusing on quality of life in patients with FMD have been conducted and published by researchers at **MCORRP**.

Current work is focusing on long-term outcomes in patients with FMD, outcomes of vascular interventions, effects of hormones, differences in treatment/outcomes based on ethnicity, and the role of genetics. The FMD Steering Committee members meet regularly to determine registry and publication priorities. In addition, findings from the registry are presented annually at the FMDSA meeting in Cleveland, Ohio.

The FMD Steering Committee has recently created several working groups within the registry. The goal is to encourage increased participation among all participating sites, ultimately leading to increased academic output and identification of best practices in the diagnosis and treatment of FMD.





- Baylor College of Medicine
- Baylor Scott & White Heart & Vascular Hospital, Dallas
- Baylor Scott & White Plano
- Beth Israel Deaconess
- Brigham & Women's Hospital
- Dartmouth-Hitchcock
- Duke University
- East Carolina University
- Emory University
- Hadassah University Hospital
- Hartford Healthcare
- Hopital Bichat
- Houston Methodist
- Hospital General Universitari Vall d'Hebron
- Hospital Universitario "12 de Octubre"
- IRCCS Policlinico San Donato
- Massachusetts General
- Mayo Clinic
- Medanta the Medicity
- Medical University of Graz
- Memorial Care
- Minneapolis Heart Institute
- Nanjing Medical University
- Northwell Health
- Radboud University
- Robert-Bosch Krankenhaus
- St. Michael's Hospital
- St. Thomas Health
- The Technische Universitat Munchen
- Toronto General Hospital
- Tromsø University Hospital
- Tufts Medical Center
- University Hospital S. Orsola
- University of Alabama
- University of Calgary
- University of Chicago
- University of Colorado
- University of Florida
- University of Maryland
- University of Medicine Ancona
- University of Michigan
- University of Minnesota
- University of Missouri
- University of Pennsylvania
- University of Pittsburgh
- University of Rostock
- University of Salerno
- University of Texas Health
- University of Tokyo
- University of Vienna
- University of Virginia
- University of Washington
- University of Wisconsin
- Vanderbilt University
- Washington University
- Weill Cornell University

Site Map December 2022



IRAD

International Registry of Acute Aortic Dissection

Founded in 1996, the International Registry of Acute Aortic Dissection has continued to shape the medical community's understanding of aortic disease. After a quarter century of research, it is an opportune time to reflect on the future of this endeavor, and much of the past year has been dedicated to revising the way in which IRAD approaches its mission. Somewhat paradoxically, these changes will promote the same goal that began with a grassroots organization and handful of passionate centers 25 years previous: to study the epidemiology, management, and outcomes of an uncommon but devastating emergency.

Sustainable growth has been a goal for the registry since it began. In 2012, it was determined that any subsequent growth would need to be self-sustaining, leading to the development of a payment-based model. This model has undergone significant changes in the previous year, leading to a 37.5% increase in the number of signed registry agreements. Supported by a robust training program for new participants, the addition of new sites has been shown to be a feasible and reliable way to increase IRAD enrollment and broaden the registry's reach.

Parsimony is a key element to IRAD's success. As a voluntary registry, the demands on sites cannot outweigh the time available for abstraction and validation. However, myriad advances in the field, especially related to endovascular therapies, surgical repair, imaging, and genetics, have necessitated updates over time. Launched in 2010, the IRAD Interventional Cohort has been an example of how the registry can grow and adapt to change while maintaining data integrity. Recent publications have focused on IRAD-IVC data, and IRAD has been prominently featured at many of the larger surgical conferences.

There remains remarkable interest in analyzing the IRAD database, even after achieving 105 peer-reviewed publications. The coordinating center received 20 unique proposals for consideration this year alone, and 16 projects are actively undergoing analysis or waiting on journal review. Efforts to improve the organization and oversight of these many projects led to the development of the IRAD Publications Committee, launched in January 2021. This committee is comprised of highly active and democratically-elected members of the consortium. The committee meets quarterly to review potential projects, discuss target conferences and journals for ongoing projects, and support authors throughout the submission process. With this new initiative, IRAD aims to improve the percentage of projects that are ultimately published as well as increase engagement and ownership among invested centers.

IRAD has succeeded in the goal to better understand aortic dissection because of the dedication of its participants. This commitment is still readily apparent after 25 years of research—from the dozens of topics analyzed yearly to the continued efforts to improve IRAD's organization and outreach. Steadfast support from IRAD's investigators, coordinators, funders, and patients has expanded our knowledge of aortic disease and created an infrastructure that will promote the discovery of novel insights well into the future.





University of Michigan Health System Anticoagulation Toolkit Newsletter

U-M is a part of the Michigan Anticoagulation Quality Improvement Initiative (MAQI²), a consortium of anticoagulation clinics and experts from across the state committed to improving the quality of anticoagulation care. One of the MAQI² efforts is to provide comprehensive information about anticoagulant therapy via an Anticoagulation Toolkit.

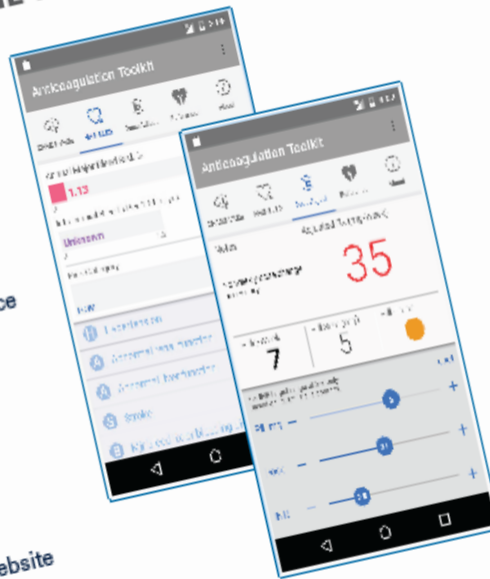
WHAT'S NEW WITH THE TOOLKIT?

FREE app, now available for Apple and Android devices: After receiving numerous requests, we are now able to offer our mobile app to users of Apple and Android devices. Search for "MAQI" on your device.

NEW version available: Version 1.6 of the toolkit is now available for download. We updated information based on the AC Forum VTE Guidance papers that were released earlier this year and added other useful tools and information.

FREE CME: Two hours of free CME (AMA PRA Cat. 1) are now available from the University of Michigan for reviewing the toolkit and completing a post-test.

FREE Patient Education Toolkit: Visit our website for patient education material, which can be printed and downloaded for your convenience. Now available in Spanish and coming soon in Arabic and Chinese.



The Michigan Anticoagulation Quality Improvement Initiative (MAQI²) is a Blue Cross Blue Shield of Michigan/Blue Shield of Michigan/Blue Care Network-sponsored quality improvement consortium of anticoagulation clinics from across the state of Michigan. This consortium developed and maintains this toolkit to give providers a state-of-the-art, evidence-based resource for anticoagulation.



Anticoagulation Center of Excellence

2020 – 2023

www.anticoagu





MAQI²

MAQI²

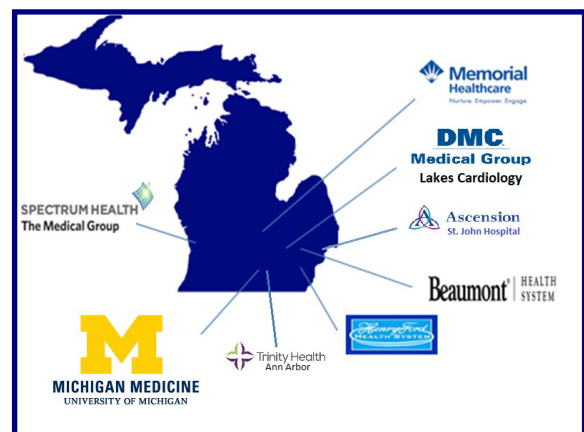
Michigan Anticoagulation Quality Improvement

Michigan Anticoagulation Quality Improvement Initiative (MAQI²) is a multi-center, collaborative quality initiative sponsored by Blue Cross Blue Shield of Michigan. Data is collected on patients taking oral anticoagulants from eight participating Michigan health systems and entered into a data registry managed by the MAQI² Coordinating Center located within MCORRP. Data collected include patient demographics, medications, co-morbidities, time in therapeutic range (TTR), and frequency of adverse events. Information on each site's protocols and processes are also collected in an effort to link outcomes with variations in clinic operations and practice. Data from over 23,000 patients has been entered into the registry along with over 700,000 follow-ups.

Opportunities for improvement have been identified, best practices have been shared, and quality improvement interventions have been completed or are underway. Current initiatives include reducing unnecessary lab testing, inappropriate aspirin use, and off-label dosing. Improving patient knowledge of anticoagulation is an ongoing initiative. In 2021, MAQI² developed an EMR based dashboard which screens an entire health system for patients on inappropriate doses of anticoagulants. The dashboard is currently implemented at four participating hospitals. The aim of all quality improvement initiatives is to increase anticoagulation effectiveness and safety.

Efforts to improve patient care and safety have been recognized nationally. The American Society of Hematology has identified our efforts to reduce inappropriate aspirin as a "Choosing Wisely Champion" and the American Heart Association identified a MAQI² paper as one of the most impactful papers related to heart disease and stroke from 2021. MAQI² is working with the Anticoagulation Forum to implement interventions to reduce inappropriate aspirin across several other hospitals across the country.

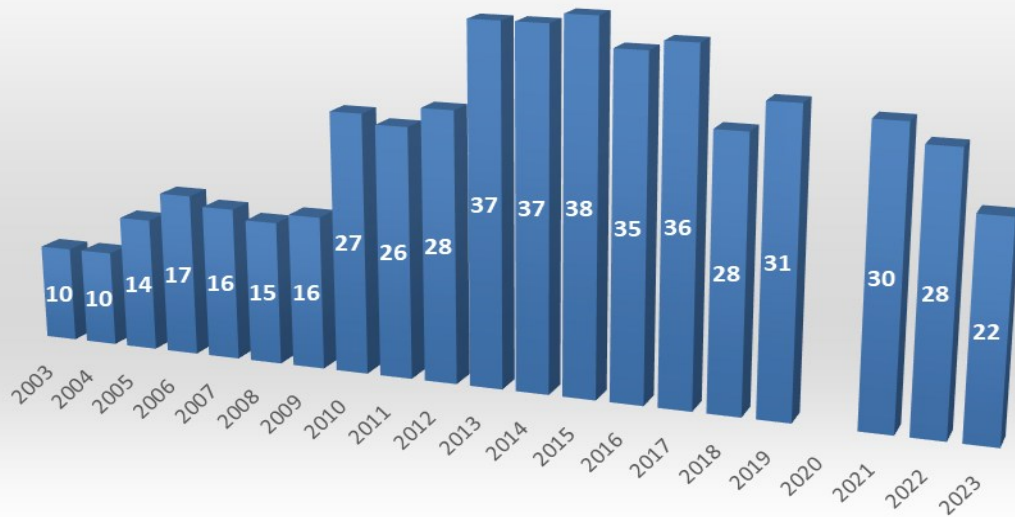
In addition, the MAQI² collaborative has developed the MAQI² Anticoagulation Toolkit, which includes a downloadable collection of guidelines, protocols, and a mobile app to help providers manage anticoagulation patients more safely and effectively. The toolkit also includes patient education resources in multiple languages for patients to learn more about how to take anticoagulants safely. Information for the toolkit and mobile app can be found at: www.anticoagulationtoolkit.org. Thousands of providers and patients across the country are using the toolkit to improve anticoagulation safety and effectiveness





MCORRP Student Internship Number of Interns 2003-2023

2020 Internship Cancelled due to COVID





MCORRP *Student Internship Program*

Each summer, up to 40 undergraduate, medical, and graduate students from schools across the country participate in a paid summer internship program at **MCORRP**. These students perform a wide variety of tasks, from data collection, analyses, and entering data into our various registries, to shadowing physicians and volunteering at World Medical Relief. With access to **MCORRP** statisticians and staff, students are able to design their own research projects. At the end of the internship program, students summarize their research in a formal presentation at the Frankel Cardiovascular Center. Furthermore, they are encouraged to develop abstracts on their research for submission to national scientific meetings. Many of these lead to peer-reviewed poster presentations and publications.

In addition to working with the databases and creating research projects, students attend cardiology grand rounds, meetings at the hospital, and lectures on various topics in cardiology, healthcare, and research. Interns also organize social events, field trips, and sports teams, further enriching the “team” experience.

Following a cancellation of the internship in 2020 due to the global COVID-19 pandemic, a hybrid program was developed for Summers 2021 and 2022. While we were unable to provide shadowing experiences for the students, we still provided a comprehensive learning environment that included lectures, volunteering at WMR, team meetings, and orientation to registries via Zoom and in-person, along with individual virtual/in-person instruction, based on CDC and Michigan Medicine Guidelines.

A total of 27 students participated in the 2022 **MCORRP** Student Internship program, abstracting data for seven MCORRP registries. With help from staff, students created and implemented 18 individual research projects; many of these projects have been submitted as abstracts to national meetings. Additionally, interns spent over 300 hours volunteering at World Medical Relief, sorting medical supplies and screening over 8,500 used pacemakers for Project My Heart Your Heart.

MCORRP staff remain grateful for the opportunity to provide the annual summer internship program. Students provide our staff with innovative ideas and creative problem solving, along with helping with the day-to-day work of the registries.



Eligible Devices Being Stored at World Medical Relief (WMR)

- 2022 8,500
- 2021 7,300
- 2020 6,470
- 2019: 5,800
- 2018: 2,000
- 2017: 3,100

2/10/2023



Total Devices Interrogated at World Medical Relief (WMR)

- 2022 40,000
- 2021 28,000
- 2020 25,000
- 2019: 23,000
- 2018: 10,,000
- 2017: 9,185

Site Map December 2022

Project My Heart Your Heart Site Map





MHYH

My Heart Your Heart

As we enter the 21st century, the healthcare disparities between the industrialized world and those in underserved nations have become all too apparent. Cardiovascular disease has an increasing impact on morbidity and mortality in many developing countries, many of which already face a disproportionate burden of infections leading to abnormalities of the conduction system. Novel methods of delivering costly electrophysiological healthcare to impoverished nations are needed.

My Heart Your Heart is a collaboration between citizens, physicians, and funeral directors in the state of Michigan, the University of Michigan Cardiovascular Center, World Medical Relief, and teaching hospitals in several low and middle income countries. The purpose of the project is to create a central organization that obtains pacemakers post-mortem for evaluation and subsequent sterilization while creating a distribution network for safe reuse. Our goal is to create a reproducible model that other academic centers in the United States and Europe can emulate in order to create their own collaborative network for refurbished device distribution to those unable to afford bradycardia arrhythmia therapy. Thus far, Project My Heart Your Heart has received and interrogated more than 30,000 used devices, has completed pilot projects in several countries, and presented and published numerous abstracts and papers related to this work. The project currently has 7,500 eligible devices for the reconditioning process.

Project My Heart Your Heart received FDA and IRB approval to begin a randomized, multi-center study. The objective is to prove that postmortem pacemaker reutilization can be shown to be a safe and effective means of delivering care to patients in low and middle income countries without resources. Countries participating in this study include Sierra Leone, Venezuela, Kenya, Nigeria, and Ghana. Countries that have shown interest in further collaboration include Dominica, Mozambique, Pakistan, Philippines, Uganda, Rwanda, Cape Verde, St. Thomas and Prince, Angola, East Timor, and Guinea-Bissau. To date, over 60 patients have been randomized to either a new or refurbished pacemaker in 3 different countries.





OVERCOME—HF Registry

Approximately 6.2 million adults in the United States had a diagnosis of heart failure between 2013-2016, and the number of heart failure patients is expected to increase to >8 million adults by 2030. Heart failure is associated with significant mortality—one in eight deaths has heart failure mentioned on the death certificate—and hospitalizations and readmissions are common. The cost of heart failure readmissions is estimated to be over \$2.4 billion in the United States. Additionally, the Hospital Readmissions Reduction Program was enacted to reduce reimbursement for readmission services, in order to encourage improved care coordination at index discharge. While many readmissions following a heart failure hospitalization may be unavoidable, there are many opportunities for health care providers and institutions to improve care, quality, and coordination that can potentially reduce adverse outcomes.

The purpose of the OVERCOME-HF registry is to collect and analyze data on all patients discharged from Michigan Medicine following a heart failure hospitalization in order to evaluate our current programs and determine which variables affect outcomes (e.g. emergency department visits, readmissions, death). The study seeks to improve quality of care and inform best practices for these patients. Data collected include: limited demographic data, disease-specific data, past medical history, medications, inpatient clinical course data, and follow-up data up to five years post-index discharge. Due to the extensive nature of the data form, the registry has partnered with the Data Office for Clinical and Translational Research (DOCTR) to obtain data directly from the electronic medical record.

Nearly 14,000 heart failure hospitalizations for over 7,800 unique patients have been added to the database. Additional variables added to the registry in 2022 include: additional medications (e.g. SGLT2 inhibitors, vericiguat, in-hospital medications), in-hospital measures (e.g. inputs and outputs), additional laboratories and vitals, and nursing workload acuity data. Initial projects planned include assessing medication optimization and the safety, efficacy of SGLT2 inhibitors in this population, and outcomes based on new heart failure classifications.

A newly-formed steering committee meets monthly to determine project and publication priorities and to provide scientific oversight for the database.





Project Healthy Schools Locations

Upper Peninsula

- Atlantic Mine (1)
- Bessemer (1)
- Calumet (1)
- Crystal Falls (1)
- Eben Junction (1)
- Engadine (1)
- Gladstone (1)
- Harris (1)
- Ishpeming (2)
- Kingsford (1)
- L'Anse (1)
- Manistique (1)
- Marquette (1)
- Menominee (1)
- Negaunee (1)
- Newberry (1)
- Pickford (1)
- Rudyard (1)
- Sault Ste. Marie (1)
- Wakefield (1)

West Central

- Allendale (1)
- Big Rapids (1)
- DeWitt (1)
- Grand Rapids (1)
- Ludington (1)
- Portland (1)

North

- Alpena (1)
- Boyer City (1)
- Elk Rapids (1)
- Hillman (1)
- Kalkaska (1)
- Suttons Bay (1)
- West Branch (1)

Southwest

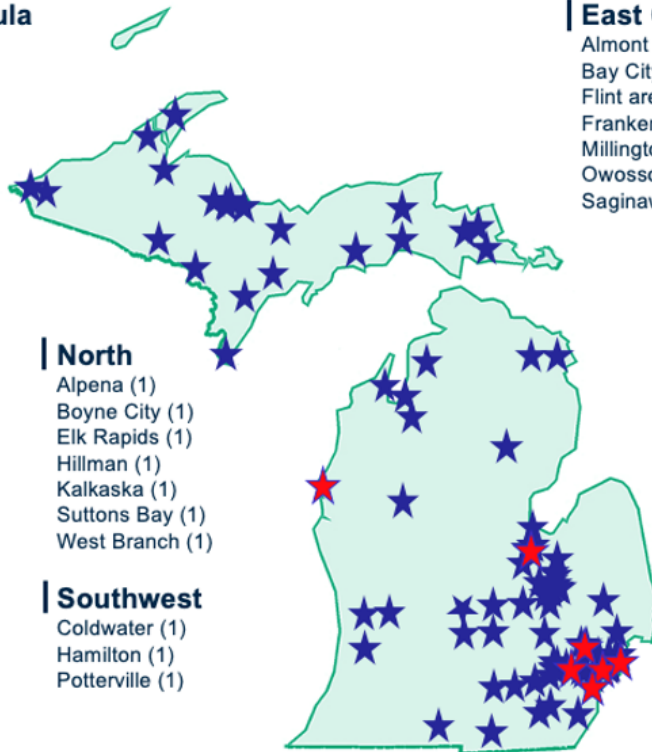
- Coldwater (1)
- Hamilton (1)
- Pottsville (1)

East Central

- Almont (1)
- Bay City (1)
- Flint area (7) (1)
- Frankenmuth (1)
- Millington (1)
- Owosso (1)
- Saginaw (2) (1)

Southeast

- Ann Arbor (9)
- Brooklyn (1)
- Carleton (1)
- Dearborn (1)
- Deerfield (1)
- Detroit (10) (1)
- Dexter (1)
- East Lansing (1)
- Farmington Hills (4)
- Ferndale (1)
- Grass Lake (1)
- Gross Pointe Park (1)
- Harper Woods (1)
- Hazel Park (1)
- Livonia (1)
- Milan (1)
- Pinckney (1)
- Pittsford (1)
- Plymouth (1)
- Romulus (2)
- Southgate (1)
- Troy (1)
- Washington (1)
- Waterford (2)
- Wayne (1)
- Westland (1)
- Ypsilanti (3)



★ = New school in fall 2020



PHS

Project Healthy Schools

Obesity is a national epidemic. In the past 40 years, obesity rates have nearly quadrupled among youth in the United States. Currently, 19.3% of U.S. youth, aged 2-19 years, are obese (Fryar et al., 2020). Childhood obesity and cardiovascular risk factors can lead to severe long-term health risks, including diabetes and heart disease (Bray et al., 2004; Jacobs et al., 2022). Project Healthy Schools (PHS) is a community-university collaborative that aims to curb poor lifestyle habits developed in childhood. The program encourages healthy habits through education and environmental change (Rogers et al., 2017).



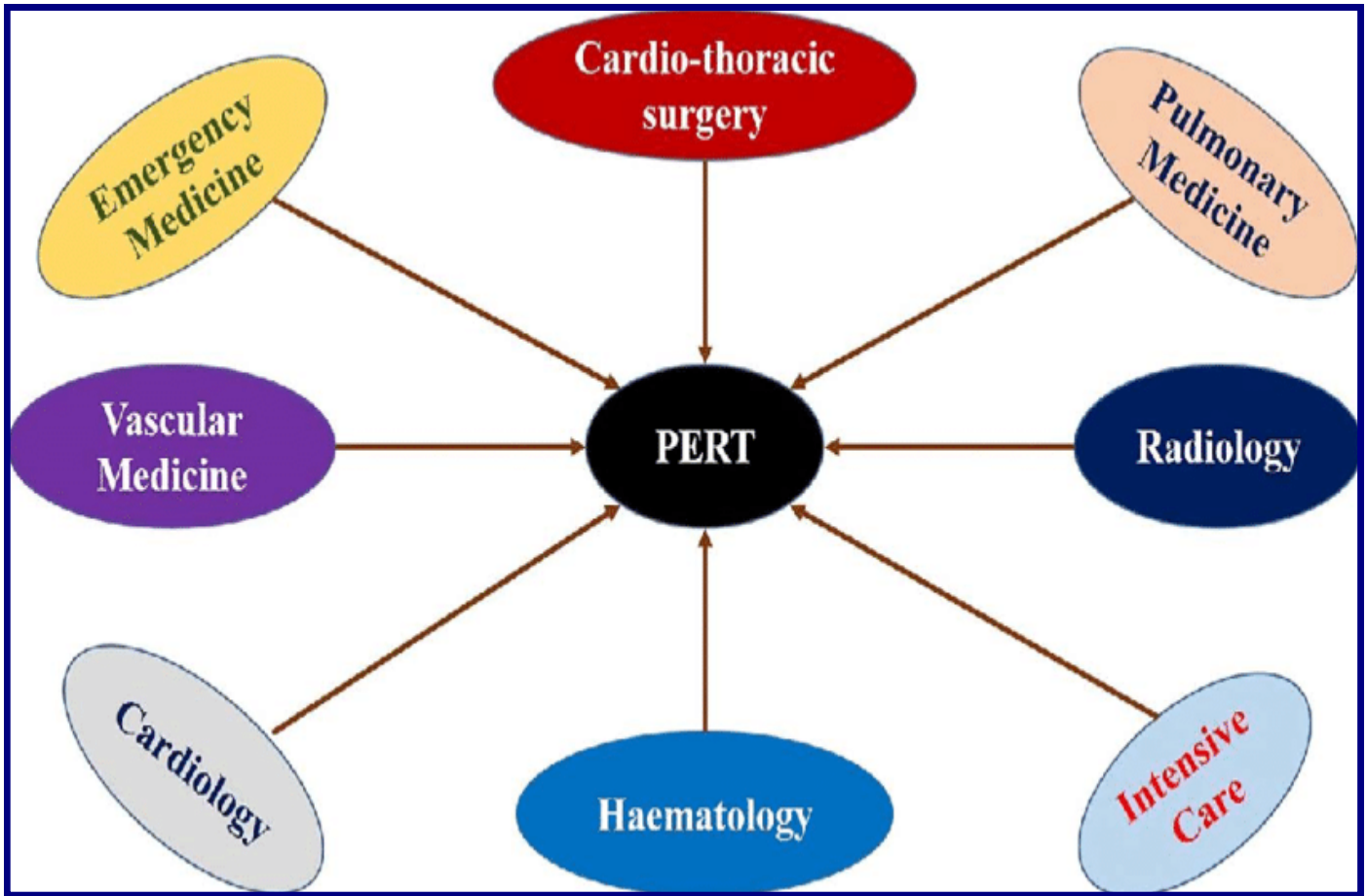
PHS has five main goals:

- (1) eat more fruits and vegetables,
- (2) choose less sugary foods and beverages,
- (3) eat less fast and fatty foods,
- (4) be active every day,
- (5) spend less time in front of a screen.

These goals are promoted through 10 standardized, interactive lessons. PHS also works with school policy-makers to change vending machine and cafeteria food options, set up after-school activity programs, host field days, and coordinate many other environmental changes. Recent additions to the PHS curriculum include lessons on infectious disease (motivated, in part, by the COVID-19 pandemic), vaping, and kidney health.

In 2004, PHS was piloted at Clague Middle School in Ann Arbor. The program spread to five additional Ann Arbor middle schools by 2006. Through the help of many donors, PHS has been implemented in over 140 Michigan schools, including schools in rural and low-income communities, and is expanding to other states and internationally.

To date, behavioral survey data from over 26,700 students and physiological data from over 3,100 students has been collected. With this continuously growing dataset, PHS has published 19 manuscripts and over 65 abstracts. This research has primarily focused on the program's effectiveness, and the resulting publications have demonstrated immediate and lasting improvements in participants' health. These improvements include decreased total cholesterol, LDL cholesterol, triglycerides, and blood pressure, as well as increased physical activity and decreased sedentary behaviors.





PERT Registry

Pulmonary Embolism Response Team

Acute pulmonary embolism (PE) is a fairly common condition that affects 1-2/1000 individuals in the US per year. Patients with massive PE (defined by hemodynamic compromise) have high mortality and these patients benefit from aggressive treatments such as thrombolysis, surgical thrombectomy and catheter-based interventions. However, which modality is superior is not known.

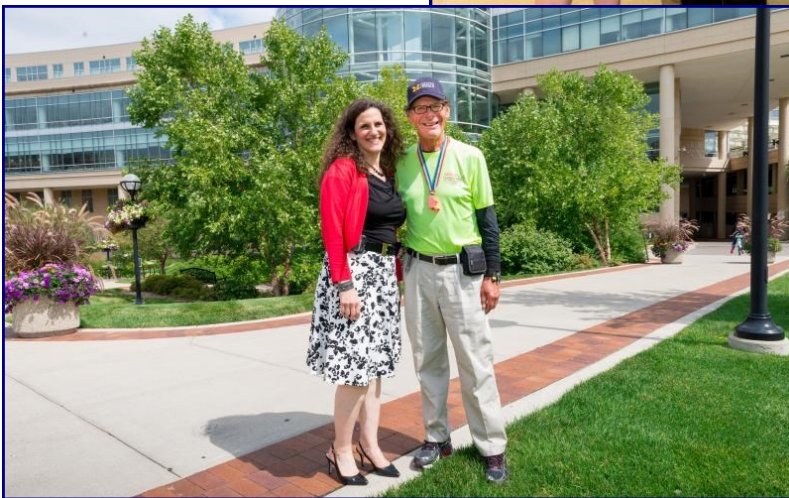


The PERT (Pulmonary Embolism Response Team) Registry is a national registry that collect data on patients admitted to the hospital with PE for whom a pulmonary embolism response team (PERT) meeting occurs to help guide management. Initially begun at Massachusetts General Hospital, Michigan Medicine was invited in 2018 to collaborate in this multi-center registry. Data collected in that registry include vital signs, comorbidities, treatment decisions, and outcomes during the hospital stay and in follow-up. This information is important for advancing the science of acute PE management and for helping the Michigan Medicine PERT team understand how their management decisions are similar and/or different to national treatment patterns.



The PERT Registry Leaders hope to advance the understanding of practices used and outcomes of specific PE treatment by using epidemiologic, therapeutic, quality assessment and outcomes research.

"Pacing Parson visits Ann Arbor on trek for pulmonary hypertension awareness"





PH

Pulmonary Hypertension

Pulmonary hypertension is a relatively rare heart and lung condition that is classified by an increased mean pulmonary arterial pressure, indicating that the arteries leading to the lungs have become narrowed or have increased in vascular resistance. This constriction leads to a reduced blood flow in the lungs, which increases the blood pressure in the pulmonary artery, veins, and/or capillaries. Most patients who present to the clinic have severe dyspnea, or difficulty breathing, because of the lack of blood flow to their lungs, which makes oxygen diffusion more difficult, and decreases the amount of oxygen that is transported to the rest of the body. Fatigue, chest pain, edema, and dizziness are also common symptoms of this condition.



There are five different groups of pulmonary hypertension (PH), and patients are classified to a certain World Health Organization (WHO) group based on the etiology of their disease. WHO group 1 patients have pulmonary arterial hypertension, which is often subcategorized into heritable, idiopathic, drug/toxin induced, associated with connective tissue disease, etc. WHO group 2 patients have elevated heart pressures because of systolic/diastolic dysfunction (in the heart muscle) or heart valve disease. WHO group 3 is characterized by lung diseases such as interstitial lung disease, COPD, or obstructive sleep apnea, to name a few. Chronic thromboembolic pulmonary hypertension (CTEPH) dominates WHO group 4. WHO group 5 consists of pulmonary hypertension secondary to multifactorial mechanisms, such as systemic, metabolic, or hematological disorders. Baseline diagnostic testing enables physicians to classify the patients into the respective WHO groups.

Depending on the type and severity of pulmonary hypertension, patients may or may not be eligible for various treatments to manage their disease. Vasodilators are the most common type of therapy for WHO group 1 patients and managing the effects of underlying health conditions is standard for WHO groups 2 and 3. Those with group 4 CTEPH have the only form of pulmonary hypertension that is curable, and if eligible can undergo a pulmonary thromboendarterectomy surgery. Certain classifications of PH patients can undergo a lung transplantation to reduce symptoms.

A database has been established at MCORRP to track treatment and outcomes of PH patients admitted to Michigan Medicine. MCORRP staff, working closely with PH faculty and students, plan to analyze outcomes to determine best practices to achieve optimal outcomes in these patients..



In 2019, we surpassed our goals



Over 2,500 Volunteer Hours



Filled 128 Gaylord's

(which equates to 3 full 40 foot overseas containers)



Estimated
\$1.8 million of
medical equipment
shipped to countries
overseas



WMR

World Medical Relief

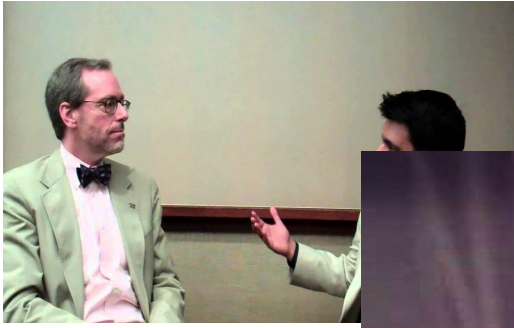
World Medical Relief was established in 1953 to address the needs of Korean War orphans. Over the years, the non-profit organization has expanded its mission to impact the well-being of the medically impoverished on a local, national and international basis and provided medical aid to thousands of underserved people in the Detroit metropolitan area and in over 130 developing nations worldwide. WMR achieves this through the collection of financial donations and goods, including medical, dental and laboratory items, as well as through the purchase and distribution of such commodities. Goods are distributed in a non-discriminatory manner without regard to race, color, gender, religion, nationality or political beliefs.



After developing a partnership between World Medical Relief and Project My Heart Your Heart, Dr. Kim Eagle joined the World Medical Relief Board of Directors in 2010. **MCORRP** then began to integrate World Medical Relief into its summer internship program. Beginning in the summer of 2010, each student is scheduled to visit WMR headquarters in Detroit for four days to help with the sorting and shipment of medical supplies. Staff members also attend for a single day during the summer. This opportunity not only raises awareness of the substantial need for medical supplies in third world countries, but also supplements the educational curriculum by familiarizing students with a vast assortment of medical supplies and equipment.

World Medical Relief is also an integral partner of Project My Heart Your Heart. On June 9, 2018, WMR opened the Sheldon and Marion Davis Pacemaker Recycling World Headquarters and became the only pacemaker reconditioning facility in the country. To date, more than 40,000 devices have been donated to the project and students continue to volunteer year round. Volunteers interrogate an average of 200 devices every Saturday.

Their passion, mission and dedication is truly inspirational !

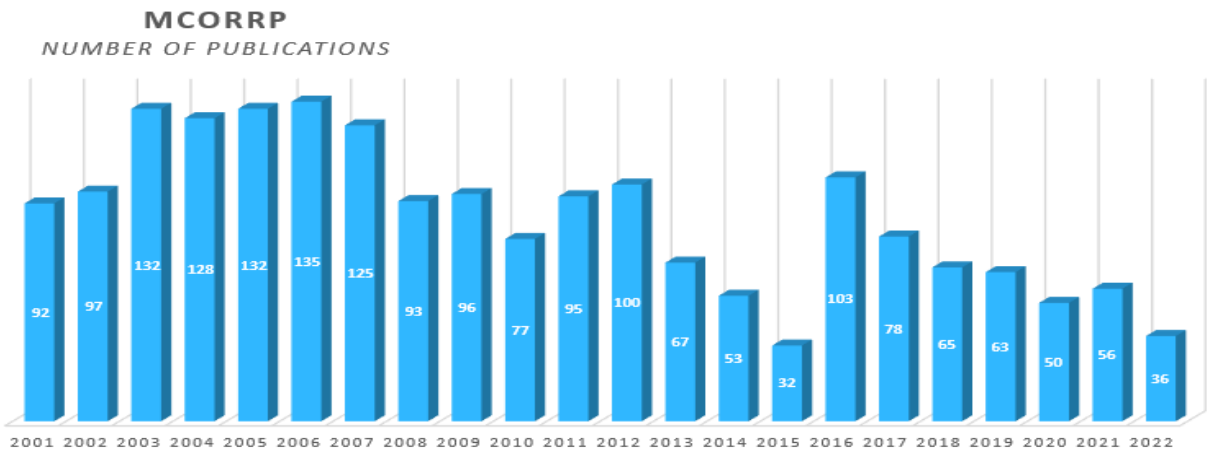


GUIDELINES
PETER BLOCK, MD PAUL WHELTON, MD KIM
New High Blood Pressure Guidelines





PUBLICATIONS



PUBLICATIONS

PRINCIPAL INVESTIGATORS	PUBLICATIONS
Barnes, Geoffrey MD, MSc	<ul style="list-style-type: none"> • Vazquez S, Barnes GD, “Anticoagulant Drug-drug interactions: Highlighting the Need for Antithrombotic Stewardship and Shared Decision-making” <i>Res Pract Thromb Haemost</i> 2022 7;6: e12662. doi: 10.1002/rth2.12662 PMID: PMC8822260 • Dawwas GK, Barnes GD, “Outcomes of Direct Oral Anticoagulants in Patients with Atrial Fibrillation and Valvular Heart Disease” <i>Curr Cardiol Rep</i> 2022 ;24:731-738 • Barnes GD, Piazza G “Barriers to stroke prevention in Atrial Fibrillation: Insights from the global anticoagulation Round table” <i>Int J Cardiol Heart Vasc.</i> 2022; 42:101096 DOI: 10.1016/j.ijcha.2022.101096 PMID: PMC9356154 • Burnett AE, Barnes GD “A call to action for anticoagulation stewardship” <i>Res Pract Thromb Haemost.</i> 2022; 6: e12757. DOI 10.1002/rth2.12757 PMID: PMC9289116 • Adie SK, Barnes GD, Konerman MC “A Deadly Override” <i>Circ Cardiovasc Qual Outcomes</i> 2022 • Abrams CS, Barnes GD. SARS-CoV-2 Vaccination-Induced Thrombotic Thrombocytopenia: A Rare but Serious Immunologic Complication. <i>Annu Rev Med.</i>2022 doi: 10.1146/annurev-med-043021-015237. Epub ahead of print • Smith CA, Barnes GD. “Annals for Hospitalists Inpatient Notes- Venous Thromboembolism Prophylaxis in COVID-19: Making Sense of the Evidence.” <i>Ann Intern Med.</i> 2022; 175: HO2-HO3. doi: 10.7326/M22-1425 • Barnes GD, Skolarus LE, Khazanie P “Call to Action: Translating Scientific Research into Real-World Change Through Implementation Science and Community-Engaged Research” <i>Circ Cardiovasc Qual Outcomes.</i> 2022;15: e009031. Doi: 10.1161/CIRCOUTCOMES.122.009031 • Deloughery TG, Hunt BJ, Barnes GD, Connors JM “A call to action: MTHFR polymorphisms should not be a part of inherited thrombophilia testing.” <i>Res Pract Thromb Haemost.</i> 2022; 6: e12739. Doi: 35 August 2022 10.1002/rth2.12739. PMID: PMC91
Crawford, Thomas MD	<ul style="list-style-type: none"> • Shilpa Jasti, Muhammad Afzal, Steven Jack Kalbfleisch, Kenneth A. Ellenbogen, Frank M. Bogun, Alexandru B. Chicos, Henri Roukoz, Peter J. Zimetbaum, Francis Murgatroyd, Mikhail Torosoff, Marc Judson, Pyotr G. Platonov, Adarsh K. Bhan, Lynda E. Rosenfeld, David B. De Lurgio, Ann C. Garlitski, Melody H. Hermel, Vasanth Vedantham, Kyoko Soejima, Timm-Michael L. Dickfeld, Xiaokui Gu, Eric Puroll, Thomas C. Crawford, Jordana Kron, Investigators for the Cardiac Sarcoidosis Consortium. Cardiac Sarcoidosis Patients Who Meet the 1993 and 2006 Japanese Diagnostic Criteria Are More Likely to Have Adverse Outcomes, ACC 2022, Washington, 2022. • Jordana Kron, Thomas Crawford, Virginia Mihalick, Todd Koelling, Frank Bogun, Emily Federmann, Huzaifah Syed, Aamer Syed, Thomas Iden, Kelly Polly, Sangeeta Lathkar-Pradhan, Kirsta Bray, Kenneth A. Ellenbogen, Benjamin Van Tassel, W. Greg Hundley, Jennifer H. Jordan, Antonio Abbate: Feasibility of Enrollment and Interim Safety Analysis of IL-1 Blockade in the Multimodality Assessment of Granulomas in Cardiac Sarcoidosis – Anakinra Randomized Trial (MAGiC-ART), ACC 2022, Washington, The initial data from the MAGiC- ART study support, 2022. • Shilpa Jasti, Muhammad Afzal, Steven Jack Kalbfleisch, Kenneth A. Ellenbogen, Frank M. Bogun, Alexandru B. Chicos, Henri Roukoz, Peter J. Zimetbaum, Francis Murgatroyd, Mikhail Torosoff, Marc Judson, Pyotr G. Platonov, Adarsh K. Bhan, Lynda E. Rosenfeld, David B. De Lurgio, Ann C. Garlitski, Melody H. Hermel, Vasanth Vedantham, Kyoko Soejima, Timm-Michael L. Dickfeld, Matthew L. Ortman, Kazuaki Kaitani, Suguru Nishiuchi, Calambur Narasimhan, Kristen K. Patton, David Rosenthal, Khaled Nour, Siddharth S. Mukerji, Katja Zeppenfeld, Matthew M. Zipse, Marc Judson, William H. Sauer, Kenneth A. Ellenbogen, James Froehlich, Kim A. Eagle, Frank M. Bogun. Mortality And Morbidity of Cardiac Sarcoidosis: An International Registry, Heart Rhythm Society, May 2022. • Michael Ghanam MD; Jackson J. Liang DO; Rakesh Latchamsetty MD, FHRS; Thomas C. Crawford MD, FHRS; Krit Jongnarangsin MD; Fred Morady MD and Frank M. Bogun MD.: IMPORTANCE OF RIGHT VENTRICULAR MAPPING AND ABLATION FOR VT IN POST INFARCTION PATIENTS. <i>Heart Rhythm.</i> Heart Rhythm Vol. 19 Issue 5 Supplement S415 May 2022. • Miki Yokokawa MD, Aman Chugh MD, Anna Dubovoy MD, Milo Engoren MD, Krit Jongnarangsin MD, Rakesh Latchamsetty MD, Hamid Ghanbari MD, MPH, Mohammed Saeed MD, PhD, Ryan Cunnane MD, Thomas Crawford MD, Michael Ghanam MD, Jackson Liang DO, Robert Keast MBA, David Karpenko MBA, Frank Bogun MD, Frank Pelosi Jr. MD, Timur Dubovoy MD, Mathew Caldwell MD, Fred Morady MD, Hakan Oral MD. A comparison of clinical outcomes and cost of radiofrequency catheter ablation for atrial fibrillation

PUBLICATIONS

PRINCIPAL INVESTIGATORS	PUBLICATIONS
Eagle, Kim MD	<ul style="list-style-type: none"> • Vaishnava P, Eagle KA. Medical evaluation of the surgical patient. <i>In</i>: Harrison's Principles of Internal Medicine, 21st edition, volume 2. Eds. Loscalzo J, Kasper DL, Longo DL, Fauci AS, Hauser SL, Jameson JL. McGraw Hill, 2022; pp. 3769-3773. • Murad AM, Hill HL, Wang Y, Ghannam M, Yang M-L, Pugh NL, Asch FM, Hornsby W, Driscoll A, McNamara J, Willer CJ, Regalado E, GenTAC Investigators, Montalcino Aortic Consortium Investigators, Milewicz DM, Eagle KA, Ganesh SK. Spontaneous coronary artery dissection is infrequent in individuals with heritable thoracic aortic disease despite partially shared genetic susceptibility. <i>Am J Med Genet</i> 2022;188A:1448-1456. • Cholack G, Garfein J, Krallman R, Feldeisen D, Montgomery D, Kline-Rogers E, Barnes GD, Eagle K, Rubenfire M, Bumpus S. Predictors of Early (0-7 days) and late (8-30 days) readmission in a cohort of acute coronary syndrome patients. <i>Int J Med Stud</i> 2022; 10:38-48. • Lee JR, Lawrence SO, Soto M, Case M, Cotter N, Howitt J, Soderlund T, Trotter D, Byers PH, Shalhoub S, on behalf of the Aortic Dissection Collaborative. The Aortic Dissection Collaborative: Methods for building capacity for patient-centered outcomes research in the aortic dissection community. <i>Sem Vasc Surg</i> 2022; 35:9-15. • Holmes KW, Markwardt S, Eagle KA, Devereux RB, Weinsaft JW, Asch FM, LeMaire SC, Maslen CL, Song HK, Milewicz DM, Prakash SK, Guo D, Morris SA, Pyeritz RE, Milewski RC, Ravekes WJ, Dietz HC, Shohet RV, Silberbach M, Roman MJ, on behalf of the GenTAC Investigators. Cardiovascular outcomes in aortopathy. GenTAC Registry of Genetically Triggered Aortic Aneurysms and Related Conditions. <i>J Am Coll Cardiol</i> 2022; 79:2069-2081. • Ganapathi A, Ranney DN, Peterson MD, Lindsay ME, Patel HJ, Pyeritz RE, Trimarchi S, Hutchison S, Harris KM, Greason KL, Ota T, Montgomery DG, Nienaber CA, Eagle KA, Isselbacher EM, Hughes GC. Location of aortic enlargement and risk of type A dissection at smaller diameters. <i>J Am Coll Cardiol</i> 2022; 79:1890-1897. • Pena RCF, Hofmann Bowman M, Ahmad M, Pham J, Kline-Rogers E, Case MJ, Lee J, Eagle K, on behalf of the Aortic Dissection Collaborators. An assessment of the current medical management of thoracic aortic disease: A patient-centered scoping literature review. <i>Sem Vasc Surg</i> 2022; 25:16-34. • Lee JR, Segal C, Howitt J, Lawrence SO, Grima J, Eagle K, Woo K, Byers P, Klein-Rogers E, Milewicz D, Mussa F, Soderlund T, Cotter N, Case M, Trotter D, Shalhoub S, on behalf of the Aortic Dissection Collaborative. A mixed method approach to understanding the impact of COVID-19 on patients with or at risk for aortic dissection. <i>Sem Vasc Surg</i> 2022; 35:100-109. • Bhawe NM, Sharma P, Eagle KA. Heart of Steel. Preoperative cardiovascular risk assessment in liver transplant recipients. <i>JACC Case Reports</i> 2022; 4:682-684. • Bossone E, Carbone A, Eagle KA. Gender differences in acute aortic dissection. <i>J Pers Med</i> 2022; 12:1148. https://doi.org/10.3390/jpm12071148. • Reusersberg B, Trimarchi S, Gilon D, Kaiser C, Harris K, Shalhoub S, Reece TB, Nienaber C, Ehrlich M, Isselbacher E, De Oliveira N, Montgomery D, Eagle K, Tolva V, Chen EP, Eckstein H-H, on behalf of the IRAD Investigators. Pleural effusion: a potential surrogate marker for higher-risk patients with acute type B aortic dissections. <i>Eur J Cardiothorac Surg</i> 2022; 61:816-825. • Hemli JM, Pupovas SS, Gleason TG, Sundt TM, Desai ND, Pacini D, Ouzounian M, Appoo JJ, Montgomery DG, Eagle KA, Ota T, DiEusiano M, Estreña AL, Coselli JS, Patel HJ, Trimarchi S, Brinster DR. Management of acute Type A aortic dissection in the elderly: An analysis from IRAD. <i>Eur J Cardiothorac Surg</i> 2022; 61:838-846. • Siontis KC, Santangeli P, Muser D, Marchlinski FE, Zeppenfeld K, Hoogendoorn JC, Narasimhan C, Sauer WH, Zipse MM, Kapa S, Vedentham V, Rosenthal DG, Robinson MR, Patton KK, Murgatroyd F, ChicosAB, Soejima K, Rosikoz H, Sacher F, Bhan A, Appelbaum J, Dickfeld T, Mankad P, Ellenbogen KA, Kron J, Sim HM, Froehlich J, Eagle KA, Bogun FM, Crawford TC. Outcomes associated with catheter ablation of ventricular tachycardia in patients with cardiac sarcoidosis. <i>JAMA Cardiol</i> 2022; 7:175-183. • Hughey A, Muthappan P, Badin A, Baman T, Baig-Ansari N, Jarwed F, Khan A, Jiang Q, Hughey K, Toruno R, Machado C, Refaat M, Zakka P, Hotait M, Eagle K, Crawford T. Patients' and family members' views on pacemaker reuse: an International Survey. <i>J Cardiovasc Electrophysiology</i> 2022; 33:473-480. • Hofmann Bowman MA, Eagle KA. Gene-based management for thoracic aortic disease. One step closer to personalized medicine. <i>J Am Coll Cardiol</i> 2022; 80:870-872. • Harris KM, Nienaber CA, Peterson MD, Woznicki EM, Braverman AC, Trimarchi S, Myrmet T, Pyeritz R, Hutchison S, Strauss C, Ehrlich MP, Gleason TC, Korach A, Montgomery DG, Isselbacher EM, Eagle KA. Early mortality in Type A aortic dissection. Insights from the International Registry of Aortic Dissection. <i>JAMA Cardiol</i> 2022; 7:1009-1015. • Arnaoutakis GJ, Ogami T, Patel HJ, Pai CW, Woznicki EM, Brinster DR, Leshmower BG, Serna-Gallegos D, Bekeredjian R, Sundt TM, Shaffer AW, Peterson MD, Guezebroek GSC, Eagle KA, Trimarchi S, Sultan I. Acute kidney injury in patients undergoing surgery for Type A acute aortic dissection. <i>Ann Thorac Surg</i> 2022. • Kim KM, Hofmann Bowman MA, Eagle KA. Treatment of uncomplicated Type B Aortic Dissection. The devil is in the details...Or is it? <i>JAMA Cardiol</i> 2022. • Abtan J, Bhatt DL, Elbez Y, Ducrocq G, Goto S, Smith SC Jr., Ohman EM, Eagle KA, Fox K, Harrington RA, Leiter LA, Melta SR, Simon T, Petrov I, Sinnaeve PR, Pais P, Lev E, Bueno H, Wilson P, Steg PG, on behalf of the REACH Registry Investigators.



A Reflections of 55 Years of Cardiovascular Research

(paraphrased by Dr Kim Eagle January 2009)

- *Regard research as an end in itself— not a means to an end.*
- *Impactful research today requires a team.*
- *Building a research team requires sustained energy, investment and vision*
- *Feel deeply the thrill of the chase and the joy of discovery : answering an important question.*



GRANTS & FUNDING



GRANTS & FUNDING

PRINCIPAL INVESTIGATORS	GRANT	FUNDING SOURCE	FUNDING AMOUNT	FUNDING PERIOD
PI: Geoffrey D Barnes, MD, MSc	<i>Training to Advance Care Through Implementation Science in Cardiac and Lung Illness</i>	NHLBI	\$408,642	7/2022-6/2023
PI: Geoffrey D Barnes, MD, MSc	<i>Implementing Prescriber-Pharmacist Collaborative Care for Evidence-based Anticoagulant Us</i>	AHRQ	\$450,000	9/2021-9/2024
PI: Geoffrey D Barnes, MD, MSc	<i>Improving Safe Use of Direct Oral Anticoagulants: A Population Health Approach</i>	AHRQ	\$320,416	4/2020-3/2023
PI: James B Froehlich, MD, MPH Co-PI: Geoffrey D Barnes, MD, MSc	<i>Michigan Anticoagulation Quality Improvement Initiative (MAQ)</i>	BCBS	\$2,000,000	9/2008-present
PI: Thomas Crawford MD	<i>Flexibility Sensor Enabled Substrate Targeted Ablation for the Reduction of VT (LESS-VT) Stu</i>	St Jude Medical	\$89,287	3/2022-present
PI: Thomas Crawford MD	<i>Feasibility and Safety of IL-1 blockade in Patients with Electrical Storm</i>	Virginia commonwealth University	\$727,380	4/2022-3/2026
PI: Kim Eagle, MD	<i>Advances in Coronary Disease</i>	Mardigian Foundation	\$1,000,000	1/2003-12/2024
PI: Kim Eagle, MD	<i>International Registry of Aortic Dissection</i>	Varbedian Fund	\$100,000	1/2002-12/2024
PI: Kim Eagle, MD	<i>Innovations in Special Populations</i>	Hewlett Foundations	\$1,000,000	1/2006-12/2024
PI: Kim Eagle, MD	<i>The International Registry of Aortic Dissection</i>	GORE Inc	\$1,000,000	1/2009-1/2025
PI: James B Froehlich, MD, MPH	<i>Fibromuscular Dysplasia Patient Registry (FMD)</i>	Fibromuscular Dysplasia Society of America	\$235,000	09/2008-01/2023
PI: Melvyn Rubenfire MD	<i>LOWER: Lomitapide Observational Worldwide Evaluation Registry</i>	Aegerion Pharmaceutical	\$66,668	1/2016-9/2021
PI: Melvyn Rubenfire MD	<i>MM-TCaP Chronic Disease Management Program - CardioMetFit 2.</i>	Individual Analytics Inc	\$20,000	10/2020-9/2021
PI: Melvyn Rubenfire MD	<i>Michigan Medicine Tele-Medicine Care Program</i>	FCC-US	\$981,525	6/2020-5-2023



LECTURES



Michigan Medicine Faculty Lectures

PRINCIPAL INVESTIGATORS	LECTURER
Barnes, Geoffrey MD, MSc	<p>05/2022 Invited Speaker, "Combination Aspirin and DOAC Therapy: Understanding Bleeding Risks" McGill General Internal Medicine Grand Rounds, Canada, Virtual Presentation</p> <p>07/2022 Invited Speaker, "Draft ISTH Recommendation on Nomenclature of Emerging Anticoagulant Medications" ISTH 2022 Congress, London, UK</p> <p>10/2022 Invited Speaker, "Implementing Evidence-based Care in Cancer-associated Thrombosis Prevention" European Society of Vascular Medicine Annual Meeting, Stockholm, Swee</p> <p>01/2022 Invited Speaker, "Pulmonary Embolism with Cardiopulmonary Failure" CMHC Master-class Conference</p> <p>01/2022 Invited Speaker, "Antithrombotic Stewardship: Building Systems to Improve Care Delivery" Ohio State University Cardiovascular Medicine Grand Rounds, Virtual Presentation</p> <p>03/2022 Invited Speaker, "Managing Diabetes in PAD: From Nutrition to Pharmacotherapy" Society of Vascular Medicine Advanced Provider Course</p> <p>03/2022 Invited Speaker, "Logical Approach to DOAC and Warfarin Selection" Society of Vascular Medicine Fellows Course</p> <p>04/2022 Invited Speaker, "Antithrombotic Stewardship: Building Systems to Improve Care Delivery" Vanderbilt University Vascular Medicine Grand Rounds, Virtual Presentation</p> <p>06/2022 Invited Speaker, "Antithrombotic Stewardship: Building Systems to Improve Care Delivery" University of Pennsylvania Blood Seminar Series, Philadelphia, PA</p> <p>08/2022 Invited Speaker, "Antithrombotic Stewardship: Building Systems to Improve Care Delivery" Oklahoma University Cardiovascular Medicine Grand Rounds, Virtual Presentation</p> <p>09/2022 Invited Speaker, "Antithrombotic Therapy in Peripheral Artery Disease" Association of VA Hematology/Oncology Meeting, San Diego, CA</p> <p>10/2022 Invited Speaker, "Lower Extremity DVT: Management Basics & When to Consider Intervention" Vascular Scientific Session Presented by the Society for Vascular Medicine, Denver, C</p> <p>01/2022 Invited Speaker, "Optimizing the Use of Direct Oral Anticoagulants Across Frontline Care Settings in Venous Thromboembolism: Integrating Patient- and Evidence-Based Approaches", Answers in CME Webinar</p> <p>01/2022 Invited Speaker, "Venous Thromboembolism: Case-based Discussion" Ansell Fellowship Lecture Series Webinar</p> <p>02/2022 Moderator, "Study Designs in Implementation Science" CTSN Implementation Science Webinar Series</p> <p>03/2022 Invited Speaker, "COVID-19, VTE Risk, and Testing for PE" MEDIC CQI Collaborative Meeting</p> <p>04/2022 Invited Speaker, "Addressing Disparities in the Care of Patients with Non-Valvular Atrial Fibrillation" CME Outfitters Webinar</p> <p>09/2022 Moderator, "New CHEST Guideline: Perioperative Management of Antithrombotic Therapy" Anticoagulation Forum Webinar Ser</p>
Eagle, Kim MD	<p>2022 "Acute Aortic Syndromes: State of the Art", University of Amsterdam, Virtual "ACC-22: Pearls of ACC-2022, India, Virtual, 2022 (Attendees: 2500)</p> <p>"Acute Aortic Syndromes: State of the Art", MCORRP 2022 Summer Internship Lecture, Ann Arbor, MI, 2022 (Attendees: 30)</p>
Froehlich, James MD	<p>"Cardiac Anatomy and Physiology", MCORRP Teaching Lecture, University of Michigan Medical Center, Ann Arbor, MI, June 16, 2022.</p> <p>"Valvular Heart Disease", MCORRP Teaching Lecture, University of Michigan Medical Center, Ann Arbor, MI, June 21, 2022.</p> <p>"Comparative Healthcare", MCORRP Teaching Lecture, University of Michigan Medical Center, Ann Arbor, MI, June 28, 2022.</p>

MCORRP Student Internship Lecture Series

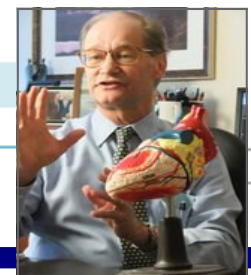
MCORRP 2023 Summer Internship Student Presentations

Tuesday, August 8, 2023 4:00 PM to 6:00 PM

CVC – Danto Auditorium



Time	Presenter	Registry	Presentation
4:00 PM	Rachel Krallman		Opening Remarks
4:10 PM	Jacob McDevitt Drake Rosenberg		Overview of the MCORRP 2023 Summer Internship
4:15 PM	Olivia Mueller	FMD	Introduction to Fibromuscular Dysplasia
4:18 PM	Olivia Mueller	IRAD	Introduction to International Registry of Acute Aortic Dissection
4:21 PM	Mohamad Awada	IRAD	Disparities in Diagnostic Delays and Outcomes of Type A Acute Aortic Dissection Patients
4:26 PM	Clara Bowman Varsha Karthikeyan	IRAD	Comparison of Discharge Medications and Demographics Among Patients with Acute Aortic Dissections
4:36 PM	Andrew Zhang	IRAD	Risk Factors for Aortic Dissection: Revisiting the 2011 Aortic Dissection Detection Risk Score (ADD-RS)
4:41 PM	Chloe Kazaglis	MAQI ²	Introduction to Michigan Anticoagulation Quality Improvement Initiative
4:44 PM	Brindha Rajakumar	MAQI ²	Comparing Home Testing and Outcomes in Black vs. White Patients
4:49 PM	Tahsin Najmi	MAQI ²	Parenteral Treatment and Length of DOAC Loading Dose in VTE
4:54 PM	Vincent Maribao	MAQI ²	Concomitant Warfarin Anti-Platelet Use for Patients with Bioprosthetic Valves
4:59 PM	Sofia Zestos	MAQI ²	Bleeding Rates by Month After Starting DOACs
5:04 PM	Mahee Doshi	PH	Introduction to Pulmonary Hypertension
5:07 PM	Jacob McDevitt	PH	Comparing Outcomes of Patients with Multicomponent Improvement vs. Without
5:12 PM	Hannah Nemeth	PH	Hemodynamic Changes During Vasodilator Challenge at Index Right Heart Catheterization and Short-Term Outcomes in Patients with Pulmonary Arterial Hypertension
5:17 PM	Zoë Michos	C3TN	Introduction to Critical Care Cardiology Trials Network
5:20 PM	Emma Sortor	C3TN	Understanding Differences in Clinical Outcomes for Cardiogenic Shock Patients with Chronic Kidney Disease
5:25 PM	Drake Rosenberg	PHS	Introduction to Project Healthy Schools
5:28 PM	Kiyan Aslani	PHS	Comparing Health Outcomes of Students with Varying Screen Time Across Different Electronic Mediums
5:33 PM	Mary Farmer	PHS	Navigating the New Normal: Assessing the Impact of COVID-19 on Michigan Adolescent Lifestyle Behaviors
5:38 PM	Jacob McDevitt	MHYH/WMR	Introduction to My Heart Your Heart and World Medical Relief
5:41 PM	Jacob McDevitt Drake Rosenberg		Summer Wrap-Up
5:46 PM	Dr. James Froehlich		Closing Remarks
5:50 PM			Reception



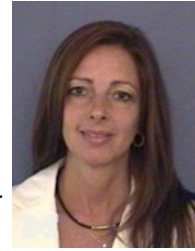




MEET OUR MCCRPP TEAM



Constantina Alexandris-Souphis, R.N., B.S.N., B.S.



*Constantina Alexandris-Souphis is a graduate of the University of Michigan, where she received a Bachelor of Science in Nursing, as well as, a Bachelor of Science in **Business**. She is currently working at **MCORRP** as a clinical research project manager for the MAQI² registry as well as other **MCORRP** projects. She has also done previous work in cardiology research at the University of Michigan Hospital, within the department of Interventional Cardiology, where she was the coordinator for several pharmacological and device trials.*

Her research continues to focus on patient education initiatives and methods to increase patient adherence and knowledge of their current medications with the goal of appropriate use of medications. . Her outside interests include traveling and spending time with her family.

Scott Ash, B.A., M.S.



*Scott Ash is an application developer for **MCORRP** developing registries and mobile applications. After earning a dual major B.A. at Valparaiso University he began a professional career in his home state of Michigan as a graphics animator creating commercials for television, news animations for a CBS affiliate, and working briefly in film. He furthered his experience at a marketing firm in Chicago working as a Graphic Designer in print and multimedia. Returning to Michigan he has enjoyed programming for over a decade.*

*In 2017 Scott earned his Master of Science in Computer Science at Concordia University with the support of **MCORRP**. While most often found tinkering with doodads Scott also enjoys baking, creating music and generally being active outdoors. Scott completed his first marathon in 2014 and converted his sailboat to an electric drive in 2016. In 2019 he was lucky enough to be in a film and in 2020 poured his own 2000 soft concrete driveway. Scott dreams of sailing the world while playing guitar, illustrating, writing, making movies and of course programming.*

Geoffrey Barnes, M.D., MSc

*Dr. Geoffrey Barnes is a cardiology and vascular medicine specialist at the University of Michigan. He is an active health services researcher with **MCORRP**. He graduated from Washington University in St. Louis in 2003 and the University of Michigan Medical School in 2007. He then completed a residency and chief residency in internal medicine before completing cardiology and vascular medicine fellowships at the University of Michigan. He completed a Master's in Health and Healthcare Research at the University of Michigan in 2015.*



*Dr. Barnes has been active in **MCORRP** since 2006, exploring outcomes related to anticoagulation. He serves as co-director of the Michigan Anticoagulation Quality Improvement Initiative (MAQI²). He serves as on the board of the Anticoagulation Forum as well as in leadership roles with the American Heart Association's Peripheral Vascular Disease council and the American College of Cardiology. He is a regular contributor to ACC.org. He remains committed to exploring quality of care and outcomes related to anticoagulation along with efforts to implement evidence-based care and the use of patient-physician shared decision making.*

Patsy Bruenger, B.A., CCRC

Patsy Bruenger graduated from the University of Michigan with a degree in cultural anthropology. However, it was her interest in the medical field that prompted her to work first as a technician in ophthalmology and then later as a research assistant in cardiology. She has remained in cardiology for the last 27 years holding various support roles initially with clinical drug trials and then with data registries.



*Currently, Patsy prepares most of the IRB (Ethics Board) and Legal/Compliance Committee submissions for **MCORRP** projects and helps on-board new sites for the FMD, Sarcoid and IRAD registries. She assists with the multiple agreements needed for the My Heart Your Heart pacemaker project and IRAD and has been involved with the COVID registry. Outside of work, Patsy enjoys being active, cooking and spending time with her family.*

Thomas Crawford, M.D.

Dr. Thomas Crawford is a Professor of Medicine at the University of Michigan. After graduating from the University of Tennessee School of Medicine in 2000, he completed his residency in Internal Medicine at Duke University Medical Center in 2003. Dr. Crawford received his cardiology and electrophysiology training at Washington University, St. Louis, and the University of Michigan. He joined the University of Michigan faculty in 2008.



As a clinical cardiac electro physiologist, Dr. Crawford has expertise in the management of complex cardiac arrhythmias. He has written extensively on the mechanisms of ventricular tachycardia in cardiomyopathy, and correlations between cardiac magnetic resonance imaging and electrophysiological mapping studies of the ventricular tachycardia substrate. He has a particular interest in caring for patients with cardiac sarcoidosis, which often manifests as sudden cardiac death due to ventricular tachycardia or heart block. Together with his colleague Dr. Frank Bogun, he manages the Cardiac Sarcoidosis Registry.

Dr. Crawford has published more than 110 peer-reviewed manuscripts in the field of atrial fibrillation and ventricular tachycardia ablation, cardiac sarcoidosis, and sudden cardiac death. He has also authored numerous review articles and book chapters. Dr. Crawford is on the editorial board of Cardio source and a peer reviewer for Circulation, Circulation Arrhythmia and Electrophysiology, Heart Rhythm, Journal of Cardiovascular Electrophysiology, and Pacing and Clinical Electrophysiology. He is a co-investigator on an NIH grant assessing interleukin blockage in the treatment of cardiac sarcoidosis

Debbie DeCamillo, R.N., B.S.N.

*Debbie is a Clinical Research Project Manager who joined **MCORRP** in March 2015 bringing with her nearly 30 years of experience in nursing and clinical research. Debbie manages the Direct Oral Anticoagulation (DOAC) registry and has published several DOAC related research articles.*



*Debbie received her BSN from Mercy College of Detroit in 1986 and worked as a pediatric oncology nurse at the Children's Hospital of Michigan where she first became involved in clinical research. Before joining **MCORRP**, Debbie was employed at Wayne State University where her roles included Education Coordinator for Human Subjects Research, member of the Institutional Review Board for Human Subjects Research, Research Project Manager in the Division of Infectious Diseases and Lead Clinical Research Coordinator for Pediatric Oncology. Debbie enjoys exploring Michigan and spending time with family and friends.*

Kim A. Eagle, M.D., MACC



Dr. Kim Eagle is the Albion Walter Hewlett Professor of Internal Medicine, Professor of Health Management and Policy University of Michigan School of Public Health and Director of the Frankel Cardiovascular Center at the University of Michigan Health System. A graduate of Bozeman Senior High School (Bozeman, MT) he then attended Oregon State University graduating in 1976 followed by Tufts University Medical School graduating in 1979. He completed a residency and chief residency in Internal Medicine at Yale-New Haven Hospital from 1979 to 1983 followed by research and clinical fellowships in cardiology and health services research at Harvard Medical School and The Massachusetts General Hospital (MGH) from 1983 through 1986. From 1986 to 1994, Dr. Eagle served MGH where he was promoted to Associate Director of Clinical Cardiology and Associate Professor of Medicine at Harvard before moving to the University of Michigan.

*At U-M, beginning in 1994, Dr. Eagle developed an outcomes research program focusing on quality, cost-effectiveness, practice guidelines, acute coronary syndromes, treatment of aortic diseases, the fight against childhood obesity (Founder - "Project Healthy Schools"), and reuse of pacemakers in third world nations (Founder - "Project My Heart Your Heart"). His outcomes research team has led quality improvement initiatives across the state of Michigan in acute MI, heart failure, and coronary intervention. Dr. Eagle has contributed extramural presentations to more than 110,000 learners in 33 US states and 12 countries. He has published 772 peer-reviewed articles, 76 chapters, and edited eight books including his latest, *The Heart of a Champion*, co-written with legendary Michigan football coach, Bo Schembechler.*

*Dr. Eagle has served the American College of Cardiology on numerous committees and task forces. He is the editor of the ACC's website, ACC.org. He served its Board of Trustees from 2001-2005. He received ACC's "Master designation in 2009, and it's national Distinguished Teacher Award in 2012. In 2018, he received the 2018 Distinguished Scientist Award (Clinical Domain) from the American College of Cardiology. He served on the National Heart, Lung and Blood Institute's External Advisory Committee from 2002-2006, and was Study Chair of its Genetic Causes of Thoracic Aortic Conditions (GenTAC) from 2006-2016. He is study chair of the GenTac Alliance (now powered by the Marfan Foundation) since 2017. He has served the local and national American Heart Association and he received the national AHA's Laennec Society's Clinician Educator Award in 2013. He is past President of the Association of University Cardiologists and a former Board Member of World Medical Relief. In 2014, the University of Michigan and many of Dr. Eagle's grateful patients created the Kim A. Eagle Professorship in Cardiovascular Medicine and an endowed research fund bearing his name. This research fund helps support **MCORRP**. The Professorship held by Dr Vallerie McLaughlin. In 2020, he received an honorary "M" jacket from the UM Athletics Letterwinners Club for his medical service to Michigan coaches and student athletes.*

James Froehlich, M.D., M.P.H., FACC, FVSM

*James Froehlich, MD, MPH, FACC, MSVM, is Professor of Internal Medicine, Director of Vascular Medicine, Co-Director of **MCORRP**, and Director of Anticoagulation at the University of Michigan Medical School. He received his undergraduate degree in political philosophy from Dartmouth College in 1982, and his medical degree from Dartmouth Medical School (now the Geisel School of Medicine at Dartmouth College), in 1986. He completed a residency and chief residency in internal medicine at the New England Deaconess Hospital, Harvard Medical School, under Dr. Robert Moellering.*



Dr. Froehlich was a fellow in cardiology at the University of Michigan from 1993-1996, and a trainee there under the NIH Vascular Medicine Training Program Grant in 1994, under Dr. James Stanley. After completing a Masters Degree in Public Health at the Harvard School of Public Health (while serving as Director of Vascular Medicine at the Beth Israel Deaconess Medical Center, Harvard Medical School), he joined the faculty of the University of Massachusetts Medical Center, as Director of Vascular Medicine with a joint appointment in vascular surgery and cardiology, before returning to Michigan and his current position in 2005.

Dr. Froehlich has served on the editorial boards of the Journal of Vascular Surgery, the Cardiosource Review Journal, the Journal of Thrombosis and Thrombolysis, and currently serves on the editorial board of Vascular Medicine. He has also served as an ad hoc reviewer for JAMA, NEJM, Vascular Medicine and Circulation. He is Past-President of the Society for Vascular Medicine and has been a member of the AHA/ACC Preoperative Guidelines Committee and of the AHA Scientific Sessions Program Committee. He has published over 150 peer-reviewed scientific papers and 11 book chapters. He has lectured in 26 states and 13 different countries. He is an ardent supporter of the Boston Red Sox, the University Musical Society, and serves on the board of directors of the Ann Arbor Symphony Orchestra

Amy DeLellis, B.S.

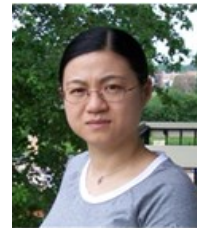
Amy DeLellis is a clinical research coordinator with over three years of experience working in research at Michigan Medicine. She has a Bachelor of Science in psychology from Eastern Michigan University, where she also competed in cross country and track and field. She has extensive background in participant recruitment and data entry from the multiple studies she has worked on.



She joined the MAQI2 team in April of 2022 and has been working on new patient data entry for the registry. In her spare time, she enjoys running and horseback riding.

Xiaokui Gu, M.A.

Xiaokui Gu graduated from Shanghai Medical University. She worked as a resident doctor in the Cardiology Department at Shanghai Chest Hospital for five years. After coming to the United States, she completed an MA in Applied Statistics and is getting an MS in Computer Science, both from Eastern Michigan University.



*She currently works as a statistician and programmer for **MCORRP**, designing and maintaining the databases for the MAQI² and FMD registries. Xiaokui is responsible for statistical analyses for various registries. She has enthusiastically participated in the sport of curling.*

Brian Haymart, R.N., B.S., M.S.

*Brian joined the **MCORRP** team as a research coordinator for MAQI² in 2009. He now serves as the MAQI² project manager and the **MCORRP** assistant supervisor. He grew up in Missouri, received his BSN from the University of Missouri, and continues to be **MCORRP**'s biggest supporter of Missouri athletics. Prior to working at **MCORRP**, Brian worked as a research nurse coordinator in Baltimore while earning his Master's Degree from Johns Hopkins University.*



Most recently, Brian was quality improvement manager for a healthcare organization in Madison, Wisconsin. In his spare time, he enjoys spending time with his wonderful wife and two energetic sons. He especially enjoys taking the family hiking, fishing, and biking around Ann Arbor.

Alice Horgrow

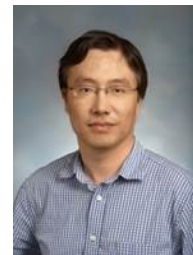
Alice Horgrow joined **MCORRP** in 2004 as a Clinical Subjects Coordinator. Prior to joining the **MCORRP** team, she worked in the Department of Internal Medicine, Human Resources Department, for over 18 years. Currently she is responsible for all Travel and P-Card transactions, acts as a liaison with the Internal Medicine HR Department and the university's personnel and payroll office.



She interacts with Internal Medicine and payroll to resolve all payroll issues or concerns. In addition, she prepares requisitions for materials, supplies and services and assists with travel arrangements, scheduling meetings, conferences, facilities and services. Alice also completes MAQI² follow-ups and is an integral part of the **MCORRP** Team. She is very active at her church and enjoys spending time with her family and friends.

Xiaowen Kong, M.S.

Xiaowen Kong received his MS in Statistics from Michigan State University. Currently he works as a statistician for **MCORRP**, and he is responsible for statistical analyses for MAQI².



Before joining **MCORRP**, he served as a data manager and programmer at Michigan State University for five years. Xiaowen has over seven years industrial experience in China and he graduated from Qingdao Agricultural University. He and his wife live with two lovely children, he enjoys biking and fishing with the family. He enjoys metal and wood working as a hobby.

Eva Kline-Rogers, R.N., B.S.N., M.S.N, N.P., AACC

Eva Kline-Rogers, MS, NP, AACC, currently is co-director for MCORRP (Michigan Cardiovascular Outcomes Research and Reporting Program) at the University of Michigan. She also functions as a project manager for the U.S. Fibromuscular Dysplasia Registry, COVID Registry, and coordinates the MCORRP Student Internship Program.



Eva received her undergraduate and graduate degrees from the University of Michigan's School of Nursing as well as certification as an Acute Care Nurse Practitioner. She has functioned as a critical care RN, clinical research coordinator, clinical nurse specialist, and both inpatient and, most recently, outpatient nurse practitioner during her tenure at the University of Michigan. She has published articles on thrombolytic therapy and quality improvement and lectures on topics ranging from outcomes research to quality improvement in anticoagulation. She is also an ad hoc editorial reviewer for the American Heart Journal and is an active member of the American College of Cardiology, having participated as a working group member for several initiatives. She is a past board member for the Anti-coagulation Forum (ACF) and previously served as a Steering Committee Member for QUANTUM-AF, and continues to actively mentor undergraduate and graduate students as part of the MCORRP Student Internship Program.

Todd Koelling, M.D.

Todd Koelling received his medical degree from the Johns Hopkins School of Medicine in 1990 after receiving his bachelors' degree in Chemical Engineering from Yale College. He then completed a residency in Internal Medicine at Johns Hopkins Hospital and in 1997 completed a fellowship in Cardiology at the Massachusetts General Hospital. He joined the staff at the University of Michigan as an Assistant Professor in the Division of Cardiology in 1997.



He is now a Professor and Medical Director at the University's Heart Failure Program. He specializes in the care of patients with heart failure and cardiomyopathies, and also cares for heart transplant recipients. His research interests include quality of care and disease management of heart failure patients. He is currently conducting studies to understand the most effective ways to optimize the medical use for patients with chronic heart failure.

Rachel Krallman, B.S.

Rachel graduated from the University of Michigan in 2011 with a Bachelor of Science degree in Brain Behavior and Cognitive Science. She is a project manager for the Project Healthy Schools (PHS) database, the U.S. Registry for Fibromuscular Dysplasia, the Bridging the Discharge Gap Effectively (BRIDGE) registry, and the OVERCOME Heart Failure registry.



*Rachel began working at **MCORRP** in 2012 as a summer intern. Since then, she has contributed to several publications and has presented research findings at national conferences for BRIDGE, FMD, and PHS. With the help of the entire MCORRP team, Rachel coordinates the **MCORRP** summer internship program. Outside of the office, she enjoys baking, watching reruns of Forensic Files, and high-quality puns.*

Jacob Kurlander, M.D.

Dr. Jacob Kurlander is a gastroenterologist and physician-investigator. He attended Columbia University for college and completed medical school, internal medicine residency, and gastroenterology fellowship at the University of Michigan, where he is a faculty member. He has advanced training in clinical and health services research, as well as implementation science.



He has collaborated with the Michigan Medicine anticoagulation service to develop novel strategies to reduce patients' risk of gastrointestinal bleeding, which is the most common site of serious bleeding in patients who use blood thinners. He also has the pleasure of caring for our nation's Veterans at the Ann Arbor Veterans Affairs Medical Center. His work current work is funded by an NIH career development award.

Troy LaBounty, M.D.

Dr. Troy LaBounty is an Associate Professor of Medicine and Radiology at the University of Michigan and is the Medical Director of the University of Michigan Adult Echocardiography Lab. He graduated from the University of Michigan in 1994 and from the State University of New York at Stony Brook School of Medicine in 2002. He completed his internal medicine residency and cardiovascular fellowship at the University of Michigan from 2002 through 2008. Between 2008 and 2012, he served as an assistant professor of medicine first at the Weill Cornell School of Medicine and then at the Cedars-Sinai Medical Center, before being recruited back to the University of Michigan in 2012.



Dr. LaBounty's clinical and research interests include cardiovascular imaging by echocardiography and computed tomography. He has a particular interest in the relationship between imaging and outcomes in patients with aortic and aortic valve disease, including patients undergoing transcatheter aortic valve implantation and patients with aortic dilatation. He has published over 75 peer-reviewed manuscripts, and has given over 35 invited lectures for local and international conferences.

Vallerie McLaughlin, M.D.

Vallerie V. McLaughlin, MD, is the Kim A. Eagle, MD, Endowed Professor of Cardiovascular Medicine, Director of the Pulmonary Hypertension Program, and Associate Chief of Cardiovascular Medicine at the University of Michigan, Ann Arbor. She is a Fellow of the American College of Cardiology, the American College of Chest Physicians and the American Heart Association, and is a member of the American Thoracic Society.



She has served as Chair of the American Heart Association "Women in Cardiology" Committee and as a member of the American College of Cardiology Scientific Sessions Program Committee. Professor McLaughlin is a Past-Chair of the Scientific Leadership Council of the PH Association, Past-Editor-in-Chief of Advances in Pulmonary Hypertension, and Past-Chair of the PH Association Board of Trustees. She was Chair of the American College of Cardiology/American Heart Association Clinical Expert Consensus Document on PH. She was inaugurated as a charter member into the Clinical Excellence Society at the University of Michigan. Her research interests focus on Pulmonary Hypertension (PH).



Student Interns Volunteering at World Medical Relief

Chih-Wen Pai, Ph.D., M.S.P.H.

*Chih-Wen Pai received her PhD in Health Services Organization and Research from Virginia Commonwealth University and MSPH in Health Policy and Administration from the University of North Carolina at Chapel Hill. She works as a statistician for **MCORRP** and is primarily responsible for statistical analyses for IRAD registry as well as projects for Project Healthy Schools, Cardiac Rehabilitation, and Heart Failure.*



*Before joining **MCORRP** in 2020, she worked for 18 years both in research and operation capacities at different units within the University of Michigan and has experiences in research and publication as well as querying and analyzing data from various sources. She enjoys playing tennis and taking day trips in Michigan.*

Himanshu J. Patel, M.D.



Dr. Himanshu Patel is the Joe D. Morris Collegiate Professor of Cardiac Surgery. In August 2016, he became Head of the Section of Adult Cardiac Surgery. He received his undergraduate degree at The Johns Hopkins University in 1988 and completed medical school at The Johns Hopkins University in 1993. His general surgery training was completed at University of Rochester School of Medicine, Strong Memorial Hospital in Rochester New York in 2000 and his Thoracic Surgery residency was completed at the University of Michigan Hospital in Ann Arbor, Michigan in 2002. He then completed a fellowship in Thoracic Transplantation/Adult Cardiac Surgery and joined the faculty as an Assistant Professor of Surgery in 2003 at the University of Michigan. From 2004 to 2010 he was Chief of the Cardiothoracic Surgery Service at the Ann Arbor Veterans Health System. He also completed an Endovascular Surgery Fellowship at the Cleveland Clinic in 2005.

His clinical interests include the field of adult cardiac surgery with emphasis on aortic valve disease including both open and percutaneous approaches, thoracic aortic disease including aortic aneurysms, and thoracic aortic endovascular surgery. His research interests revolve around outcomes of open and endovascular thoracic aortic procedures, conventional and catheter-based aortic valve surgery, and development of catheter based endovascular devices. In addition, he collaborates extensively with bioengineers at the Frankel Cardiovascular Center to evaluate the impact of catheter based therapy on cardiac function and aortic and cerebrovascular blood flow hemodynamics. He is a member of all major cardiac and vascular surgical societies.

Eric Puroll, BS



*Eric grew up in Livonia, MI and graduated summa cum laude from Hartwick College (Oneonta, NY) in 2011. He majored in biology and was a faculty scholar in chemistry. He currently serves as the Project Manager for both Project My Heart Your Heart and the Interaction Cardiac Sarcoidosis Consortium. He began working for **MCORRP** 10 years ago as a summer intern abstracting data for the MAQI2 registry.*

Since that time, he is very excited to have become more involved in the research and loves working with such a dedicated team of investigators. When not in the office, Eric enjoys coaching varsity boys' soccer at Livonia Churchill High School and varsity girls' soccer at Marian High School. He also enjoys playing volleyball, hiking, camping, completing jigsaw puzzles, and wood-working.

Melvyn Rubenfire, M.D.

In 1991, Dr. Rubenfire joined the University of Michigan as a Professor of Internal Medicine, and served as the Director of Preventive Cardiology in the Division of Cardiovascular Medicine until July 2021. He served as Director of the Pulmonary Hypertension Program at the University of Michigan for eight years. He was recently honored by the University with the establishment and creation of the Melvyn Rubenfire MD Professor of Preventive Cardiology. The first awardee is Dr. Venkatesh Murthy who is a Clinical Associate Professor of Radiology and Cardiovascular Medicine.



His clinical and research interests include detection and treatment of coronary disease and cardiovascular risk factors with an emphasis on cardiac rehab, lipids/nutrition, psychological distress, and the metabolic syndrome. The team has over 200 publications in peer reviewed journals and leadership positions locally and nationally. The multidisciplinary faculty use the long term data bases from cardiac rehab, lipids, nutrition, air pollution, and the metabolic syndrome to monitor the values and quality of interventions, assess compliance with quality standards, develop novel treatments, and identify high risk and poorly served groups. Examples include altering the cardiac rehab program to better impact glycemic control and weight loss, demonstrate how inexpensive bedroom air filters can improve blood pressure control, improve referral, participation and quality of care of patients referred to cardiac rehab and with the metabolic syndrome. The team recently initiated a partnership between major CV centers in Michigan and Ontario (Great Lakes Cardiac Rehabilitation Consortium) to assess differences within and between neighboring health care systems with much different national health care programs and patient care paradigms. Improving the cardiovascular care of women at risk and with coronary heart disease has been a focus since 2020.

Melvyn Rubenfire received his Doctor of Medicine degree from Wayne State University, Detroit, Michigan. He completed his residency in Internal Medicine at Wayne State University Sinai Hospital of Detroit, which was followed by a fellowship in cardiovascular diseases at Henry Ford Hospital in Detroit. From 1970 to 1991, Dr. Rubenfire served as Chief of the Section of Cardiovascular Disease, and from 1986 to 1991 Chairman of the Department of Internal Medicine at Sinai Hospital, Detroit, Michigan. Prior to joining the University faculty he was a Professor of Internal Medicine at Wayne State University.

Jordan Schaefer, M.D., FACP

Dr. Jordan Schaefer is a hematologist at the University of Michigan. He earned a BS in Sociology Health and Aging; Social Inequality; Race, Class and Gender with a minor in Chemistry from the University of Michigan in 2008 and his M.D. from Michigan State University in 2012. He then completed an Internal Medicine residency at the Mayo Clinic in Rochester, MN prior to entering the Hematology/Oncology fellowship program at the University of Michigan.



*Following completion of his fellowship in 2018, Dr. Schaefer joined the hematology/oncology faculty at the University of Michigan where his clinical and research interests focus on health disparities in anticoagulation care, cancer associated thrombosis, and the optimal use of antiplatelet/anticoagulant therapies. He has been active in **MCORRP** since the start of his fellowship in 2015 where he participates in studies related to anticoagulation outcomes and quality improvement efforts through the Michigan Anticoagulation Quality Improvement Initiative (MAQI²). Through his research, he strives to broadly improve the delivery and knowledge of optimal anticoagulation care.*

Brian Shensky, B.S.

*Brian is an Executive Technical Consultant and Software Developer from Detroit, Michigan who joined **MCORRP** in 1997 after pursuit of his B.S. in Information Systems at the University of Michigan-Dearborn. His 30-year career includes roles as Application Developer, Database Administrator, Systems Administrator, Technical Project Manager, Trainer and Project Management Consultant for innumerable companies that span Healthcare, Manufacturing and Marketing disciplines.*



*Specific technical core competencies include Oracle database, Linux, and the REDCap and Drupal content management system upon which **MCORRP** registries are built. As an early adopter advocate of Open Source technologies, he has given numerous presentations at regional and national Oracle, Linux and Drupal conferences. He resides with his wife and son in Dexter, Michigan, and enjoys piano playing and composition, audio and video engineering, Amateur Radio, SCUBA diving, camping, biking and extensive travel.*

Elise Woznicki, B.S.

*Elise began working with **MCORRP** in 2008. She currently serves as the project manager for the International Registry of Acute Aortic Dissection, and has the privilege of working with a dedicated team of investigators, coordinators, and statisticians. She is also a site coordinator for the Critical Care Cardiology Trials Network and Pulmonary Hypertension databases.*



Elise is grateful to be involved with these registries and looks forward to future projects dedicated to further advancing our knowledge of aortic disease and other cardiovascular conditions. In addition to her outcomes research work, Elise enjoys slowly jogging with her daughter, Fern. She is an enthusiastic participant in ceramics but has yet to successfully make anything.



Brian presenting our MAQI² Anticoagulation Toolkit at a national conference



MEET OUR STUDENT INTERNS



Kacie Alexander BS

Kacie graduated from the University of Michigan, School of Kinesiology with a Bachelor of Science in biomechanics, motor control, and exercise physiology in 2022. After her undergrad, Kacie pursued an accelerated Bachelor of Science in Nursing and has accepted a pediatric cardiac ICU position in Fort Worth, TX. During her undergraduate career, Kacie served on her sorority's executive board, worked as an "Emergency Medical Response" teacher assistant for the School of Kinesiology, was a research assistant for MCORRP's Bridge Registry, and worked as a teacher's assistant for the LSA English department.



Throughout the past years, Kacie has been a team leader for the COVID registry and has all worked on CCCTN, Bridge, and IRAD registries. She is excited to be returning to MCORRP this summer to further support IRAD. Kacie is honored to have been a part of the MCORRP family for 4 years and looks forward to seeing the groundbreaking research that is developed by our talented students and staff this year.

Kiyan Aslani

Kiyan Aslani is an undergraduate pre-optometry student at Nova Southeastern University with a Major in Public Health. Having grown up in Ann Arbor, Michigan, Kiyan came back to his hometown this summer to work under the MAQI2 registry of MCORRP.



Throughout the two years he's been at NSU, he has joined the e-board of the public health club NSU Health Equity, as well as several intramural sports such as volleyball and soccer. Beyond the classroom, Kiyan is a self-taught animator and loves making short cartoons in his free time.

Mohamad Awada BS

Mohamad is a rising second-year medical student at the University of Michigan Medical School. He graduated from the University of Michigan in 2020 with a degree in Biomolecular Science. During that time, he was involved in research, mentorship, and volunteering at local hospitals. Before starting medical school, he further pursued his interest in mentorship, serving with City Year Detroit to support middle school students during the pandemic. During his first year of medical school, he worked as the Co-Director for the Doctors of Tomorrow Succeed branch, promoting the experiences of pre-med undergraduate students at the University of Michigan.



Mohamad started at MCCORP this summer, working as an intern on the IRAD registry and a research project. He is working on elucidating disparities in the diagnosis and treatment of aortic dissections. He is very grateful to the team for the fun and engaging research learning experience.

Matthew Benson BA

Matthew is a recent graduate from Grinnell College with a BA in Biological Chemistry with Honors. During his time at Grinnell, he worked as a writing mentor assisting students with their writing assignments, volunteered at the Grinnell Middle School, and advised first-year members of the Minority Association of Pre-medical Students (MAPS) community who were interested in applying to Medical school. In the third year, Matthew spent a semester abroad in Denmark at DIS Copenhagen studying human health and disease. In his fourth year, he completed an independent research project studying the structure and function of the Zebrafish liver. Due to his interest in and knowledge in surveillance capitalism, he was invited to teach and lead a mini-seminar class as a guest lecturer for the Sociology of Robots course at Grinnell. In his free time, Matthew can be found cycling, playing piano or guitar, and playing sports or video games with his friends.



Matthew started at MCORRP as an intern for the 2021 summer internship working with the COVID-19 registry. This summer and last Matthew worked with the Cardiology Clinical Care Trials Network (CCCTN) registry. This summer, Matthew will be attending The University of Michigan Medical School.

Clara Bowman

Clara is a junior at the University of Michigan majoring in Information Analysis with minors in Computer Science and Biology. She has been involved in oncology genetics research at the Michigan Center for Translational Pathology, works as a tutor for underrepresented populations at U of M and is active in her premedical fraternity. Clara enjoys cooking, baking, and cross stitching when she finds time around her marathon training plan.



This past summer Clara began working with the IRAD and FMD registries. She started researching the role of varying demographics on discharge medications after acute aortic dissection and hopes to extend the project to include long-term outcomes in the future. She is grateful that MCORRP has welcomed her and provided exposure to clinical research, additional insight to roles in cardiology, and the opportunity to explore the intersection of her passions of medicine and data analysis.

Amber Co , BS

Amber recently graduated from Oregon State University majoring in Microbiology and minoring in Chemistry. Amber is currently preparing to apply to PA school. She was the treasurer of the Microbiology Student Association and next year will be taking the role of co-president. She currently works at the Skeletal Biology Laboratory and works to better understand the mechanisms behind bone growth and homeostasis to improve bone health. She is a classroom assistant and proctor for students with disabilities. With a group of her college peers, she led a community-based research project called HPBeaVs to increase HPV awareness and vaccination rates in the local community. In her free time, Amber enjoys cooking, running, and spending time with her friends and families.



This summer, Amber is part of the C3TN registry. She is grateful for the opportunity to explore how clinical data can be analyzed and conduct her own research. She is eager to learn more about different aspects of cardiovascular care.

Mahee Doshi

Mahee is a rising senior at the University of Michigan, pursuing a Bachelor of Science in Life Science Informatics and Biology, Health, and Society, with an Entrepreneurship minor. At U of M, she has been a part of the Health Sciences Scholars Program and is involved in many student organizations, serving as Co-founder and Tutor of Humanity First - The Education Project at the University of Michigan, Fundraising Chair for Alpha Phi Omega, a national service fraternity, and a Captain of Michigan Taal, a South Asian Competitive Dance Team. Outside of college, she is also a Local Representative of the Midwest Region for a national non-profit organization, Young Jains of America, and in her free time, enjoys traveling and spending time with her friends and family.



During this past summer, Mahee was a Team Leader for the Pulmonary Hypertension (PH) Registry and is thankful for the opportunity to have worked with MCORRP, introducing her to clinical outcomes research and allowing her to gain valuable exposure to cardiovascular science.

Mary Grace Farmer, BS

Mary is a recent graduate of Michigan State University's Lyman Briggs, where she earned dual Bachelor of Science degrees in Cellular and Developmental Neuroscience and Human Biology, along with a minor in Entrepreneurship and Innovation. During her time at MSU, she served as the Vice President of the student organization Greenhouse, guiding and mentoring fellow students, facilitating discussions, and leading impactful service projects. Additionally, she gained valuable experience as an undergraduate teaching assistant in the Microbiology lab. Beyond her academic pursuits, Mary manages a small business that not only brings her joy but also supports various non-profit organizations dedicated to promoting community health. In her leisure time, she enjoys spending quality time with loved ones, gardening, and weightlifting.



Mary is grateful for the opportunity to work on the CCCTN registry during this past summer. The experience has not only broadened her understanding of cardiology and clinical research but also solidified her passion for making meaningful contributions in these fields. She deeply appreciates MCORRP for providing her with this invaluable opportunity.

Trey Feldeisen BS

Trey is a recent graduate from Washington University in St. Louis and will be attending the Donald and Barbara Zucker School of Medicine at Hofstra/Northwell beginning this summer. At WashU, he majored in Biology with minors in Math and Psychology and worked as a scribe in an emergency department. Outside of class, his notable achievements from the past year are running a half marathon with his dad in the fall and a full marathon in the spring, falling two minutes short of his brother Thane's record. Some of his hobbies include skiing, hiking, and spinning.



This is Trey's third year working with MCORRP and is very thankful for the help and guidance the staff and faculty have provided on his journey through medicine.

Chloe Kazaglis

Chloe is a junior at the University of Michigan studying Neuroscience with a minor in French. She's currently exploring different aspects of healthcare, and enjoying her work in the FAST Lab's addiction research and the Olszewski Lab in immunology. She is interested in preventative medicine and hopes to pursue an MD in the future.



In her free time, she loves hiking, painting, and kayaking around Michigan. She is a team lead for the MAQI registry and works on a project focusing on acute PE in the ED. She is co-writing a manuscript on LAAO usage in Michigan Medicine.

Varsha Karthikeyan

Varsha is going into her fourth-year at Oregon State University, pursuing a major in Biology with a minor in Chemistry on the pre-medicine track. Throughout college, she has worked as a research assistant at the Carlson College of Veterinary Medicine, actively engaging in a neuroendocrine project in the Chappell lab. She was also a SURF student last summer at Washington State University, where she worked on a project centered around prostate cancer. Beyond academics, Varsha serves as the vice-president of the Indian Students Association and is the founder and president of the OSU chapter of the Brain Exercise Initiative.



She also loves spending her evenings at practices for OSU's competitive Bhangra team. During her free time, Varsha is usually painting, going on runs, or spending time with her family and friends. This past summer, Varsha has served as an intern in the IRAD registry. She is thankful for this amazing opportunity and is looking forward to presenting her research.

Jake McDevitt

Jake McDevitt is a rising senior at the University of Michigan. He is studying Molecular, Cellular, and Developmental Biology and is from Ann Arbor. After Jake graduates, he hopes to attend Medical School. Outside of MCORRP, Jake enjoys working as a mentor for sunrise mentoring and playing hockey and other intramural sports at the University of Michigan.



This summer, Jake is working as a student manager as well as helping out with the pulmonary hypertension registry.

Vincent Maribao

Vincent is a rising Junior at the University of Michigan majoring in Biology, Health, and Society on a Pre-Medical track. Along with MCORRP as part of the MAQI team, he was also performing research at the Frankel Cardiovascular Center for Michigan Medicine as part of an aortic based study group which he started at the beginning of his sophomore year. Throughout his sophomore year, he worked as a LSA Hub peer advisor to help students from all grades work on resume/cover letters to help apply for upcoming internships or jobs.



In his free time, he mostly spends his time outside playing pickleball, golfing, or going out on the lake to wakeboard with friends. This past summer, he was a first-time intern here at MCORRP and is very grateful to the whole team for making his research experience fun and full of learning.

Zoe Michos

Zoë is a rising senior at Case Western Reserve University. She is pursuing a major in Biology with minors in Statistics, Chemistry, and French. Outside of the classroom, she volunteers at the American Cancer Society Hope Lodge, volunteers at UH Rainbow Babies and Children's Hospital through Project Sunshine, works on research into how the low-level audio-visual features of film trailers affect audience's ratings, and is a varsity swimmer at her university. After she completes her undergraduate studies, she plans to attend medical school.



This past summer Zoë served as one of the CCCTN team leaders. She is grateful for all of the help and guidance she received from the MCORRP staff and her fellow team leaders and all that she has learned this past summer.

Olivia Mueller

Olivia is a recently graduated from Wayne State University with a Bachelors of Science in Biology and a minor in Spanish. Throughout college, she volunteered with the Red Cross, taught dance and a local studio, and has enjoyed coaching the Canton High School Varsity Pompon team. She is looking forward to taking some time off before applying to medical school in the spring.



This past summer Olivia served as the IRAD/FMD Team Leader. She also continued her research with MCORRP on sexual activity after aortic dissections. She would like to thank the MCORRP staff for creating a unique experience for students to learn and shadow, while gaining experience in clinical research.



*Intern Dinner with Dr Eagle
June 2023*

Hannah Nemeth

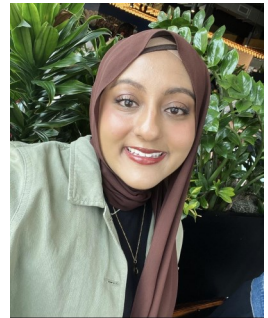
Hannah is a rising senior at Northwestern University, double majoring in Political Science and Global Health. For the past three years, she has worked as a Research Assistant within the Feinberg School of Medicine Center for Health Services and Outcomes Research (CHSOR). Hannah is also the Vice President of Northwestern Hillel, on the Executive Board of Northwestern University Dance Marathon (NUDM), and a member of Kappa Alpha Theta sorority.



Hannah worked as a member of the Pulmonary Hypertension registry. She is beyond grateful to the MCORRP team for fostering such a warm yet intensive learning environment, and she is confident that her experiences with MCORRP will greatly aid in her journey to becoming a physician.

Tahsin Najmi, BS

Tahsin recently finished her first year of medical school from the University of Reno, Nevada. This past year, Tahsin became the Ophthalmology Clinic Manager for the Student-Run Outreach Clinic, where she learned and practiced giving free eye exams to the underserved in her community. Additionally, she spent her time as a Hug High Mentor in Medicine and a Personal Statement Editor for students applying to medical school. She has also volunteered for other initiatives, such as Feed Nevada and the Special Olympics. Tahsin has recently been elected as co-President for the Medical Research Association at UNR Med and looks forward to integrating her experiences from this summer to further research for other medical students.



Tahsin graduated from the Ohio State University with a Bachelors in Exercise Science and a minor in Creative Writing. In her free time, she likes to read, write, cook, and exercise. This past summer, Tahsin worked on the MAQI registry. She is appreciative of the MCORRP staff and all the wonderful people she has worked with this summer.



*MCORRP Staff & Interns Giving Back
HOPE Clinic Sack Lunch Assembly*

Brindha Rajakumar

Brindha is a rising sophomore, studying business administration at the University of Michigan's Stephen M. Ross School of Business. She is interested in pursuing a career in healthcare and is currently exploring different options including healthcare management/consulting, medicine, etc.

At MCORRP, Brindha is one of the team leads for the MAQI² registry. She thoroughly enjoys the summer internship and is grateful for all the learning opportunities such as lectures from experts in the industry and working with the wonderful MCORRP staff and her peers.



At UMich, Brindha is a member of student organizations such as Project RISHI and MED ECG. During her free time, she loves spending time with friends and family, reading, rock climbing, golfing, and playing badminton.

Drake Rosenberg BS

Drake recently graduated from the University of Michigan studying Cellular and Molecular Biomedical Science. In the fall he will be starting a master's degree in biomedical engineering focused on biomedical imaging. In college, he has been active with research, the LSA honor council, and his professional chemistry fraternity. On-campus he works on a lipodystrophy registry, and in an ultrasound radiology lab. This summer he spent his free time kayaking, playing tennis, reading history books, and exploring local trails.



Drake was the student manager this summer and worked on the IRAD registry. He has enjoyed setting up shadowing opportunities for the students this summer. He hopes to stay involved with MCORRP in the future.

Emma Sortor

Emma is a rising junior at the University of Michigan, pursuing a Bachelor of Science in Biology, Health, and Society. At U of M, Emma participates in the Undergraduate Research Opportunity Program (UROP) and works in the Department of Dermatology to investigate the role of melanocytes in basal cell carcinoma. Additionally, Emma serves on the executive board of her sorority, Alpha Delta Pi, and works as an illustrator for The Michigan Daily newspaper. In her free time, she enjoys reading, working out, and hanging by the pool with her dog, Winston.



At MCORRP, Emma worked as an intern on the CCCTN registry. She would like to thank the program leaders and staff for such an enriching research experience!

Sofia Zestos

Sofia is going into her sophomore year at Michigan State University with a major in Neuroscience and a minor in bioethics. She is a part of Lyman Briggs program and is planning on going into the medical field. Sofia is a member of the Hellenic Student Association at Michigan State and is treasurer of the Pancretan Association of America Levendoyenna Youth of Detroit. In her free time, she is often outdoors, cooking, baking, and spending time with friends.



This past summer Sofia was a first time intern at MCORRP and was a part of the MAQI² registry. She is very grateful for all the experience and opportunities that MCORRP offered and is looking forward to returning next summer!

Andrew Zhang BA

Andrew is a first-year medical student at the University of Michigan Medical School. He graduated from Yale University in 2020 with a Bachelor of Arts in Political Science and Biochemistry. He then worked for 2 years as an analyst at Aledade, a value-based care company that partners with primary care physicians to improve health outcomes while reducing costs for 2 million+ patients. Outside of work, he enjoys racquet sports, learning Arabic, and playing and listening to classical music.



This past summer, Andrew was an IRAD team member supporting data abstraction while undertaking a project to study risk factors for aortic dissection. He has greatly appreciated the efforts of all at MCORRP to make this the incredibly supportive training environment it is.

MCORRP NAMED INTERNS

*The MCORRP Team
gratefully acknowledges the following individuals
for their generous support of the
2023 MCORRP Named Interned Awards Program*

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Dr. Tom Varbedian	<i>Vincent Maribao</i>

STUDENT INTERNS REFLECTIONS:

“MCORRP has been a great experience for me because it’s given me an introduction to clinical research and a behind-the-scenes look at cardiovascular healthcare!”

“This internship is a very compelling and challenging experience that helps develop your professional skills. It also provides a great opportunity to forge some lasting friendships; truly a great summer internship.”

MCORRP DONORS

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RESEARCH AND REPORTING PROGRAM

“Never doubt that a small group of thoughtful, committed people can change the world. Indeed, it is the only thing that ever has.”

- Margaret Meade

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