OUR VISION

The goal of MCORRP is to improve the quality of cardiovascular care at the University of Michigan Health System, in the state of Michigan, and throughout the United States and the world. This will be accomplished by studying cardiovascular conditions and procedures among large populations, developing modern mathematical tools to assess risk and outcomes, and 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 scientific results at regional, national and international meetings and in peer-reviewed publications, as well as, by partnering with regional and national organizations for win-win solutions to overcoming barriers to providing quality cardiovascular care. Finally, MCORRP is committed to creating a vibrant, rigorous, diverse, and collegial research environment which promotes the investigative development of students, house officers, fellows, and junior faculty.
Mission Statement

25 Years

- Registries across all 50 states and 22 countries.
- Over 1,700 Papers/Presentations made at national and international conferences.
- Over 400 students have participated in our summer internship program.

World Medical Relief

- > 2000 Volunteer Hours
- Filled >120 Gaylords
- Est $1.8 Million medical supplies shipped to countries

Internship Stats

2000: Internship began with 7 students

2019: More than 400 students have participated in the internship program.

Registry Goals

- 12,000 Patient Forms Completed Inclusive for All Registries for the summer of 2019
- 65 Abstracts/Publications Project Submitted & Accepted Inclusive for All Registries for the summer of 2019

@ProjectMHYH
@HealthySchools
@FMJourney
@MAO1.2
@MAO1topklek
@umichmedicine
@IRADissection
@MedicalRelief

Global Impact

Email: MCORRP_admin@med.umich.edu
Website: http://www.med.umich.edu/mcorrp
Phone: (734)999-5999
**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 ten registries collecting data on thousands of patients and hundreds of thousands of patient follow-ups. 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.

Our summer internship program accommodated 31 superb students in 2019 from the following schools: Grand Valley State University (Allendale, MI), Hobart & Williams College (Geneva, NY), Hope College (Holland, MI), Indiana University (Bloomington, Indiana), Michigan State University (East Lansing, MI), Royal College of Surgeons Medical School (Dublin, Ireland), Oakland University William Beaumont School of Medicine (Troy, MI), Oregon State University (Corvallis, OR.), Smith College (Northampton, MA), University of Iowa (Iowa, IA), University of Kansas (Lawrence, KS), University of Michigan (Ann Arbor, MI), George Washington University (St. Louis, MO), Wayne State University (Detroit, MI), Williams College (Williamston, MA). We have 10 returning students and 21 new students. Our student interns worked diligently on our registries and their own research projects.

**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 patients on anticoagulation. They have identified methods to measure and develop performance markers to enhance patient safety, improve quality of care and increase patient knowledge while taking anticoagulants.”
Dear Colleagues, Supporters and Friends:

I am delighted to provide a letter of introduction for this, the 24th 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 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 peacemaking 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 100 middle schools and 2 high 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. Equally important is our summer internship program, which in our most recent iteration served 31 students from 14 different universities to spend a summer with us learning about health care, immersed in a clinical research project, partnering with World Medical Relief in Detroit to deliver used medical supplies to needy nations, and experiencing 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 a 200 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 2019 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.

With gratitude,
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, to the current 16 staff, 11 U of M faculty, 7 nationwide visiting faculty and 10 international affiliated faculty, as you will see in this, our 23rd Annual Report! Our team is proof that you can have fun and do great work. You should come visit!

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.

Our team is diverse in interests, but united in passion, effectiveness and productivity. MCORRP projects, team members and faculty produced more than 65 publications and presentations at national and international meetings in 2018. Our MCORRP faculty gave invited lectures in at least 5 different countries, including Ireland, China, Saudi Arabia, India, Belgium. And our team members volunteer to support and oversee the distribution of surplus health supplies locally and worldwide (World Medical Relief).

The MCORRP program that brings the most enrichment to our year, however, is the summer student internship. We have seen this grow from a single student, to a well-organized, eight-week program. This past year, our whole team participated in mentoring 10 returning undergraduate students, and 25 new undergraduate students. Their energy and productivity are not only a major contributor to our research effort but bring enthusiasm that infuses our entire operation. The summer student internship, organized and run by students, provides them with a research, clinical, and health care quality improvement opportunity that is second to none. (Please refer to the summer internship section for more details).

One particular focus here at MCORRP has been learning about rare diseases. Gaining sufficient experience to observe patterns of disease and associations with potential causes has been impossible in the past for some conditions. Our team has focused on three rare diseases: cardiac sarcoidosis, fibromuscular dysplasia, and aortic dissection. By seeking collaborators all over the world, 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 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 volunteering, 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!
What began as Dr. Eagle’s vision almost 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.

Our success has been built upon committed, dedicated, hard-working staff and on the passion and commitment of investigators from around the world. Dr. Eagle’s leadership has been essential; his extraordinary commitment to excellence, inclusiveness and mentorship continues to promote collaboration among a variety of disciplines and professionals. The common goal of improving patient outcomes is always part of our collective consciousness.

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 outcomes, we also examine the delivery of care, ethics of health care, efficiency of care, and assess qualitative outcomes.

MCORRP is involved in a variety of projects that affect individuals’ lives across their lifespans. With Project Healthy Schools (PHS), we are measuring the impact of promoting healthier lifestyles in middle school students. It is often our student interns who thoughtfully raise relevant questions about our work, often leading to the next exploration. For example, how do parents’ lifestyle habits influence their children’s habits? Can PHS be successful in a low-income country?

Mentorship has played an important role in my life and career. Our team puts tremendous energy into providing a comprehensive student internship program that teaches team work, creative problem solving, promotes leadership, and contributes to the development of thoughtful, compassionate adults. Our students are expected to do the sometimes tedious work of data collection and analysis. In addition, they are given opportunities to shadow physicians, nurses, and to develop an independent research project.

Our students have expressed their appreciation for experiences during their time with MCORRP that are often life changing. For some, it solidifies their intent to pursue a health care profession; for others, it allows them to consider other areas in health care they did not know existed.

Our staff and students are involved with a variety of data registries, some of which allow us to learn about conditions often considered “rare” and, about which, very little is known. This allows us to be involved in “ground-breaking” findings.

Each day I am grateful for the opportunity to be involved with this vibrant group of dedicated professionals. I am also grateful to the many donors and granting agencies who continue to invest in our work. I remain committed to preparing out students for the challenges which lie ahead, which we will face with thoughtfulness and compassion, armed with the collective support of members of the MCORRP Family.
MCORRP Project Timeline

1994 MCORRP
1994 IRAD
1996 ACC GAP
1997 BMC2
1999 ACS
1999 GRACE
2000 MCORRP Summer Internship
2002 CHF GAP
2002 PVI2
2004 PHS
2008 BRIDGE
2008 MAQI2
2008 BMC2 Expands
2009 FMD
2009 FMD QOL
2009 IRAD IVC
2009 MHYH
2010 WMR
2010 MAQI2 WATCH
2011 IRAD Patient Education
2011 Cardiac Sarcoidosis
2013 PRIME
2014 SVM Shared Decision Making Tool
2014 Patient Education Initiatives
2015 Cost of Warfarin Project
2016 Teachback Project
2016 Cardiac Rehab
2017 Pulmonary Hypertension
2018 PERT Consortium
2019 and beyond

MCORRP Annual Report 2019
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

**SUPERVISOR MCORRP**
Brian Haymart RN, BS, MS

**PROJECT MANAGERS**
Tina Alexandris-Souphis RN, BSN, BS
Patricia Bruenger BA, CCRN
Debbie Decamillo RN, BSN
Janet Kandrevas MD
Rachel Kraliman BS
Eric Puroll BS
Elise Woznick BS

**STATISTICIANS**
Xiaokui Gu MA, MD
Xiaowen Kong MS
Daniel Montgomery BS

**PROGRAMMERS**
Scott Ash BA, MS
Bruce Rogers BS
Brian Shensky BS

**ADMINISTRATIVE ASSISTANT**
Alice Horgrow

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**MICHIGAN MEDICINE Fellows & Residents:**
Taylor Dawson MD *Internal Medicine*

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**MICHIGAN MEDICINE Cardiac Rehabilitation:**

Melvyn Rubenfire MD *Project Director*
Joe Bryant BS *Project Manager*
Samantha Fink *Met Fit Team Leader*
Cindy Harper *Administrative Assistant*

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**MICHIGAN MEDICINE Pulmonary Hypertension:**

Vallerie McLaughlin MD *Project Director*
Victor Moles MD *Assistant Professor*
Susanne McDevitt RN, NP *Project Manager*

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**MHealthy Promotion Division, PHS**

Miriam Dineen *Administrative Assistant*
Jean DuRussel-Weston RN, MPH *Program Manager*
Krystofer Hernandez MPH *Wellness Coordinator*
Margaret Maier BS *Wellness Coordinator*
Kathy McCarthy MS *Administrative Assistant*
Julie Nelson BA *Administrative Specialist*
Benjermin Ransier MEd *Wellness Coordinator*
Nathan Saulter BS *Program Assistant*
Jana Stewart MPH, MS *Wellness Coordinator*
Bradley Newman MS *Wellness & Grants Coordinator*
### MCORRP Student Internship Team

#### MCORRP Returning Students:

<table>
<thead>
<tr>
<th>Name</th>
<th>University/College</th>
<th>Team Role</th>
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</thead>
<tbody>
<tr>
<td>Sarkis Dagley</td>
<td>University of Michigan</td>
<td>Cardiac Rehabilitation (CR) Team</td>
</tr>
<tr>
<td>Delaney Feldeisen</td>
<td>Washington University</td>
<td>MCORRP Student Manager/BRIDGE Team Leader</td>
</tr>
<tr>
<td>Joseph Kim</td>
<td>University of Notre Dame</td>
<td>IRAD Team Leader</td>
</tr>
<tr>
<td>Spencer Morgan</td>
<td>Hope College</td>
<td>Cardiac Rehabilitation (CR) Team</td>
</tr>
<tr>
<td>Julian Neshewat</td>
<td>University of Michigan</td>
<td>MAQI/Pulmonary Hypertension Team Leader</td>
</tr>
<tr>
<td>Anjali Purohit</td>
<td>Williams College</td>
<td>PHS/MAQI Team Leader</td>
</tr>
<tr>
<td>Cameron Pawlik</td>
<td>University of Michigan</td>
<td>MCORRP Student Manager/IRAD Team Leader</td>
</tr>
<tr>
<td>Nicole Souphis</td>
<td>Michigan State University</td>
<td>MCORRP Student Manager/WMR/MHYH/CR Team Leader</td>
</tr>
<tr>
<td>Amanda Wasserman</td>
<td>University of Michigan</td>
<td>MAQI/Pulmonary Hypertension Team Leader</td>
</tr>
<tr>
<td>Kevin Wunderly</td>
<td>University of Michigan</td>
<td>WMR/MHYH/Cardiac Sarcoid Team Leader</td>
</tr>
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#### MCORRP New Students:

##### Undergraduate Students:

<table>
<thead>
<tr>
<th>Name</th>
<th>University/College</th>
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<tbody>
<tr>
<td>Rossteen Abbasi</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Zahra Arbzada</td>
<td>Hobart &amp; Williams College</td>
</tr>
<tr>
<td>Mohsin Arsiwala</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Rana-Armghan Ahmad</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Mara Carrigan</td>
<td>University of Kansas</td>
</tr>
<tr>
<td>Evan Claggett</td>
<td>Grand Valley State University</td>
</tr>
<tr>
<td>Rumi Deb</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Regan Fleisher</td>
<td>University of Iowa</td>
</tr>
<tr>
<td>Ashley Francis</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Suzanne Irani</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Goutham Karuppiah</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Emily Liu</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Joeita Macfield</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Lakshmi Meyyappan</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Ahaina Raina</td>
<td>Smith College</td>
</tr>
<tr>
<td>Hallie Remer</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Anita Sehra</td>
<td>Wayne State University</td>
</tr>
<tr>
<td>Cora White, Oregon</td>
<td>Oregon State University</td>
</tr>
<tr>
<td>Julia Vespoli</td>
<td>BS University of Michigan</td>
</tr>
</tbody>
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##### Graduates Students:

<table>
<thead>
<tr>
<th>Name</th>
<th>University/College</th>
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<tbody>
<tr>
<td>Joshua Garfein</td>
<td>BS University of Michigan School of Public Health</td>
</tr>
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##### Medical Students:

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>George Cholack</td>
<td>BS Oakland University</td>
</tr>
<tr>
<td>Carsten Opris</td>
<td>BS Royal College of Surgeons in Ireland</td>
</tr>
<tr>
<td>Faculty</td>
<td>Specialty</td>
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<tr>
<td>---------</td>
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</tr>
<tr>
<td>Barnes, Geoffrey MD, MSc Assistant Professor</td>
<td>Cardiovascular Disease, Internal Medicine</td>
</tr>
<tr>
<td>Crawford, Thomas MD Associate Professor</td>
<td>Cardiac Electrophysiology, Cardiovascular Disease, Internal Medicine</td>
</tr>
<tr>
<td>Eagle, Kim MD, MACC Professor</td>
<td>Cardiovascular Disease, Internal Medicine</td>
</tr>
<tr>
<td>Froehlich, James MD, MPH FACC, FSVM Professor</td>
<td>Cardiovascular Disease, Internal Medicine</td>
</tr>
<tr>
<td>Jackson, Elizabeth MD MPH Associate Professor</td>
<td>Cardiovascular Disease, Internal Medicine</td>
</tr>
<tr>
<td>Koelling, Todd MD Professor</td>
<td>Advanced Heart Failure &amp; Transplant Cardiology, Cardiovascular Disease, Internal Medicine</td>
</tr>
<tr>
<td>LaBounty, Troy MD Associate Professor</td>
<td>Cardiovascular Disease, Internal Medicine</td>
</tr>
<tr>
<td>McLaughlin, Vallerie MD Professor</td>
<td>Cardiovascular Disease, Internal Medicine</td>
</tr>
<tr>
<td>Rubenfire, Melvyn MD Professor</td>
<td>Cardiovascular Disease, Internal Medicine</td>
</tr>
<tr>
<td>Shaefer, Jordan MD Assistant Professor</td>
<td>Internal Medicine, Hematology</td>
</tr>
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## MCORRP Visiting Faculty

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

PROJECT INITIATIVES
Patients referred to BRIDGE between 2008-2017

ED Visit and Readmission Rates by BRIDGE Attendance (N=3941)

- 30d ED Visit: Did Not Attend (n=1120) - 8.80%, Attended (n=2821) - 7.60%
- 30d Readmit: Did Not Attend (n=1120) - 10.10%, Attended (n=2821) - 7.80%

*p<0.05
Hospital readmissions cost Medicare alone more than $24 billion in 2011 (Hines et al., 2014). Legislation embedded in the Patient Protection and Affordable Care Act aimed at reducing readmissions levies against hospitals with higher than average readmission rates. These penalties were expected to increase to $566 million in 2019 (Allen, 2019). Bridging the Discharge Gap Effectively (BRIDGE) is a nurse practitioner-led, transitional care cardiology clinic designed to reduce unnecessary hospitalizations.

BRIDGE strives to facilitate patients’ transition from hospital to home by serving as an extension of the in-patient care team. The clinic aims to schedule patients within fourteen days of hospital discharge. At these 60 minute visits, nurse practitioners assess each patient’s status and response to treatment, educate patients on cardiovascular disease and lifestyle modifications, and make evidence-based medication and therapy adjustments when necessary (Bumpus et al., 2017).

Through our research at MCORRP, we have found that most patients presenting to the clinic were referred due to acute coronary syndrome (ACS), congestive heart failure (CHF), or atrial fibrillation (AF). In a recent study of over 2400 cardiac patients, acute coronary syndrome patients who attended BRIDGE were significantly less likely to be readmitted within 30 days than those who did not attend (6.4% vs. 13.1%, p=0.006) (Bumpus et al., 2017). Further, over the course of one year, BRIDGE demonstrated a significant cost savings for ACS patients as a result of avoided rehospitalizations within 30 days of index discharge. On average, the utilization of this intervention translated into a $4,944 per-patient savings. Stated another way, BRIDGE saved $306,537 in annual healthcare costs at our health system for ACS patients alone. Not only were patients less likely to be readmitted if they attended, they were also less costly to manage (Bumpus et al., 2016).

The BRIDGE database is continually being updated to provide a more robust sample for measuring the outcomes of this program. During the summer of 2019, over 300 new cases were added to the dataset. Additionally, four BRIDGE-related abstracts were presented at a national conference. These abstracts, presented by students, explored the differences between 1) Type 1 and Type 2 NSTEMI patients, 2) warfarin and DOAC patients, 3) male and female patients, and 4) patients before and after the implementation of the Affordable Care Act, . Future studies are focused on factors leading to early readmission, especially for patients with heart failure and atrial fibrillation.
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-Principal 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 19 sites in the U.S. and 6 International sites and have enrolled 771 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. The registry is currently working on completing an initial findings publication.
## Cardiac Rehabilitation Sample Program

<table>
<thead>
<tr>
<th>Mode</th>
<th>Frequency</th>
<th>Intensity</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking (indoors or outdoors)</td>
<td>• Week 1 to week 4: 3 to 5 times a day&lt;br&gt;• Week 4 to week 8: 2 or 3 times a day</td>
<td>• Slow to moderate pace&lt;br&gt;• Avoid becoming short of breath.&lt;br&gt;• Avoid hilly terrain.</td>
<td>• Week 1: 5 to 10 minutes&lt;br&gt;• Week 2: 10 to 15 minutes&lt;br&gt;• Week 3: 15 to 20 minutes&lt;br&gt;• Week 4: 20 minutes&lt;br&gt;• Week 5: 25 minutes&lt;br&gt;• Week 6: 30 minutes&lt;br&gt;• Week 7: 35 minutes&lt;br&gt;• Week 8: 40 minutes</td>
</tr>
<tr>
<td>Cycling (stationary)</td>
<td>• Week 1 to week 4: 3 to 5 times a day&lt;br&gt;• Week 4 to week 8: 2 or 3 times a day</td>
<td>• Little to moderate resistance&lt;br&gt;• Comfortable speed&lt;br&gt;• Avoid becoming short of breath.</td>
<td>• Week 1: 5 to 10 minutes&lt;br&gt;• Week 2: 10 to 15 minutes&lt;br&gt;• Week 3: 15 to 20 minutes&lt;br&gt;• Week 4: 20 minutes&lt;br&gt;• Week 5: 25 minutes&lt;br&gt;• Week 6: 30 minutes&lt;br&gt;• Week 7: 35 minutes&lt;br&gt;• Week 8: 40 minutes</td>
</tr>
</tbody>
</table>
Cardiac Rehabilitation (CR) is a program that combines lifestyle changes, education and supervised physical activity to help patients recover after cardiac events. Cardiac rehab has been demonstrated to reduce the likelihood for re-hospitalization, complications of cardiac disease, and sudden death. Additional benefits of CR include improved quality of life and confidence with daily tasks. Patients report improvements in physical symptoms, blood pressure and lipid management, decrease in psychological distress, and marked improvement in quality of life.

Patients undergo a thorough evaluation by the clinical team before beginning the program. The evaluation includes an assessment of clinical history by our nursing team, lab work, and a stress test (if appropriate). Upon enrollment, a team of certified clinical exercise physiologists prescribes an exercise program individualized for each patient and works with each patient for up to 36 sessions. Patients also have weekly interaction with our registered dietitians and social work can be consulted as necessary. The staff reviews the medication and works with the primary care physician and cardiologist to assure the patient is compliant with evidence based therapy.

MCORRP is partnering with the Cardiac Rehab Team to benchmark program specific outcomes and to determine ways to increase participation in the program, which is nationally underutilized.

Goals for the coming year include:

- Following up on patients who were referred to outside programs to determine whether or not they participated
- Studying intermediate and long term outcomes to benchmark our program against national programs
- Determining reasons providers did not refer patients to cardiac rehab.
Fibromuscular dysplasia (FMD) is a nonatherosclerotic, 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, and outcomes in patients with FMD.

MCORRP is the coordinating center for the FMD Registry. The registry began initially with 7 sites with data entry from the first patient in 2009. There are now 15 active sites and more than 2,700 patients in the registry, including over 7,100 follow-ups in the database. The initial findings of the registry were reported in Circulation in 2012. Since then 13 manuscripts, including a patient page, and 20 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, prevalence of headaches, outcomes of vascular interventions, effects of hormones, and the role of genetics. Additionally, international FMD investigators collaborating with the US Registry have published the first international consensus paper on the diagnosis and management of FMD.
The International Registry of Acute Aortic Dissection (IRAD) has been at the forefront of aortic disease research for over twenty years. Throughout a changing diagnostic and interventional landscape, IRAD has supported rigorous investigation into best practices and corroborated outcomes in order to provide optimal patient care. With 98 published manuscripts and almost 150 more topics proposed or in progress, IRAD is poised to continue its influential work into the future.

Efforts to grow the registry, intended to increase geographical diversity and patient enrollment, have resulted in rapid increases in the number of IRAD centers, with 10 new institutions completing the registry enrollment process at present. Currently, there are 56 active sites in 14 countries, with more additions on the horizon. Processes established to support this expansion have decreased the time to enrollment and help ensure regulatory compliance. The influx of additional data and centers will support reinvestigation of previous topics with a larger dataset, as well as facilitate evaluation of regional- and hospital-based nuances of dissection care.

Continued growth and investigator enthusiasm has supported the formation of IRAD working groups, intended to focus on various facets of aortic dissection not anticipated in the initial study design. The largest of these efforts, The Interventional Cohort, or IRAD-IVC, has described over 3800 surgical, endovascular, and hybrid procedures from select centers. With surgery being offered to an increasing portion of Type A patients, and endovascular therapy becoming the mainstay of treatment for complicated and some uncomplicated Type B patients, a better understanding of these interventions and their associated outcomes are critical.

Aortic dissection is a complex and potentially devastating disease, with many patients requiring significant lifestyle modification as a result. To help patients and their families better understand and cope with this diagnosis, the IRAD consortium has launched the Living with Dissection website which can be found at https://livingwithdissection.iradonline.org. Here, individuals who have suffered an aortic dissection can find plain-language introductions to the disease, as well as organized, consortium-reviewed information on post-discharge care. We are hopeful that this website will improve outcomes and support patients partnering with clinicians to optimize their care.
University of Michigan Health System Anticoagulation Toolkit Newsletter

U-M is a part of the Michigan Anticoagulation Quality Improvement Initiative (MAQI), a consortium of anticoagulation clinics and experts from across the state committed to improving the quality of anticoagulation care. One of the MAQI 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 (MAQI) is a Blue Cross Blue Shield of Michigan/Blue Cross 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 an expert, evidence-based resource for anticoagulation management.

www.anticoagulationtoolkit.org
Michigan Anticoagulation Quality Improvement Initiative (MAQI\textsuperscript{2}) is a multi-center, collaborative quality initiative sponsored by Blue Cross Blue Shield of Michigan. Data is collected on patients taking oral anticoagulants from 6 participating Michigan health systems and entered into a data registry managed by the MAQI\textsuperscript{2} 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, processes, and structure is also collected in an effort to link outcomes with variations in clinic operations. Over 18,000 patients have been entered into the registry along with over 500,000 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. The aim of all quality improvement initiatives is to increase anticoagulation effectiveness and safety.

In addition, the MAQI\textsuperscript{2} collaborative has developed the MAQI\textsuperscript{2} 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.
“The MCORRP experience was great for me as a medical student! I was given the flexibility to pursue my research interests while also enjoying the various components of the MCORRP summer internship program.”

“One of the most rewarding and intellectually stimulating programs offered for students during the summer. Anyone considering pursuing a career in the health professions should consider applying to the program. “
Each summer, up to 40 undergraduate, medical students, and graduate students from various 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 conducting their own research.

Students work within registry teams, collecting data for a variety of registries. 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 projects during a formal presentation in the Cardiovascular Center to faculty, staff, fellow students, and family members. They are also encouraged to develop an abstract on the topic they studied for submission to a national scientific meeting. 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, weekly lectures on various topics in cardiology and research, as well as, shadow cardiology physicians on inpatient rounds. Shadowing physicians and other healthcare providers includes outpatient clinical visits as well as visits to the catheterization lab, echo lab, and other areas. Interns spend a week volunteering at World Medical Relief to sort medical supplies and test used pacemakers for potential reutilization. The student interns also organize social events, field trips, and sports teams, further enriching the “team” experience.
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, NEScientific and Implant Recycling, LLC. 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 more than 25,000 used devices, has completed pilot projects in several countries, and presented and published numerous abstracts and papers related to this work.

Project My Heart Your Heart has received FDA approval to begin a randomized, multi-center study to prove that post-mortem pacemaker reutilization can be shown to be a safe means of delivering care to patients in low and middle income countries without resources. Countries participating in this study include the Sierra Leone, Kenya and Nigeria, Pakistan and Ghana. The goal is to enroll 260 subjects in the study over the next few years.
Project Healthy Schools Locations
2018-2019

**UPPER PENINSULA**
- Atlantic Mine (1)
- Calumet (1)
- Crystal Falls (1)
- Eben Junction (1)
- Engadine (1)
- Gladstone (1)
- Harris (1)
- Ishpeming (1)
- Kingsford (1)
- Marquette (1)
- Negaunee (1)
- Newberry (1)
- Pickford (1)
- Rudyard (1)
- Sault Ste. Marie (1)
- Wakefield (1)

**WEST CENTRAL**
- Allendale (1)
- Big Rapids (1)
- De Witt (1)
- Grand Rapids (1)
- Ovid-Elsie (1)
- Portland (1)

**SOUTHWEST**
- Coldwater (1)
- Hamilton (1)
- Potterville (1)

**EAST CENTRAL**
- Bay City (1)
- Birch Run (1)
- Burton (1)
- Byron (1)
- Chesaning (1)
- Corunna (1)
- Durand (1)
- Flint (2)
- Frankenmuth (1)
- Laingsburg (1)
- Millington (1)
- Morrice (1)
- Mt. Morris (1)
- Owosso (2)
- Perry (1)
- Saginaw (2)

**SOUTHEAST**
- Ann Arbor (8) (1)
- Brooklyn (1)
- Carleton (1)
- Dearborn (1)
- Deerfield (1)
- Detroit (7) (3)
- Dexter (1)
- East Lansing (1)
- Ferndale (1)
- Grass Lake (1)
- Hazel Park (1)
- Livonia (1)
- Milan (1)
- Pinckney (1)
- Pittsford (1)
- Plymouth (1)
- Romulus (2)
- Troy (1)
- Washington (1)
- Waterford (2)
- Westland (1)
- Ypsilanti (3)

☆ = New school in fall 2018
Obesity is a national epidemic. In the past 30 years, obesity rates have doubled in children and tripled in adolescents (Fryar et al., 2014). Currently, 18.5% of youth in the United States, aged 2-19 years, are obese (Hales et al., 2017). Childhood obesity can lead to severe long-term health risks, including diabetes and heart disease (Bray et al., 2004). 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, and (5) spend less time in front of a screen. These goals are promoted through ten 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.

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 120 Michigan schools, including schools in rural and low-income communities, and is expanding to other states and Bangladesh.

To date, a behavioral survey data from over 24,500 students and physiological data from over 3,100 students has been collected. With this continuously growing dataset, PHS has published 18 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.
"Pacing Parson visits Ann Arbor on trek for pulmonary hypertension awareness"
Pulmonary hypertension is high blood pressure in the pulmonary arteries in the lungs. With symptoms typical of more common diseases, and a variety of causes, this potentially fatal disease is complex to diagnose and treat.

Pulmonary hypertension can have no known cause, can be genetic, can be caused by drugs or toxins, or can occur because of an underlying disease or issue, including: Congenital heart disease, Left heart disease. Blood clots in the lungs, Lung disease, HIV, Liver disease, Sickle cell disease, Metabolic disorders, Sleep disorders (i.e. sleep apnea), Connective tissue diseases, such as scleroderma.

The Pulmonary Hypertension Program at the University of Michigan Frankel Cardiovascular Center is the largest and most experienced program in the state, and one of the largest in the country. We are a comprehensive, single resource for the care and treatment of patients who live with this challenging disease. In addition, we are accredited as a Center of Comprehensive Care (CCC) through the Pulmonary Hypertension Care Centers (PHCC) program.

Michigan Medicine also serves as the Data Coordinating Center for the Pulmonary Hypertension Breakthrough Initiative, a network of multidisciplinary, collaborative transplant and research centers that distributes stored clinical specimens and relevant data to researchers for use in groundbreaking research to better understand pulmonary arterial hypertension.
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.
World Medical Relief (WMR) 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.

World Medical relief has partnered with Project My Heart Your Heart and generously donated space to create the first pacemaker reconditioning lab in the world. Volunteers come every Saturday to assist in initial pacemaker interrogation for eligible battery life.

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 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.
Their passion, mission and dedication is truly inspirational!
PUBLICATIONS

MCORRP Number of Publications Presented/Submitted/Accepted
Geoffrey Barnes, MD


- Barnes GD “Predicting the Quality of Warfarin Therapy: Reframing the Question” Thromb Haemost 2019;119:509-511


**PUBLICATIONS**

**Thomas Crawford, MD**


- Crawford, TC, Eagle, K, Arlinghaus, S; Pacemaker GEOMAT: My Heart Your Heart-Organizational Efforts Linked by QR Codes. Spatial Thinking in Environmental Contexts: Maps, Archives, and Timeline, Arlinghaus. S, Kerski, J, Larimore, A, Naud, M CRC Press, Boca Raton, 2019. 1, 14,


**Melvyn Rubenfire, MD**


Kim Eagle, MD


- Bhave NM, Eagle KA. Much more than a tube. The aneurysmal ascending aorta as a dynamic entity. JACC: Cardiovasc Imaging 2019; 12(6). DOI: 10.1016/j.jcmg.

- Eagle KA, McKay RE. Pre-operative risk prediction. Will better tools produce better outcomes? J Am Coll Cardiol 2019;73:3079-3081.


MCORRP Annual Report 2019

James Froehlich, MD


“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
GRANTS & FUNDING
Barnes, Geoffrey MD

A User-Center Designed Anticoagulation Shared Decision-Making Tool for Stroke Prevention in Atrial Fibrillation Source
Role: Co-Investigator
Source: AHRQ Foundation
Period: 8/19-7/21
Funding amount: $145,704

Evaluating a Population Health Management Tool for Direct Oral Anticoagulant Use in VHA (LIP 19-102)
Role: Co-Investigator
Source: VA Ann Arbor Center for Clinical Management Research (Locally Initiated Project)
Period: 11/18-12/19
Funding amount: $25,000

Improving Safe Use of Anticoagulants: A Population Health Approach
Role: Principal Investigator
Source: NIH Loan Repayment Program (NHLBI)
Period: 7/19-6/21
Funding amount: $31,290

Developing an Implementation Strategy to Improve Peri-procedural Anticoagulation Management for Patients with Atrial Fibrillation (K01 HL135392)
Role: Principal Investigator
Source: NIH/NHLBI
Period: 1/17-12/21
Funding amount: $156,000

Michigan Anticoagulation Quality Improvement Initiative (MAQI2)
Role: Co-Principal Investigator
Source: Blue Cross-Blue Shield of Michigan
Period: 9/08-present
Funding amount: Approx. $2,000,000

Re-organizing Peri-procedural Anticoagulation Management
Role: Principal Investigator
Source: NIH Loan Repayment Program (NHLBI)
Period: 7/17-9/19
Funding amount: $70,000
Crawford, Thomas MD

**ASSURE WCD Clinical Evaluation – Conversion Efficacy Study (ACE-CONVERT)**  
Role: Principle Investigator  
Source: Kestra Medical Technologies  
Funding amount: $126,562

**Work Order for STOP AF Study: STOP AF First**  
Role: Principle Investigator  
Source: Medtronic, Inc  
Period: 09/2017-06/2020.  
Funding amount: $89,507

**FLExAbility Sensor Enabled Substrate Targeted Ablation for the Reduction of VT (LESS-VT) Study**  
Role: Principle Investigator  
Source: St Jude Medical  
Period: 03/2022  
Funding amount: $89,287

**ASSURE Clinical Evaluation (ACE) Study**  
Role: Principle Investigator  
Source: Kestra Medical Technologies  
Period: 03/2020  
Funding amount: $126,612
Eagle, Kim  MD

Advances in Coronary Disease
Role: Principal Investigator
Source: Mardigian Foundation
Period: January 1, 2003 – December 31, 2017
Funding amount: $1,000,000

International Registry of Aortic Dissection
Role: Principal Investigator
Source: Varbedian Fund
Period: December 1, 2002 – December 31, 2017
Funding amount: $100,000

Innovations in Serving Special Populations
Role: Principal Investigator
Source: Hewlett Foundation
Period: January 1, 2006-December 30, 2017
Funding amount: $1,000,000

The International Registry of Aortic Dissection
Role: Principal Investigator
Source: GORE Inc.
Period: August 1, 2009 – August 31, 2017
Funding amount: $1,000,000
**Froehlich, James MD**

**Michigan Anticoagulation Quality Improvement Initiative (MAQI2)**
Role: Principal Investigator
Source: Blue Cross Blue Shield of Michigan
Period: 09/01/08-12/31/20
Amount: $829,830 per year/renewable

**Fibromuscular Disease Registry (FMD)**
Role: Principal Investigator
Source:
Period: 09/01/08-09/01/20
Amount: $65,000 per year/renewable
Rubenfire, Melvyn MD

Reducing Ethnic Group Disparities in Cardiovascular and Mental Health Disorders
Role: Co–Investigator
Source: NIH (Diez-Roux, PI)
Period: 9/1/2012 to 8/31/2017

**Phase 3 Multi-Center, Double Blind, Randomized, Placebo-Controlled, Parallel Group Evaluation of the Efficacy, Safety, and Tolerability of Bococizumab (PF-04950615), in Reducing the Occurrence of Major Cardiovascular Events in High Risk Subjects**
Role: Co-Investigator
Source: Pfizer
Period: 5/27/15-4/30/20
Funding amount: $326,405

**Phase 3 Multi-Center, Double Blind, Randomized, Placebo-Controlled, Parallel Group Evaluation of the Efficacy, Safety, and Tolerability of Bococizumab (PF-04950615), in Reducing the Occurrence of Major Cardiovascular Events in High Risk Subjects**
Role: PI
Source: Pfizer
Period: 5/27/15-4/30/20
Funding amount: $217,603

*A Double-blind, Randomized, Placebo-controlled, Multicenter Study Assessing the Impact of Additional LDL-Cholesterol Reduction on Major Cardiovascular Events When Evolocumab (AMG 145) is Used in Combination With Statin Therapy In Patients with Clinically Evident Cardiovascular Disease.*
Role: PI
Source: Amgen
Period: 10/5/12– 10/4/17
Funding Amount: $638,790.00

*A Double-Blind, Placebo Controlled, Multicenter Study to Assess the Effect of Evolocumab on Cognitive Function in Patients with Clinically Evident Cardiovascular Disease and Receiving Statin Background Lipid Lowering Therapy: A Study for Subjects Enrolled in the Fourier (Study 20110118) Trial.*
Role: PI
Source: EBBINGHAUS:
Period: 1 2/24/14 – 6/2/17
Funding Amount: $14,556.00
LECTURES
Welcome to MCORRP

- Introduction to MCORRP:
  Eva Kline-Rogers RN, MS, NP

- Workplace Etiquette:
  Eric Puroll, BS

- Internship Overview:
  Delaney Feldseisen
  Cameron Pawlik & Nicole Souphis

- HIPAA/Email Etiquette:
  Elise Woznicki, BS & Rachel Krallman BS

- How to Write an Abstract/Poster:
  Elise Woznicki BS & Rachel Krallman BS

- MCAT and Applying to Medical School
  George Cholack BS

Registries

- Cardiac Rehabilitation Introduction:
  Joe Bryant BS

- BRIDGE Introduction, Cardiac Medications, and Comorbidities:
  Sherry Bumpus MS, FNC-BC, PhD

- IRAD Introduction:
  Dr. Kim Eagle

- MAQI² Introduction:
  Brian Haymart RN, MS

- FMD Introduction:
  Pam Mace RN

- PHS Introduction:
  Jean DuRussel-Weston RN, MPH

- My Heart Your Heart Introduction:
  Dr. Thomas Crawford

- Cardiac Sarcoidosis Introduction:
  Dr. Thomas Crawford

- Interventional Cardiology:
  Eva Kline-Rogers, RN, MS, NP

- How to Conduct a Physical Exam:
  Sherry Bumpus MS, DNC-BC, PhD

- Valvular Heart Disease:
  Dr. James Froehlich

- Pulmonary Hypertension Introduction:
  Dr. Victor Moles

- Cardiology Anatomy & Physiology:
  Dr. James Froehlich

- Heart Failure Introduction:
  Dr. Todd Koelling

- Aortic Valve Surgery:
  Dr. Himanshu Patel

Other Healthcare Topics

- Accelerations of Social Transformation in Health:
  Dr. Tammy Chang

- Healthcare Reform:
  Dr. Kim Eagle

- Comparative Healthcare:
  Dr. James Froehlich

- Transitions of Care:
  Eva Kline-Rogers, RN, MS, NP

- Ethics in Palliative Care:
  Janice Fain PhD, MSW

- Healthcare Professions:
  Dr. Geoffrey Barnes

- Demystifying Malpractice:
  Richard Boothman JD

- Patient Education:
  Ruti Volk MSci, AHIP

- Medication Adherence:
  Dr. Steve Erickson
1/2019 Invited Speaker, Hoag Vascular Imaging Symposium “Acute VTE Treatment: Anticoagulation vs. Thrombolysis” Huntington Beach, CA
1/2019 Invited Speaker, Hoag Vascular Imaging Symposium “Medical Management of PAD: State-of-the-Art in 2019” Huntington Beach, CA
3/2019 Invited Speaker, St. Joseph Mercy Hospital Cardiology Grand Rounds “Oral Anticoagulant Use in Vascular Disease” Ann Arbor, MI
3/2019 Session Moderator, American College of Cardiology Scientific Sessions “State of the Art in VTE Treatment” New Orleans, LA
4/2019 Invited Speaker, Anticoagulation Forum “State of the Art in Anticoagulation Management Services” Fort Lauderdale, FL
4/2019 Invited Speaker, Society for Vascular Medicine “Bleeding and Anticoagulant Reversal in VTE” Tysons Corner, VA
8/2019 Invited Speaker, Minnesota Hospital Association “National Patient Safety Goals for Anticoagulation Care” Minneapolis, MN
9/2019 Invited Speaker, National Lipid Association Fall Clinical Lipid Update “State of the Art in PAD Antithrombotic Management” Minneapolis, MN
11/2019 Invited Speaker, American Heart Association Scientific Sessions “Implementing a Pulmonary Embolism Response Team” Philadelphia, PA
1/2019 Lecture, “Pulmonary Embolism” Cardiovascular Medicine Fellowship Lecture Series, University of Michigan, Ann Arbor, MI
1/2019 Lecture, “Pulmonary Embolism” Pediatric Critical Care Fellowship Lecture Series, University of Michigan, Ann Arbor, MI
1/2019 Grand Rounds Lecture, “Antithrombotic Medication Management: Building Systems to Improve Care Delivery” Cardiovascular Medicine Grand Rounds, University of Michigan, Ann Arbor, MI
2/2019 Lecture, “Medical Management of PAD”, Cardiovascular Medicine Fellow Conference, University of Michigan, Ann Arbor, MI
8/2019 Lecture, “PAD and VTE”, Internal Medicine Lecture Series
10/2019 Lecture, “PAD and Imaging”, Cardiovascular Medicine Fellow Conference
4/2019 Faculty, 15th National Conference of the Anticoagulation Forum, Fort Lauderdale, FL
6/2019 Faculty, Society for Vascular Medicine 30th Annual Scientific Sessions, Tysons Corner, VA 9/2019 Faculty, National Lipid Association Fall Clinical Lipid Update, Minneapolis, MN
10/2019 Faculty, 2019 Pulmonary Embolism Symposium, Boston, MA
10/2019 Faculty, Training in Implementation: Actionable Research Approaches, Kansas City, KS 11/2019 Faculty, American Heart Association Scientific Sessions, Philadelphia, PA
10/2019 Invited Speaker, “Antithrombotic Management in Atrial Fibrillation and Acute Coronary Syndrome”, thrombosis Canada Annual Meeting, Toronto, Ontario, Canada
Michigan Medicine Faculty Lectures

Eagle, Kim MD

- Being a Servant Leader and Fighting for the Light”, Frankel Cardiovascular Center Networking Event
- “Cardiac Risk of Non-Cardiac Surgery: A Piece of My Mind”, Rhode Island Hospital, Providence, RI
- “Cardiac Risk of Non-Cardiac Surgery: A Piece of My Mind”, 2019 Eugene A. Stead, Jr., MD Guest Lecturer, Duke University, Raleigh-Durham, NC
- “Cardiac Risk of NonCardiac Surgery: A Piece of my Mind”, Heart & Vascular Center, Case Western Reserve University, Cleveland, OH
- “Cardiac Risk of NonCardiac Surgery: A Piece of my Mind”, MetroHealth, University of Michigan Health, Grand Rapid, MI
- “The Future State of Acute Aortic Syndrome Care: Four Frontiers”, 3rd DeSanctis Lecture in Cardiology, Massachusetts General Hospital, Boston, MA
- Acute Aortic Syndromes: State of the Art”, HVC Cleman Lecture Series, Yale-New Haven Hospital, New Haven, CT 2019
- “Miracles Up Close and Personal”, St. Mary’s Graduate Students & Young Professionals Group, Ann Arbor, MI 2019
- The Future State of Acute Aortic Syndrome Care: Four Frontiers”, International Meeting on Aortic Diseases, Madrid, Spain 2019
- “Michigan Clinical Outcomes Research and Reporting Program (MCORRP), Cardiovascular Research Day, Naples, Italy 2019
- “Cardiac Risk of Non-Cardiac Surgery: A Piece of My Mind”, Key Note Presentation: Connecticut American College of Cardiology Annual Meeting, New Haven, CT 2019
- “Origins of Modern Aortic Surgery: Lessons in History”, Mini-Medical School A Sensible Hissing, American College of Cardiology, Washington, DC, 2019

Crawford, Thomas MD


Prior Studies of Pacemaker Reutilization

- Medical databases searched for studies that examined pacemaker re-use (1970 to 2011)
- 18 small studies have examined the safety of pacemaker re-use
- Meta-analysis to compare complication rate of new vs. reused devices
Froehlich, James MD

- “Cardiology Anatomy and Physiology”, MCORRP Teaching Lecture, University of Michigan Medical Center, Ann Arbor, MI, June 12, 2019.

- “Comparative Healthcare”, MCORRP Teaching Lecture, University of Michigan Medical Center, Ann Arbor, MI, July 19, 2019.

- “Anticoagulation”, MAP Conference, University of Michigan Medical Center, Ann Arbor, MI, August 21, 2019.

- “Peripheral Arterial Disease” 2nd Year Resident Teaching Lecture, University of Michigan Medical Center, Ann Arbor, MI, October 30, 2019.


- “Chronic Cerebrovascular Disease: What Do Cardiologists Need to Know?”, Big Sky Cardiology Update, American College of Cardiology/University of Michigan, Big Sky, MT, February 19, 2019.


- Speaker, President’s Town Hall, Society of Vascular Medicine Annual Conference, McLean, VA, May 30, 2019.


- “MAQI2 Collaborative: A Decade of Quality Improvement”, 21st Annual Antithrombotic Symposium, Wayne State School of Medicine, Dearborn, MI, April 26, 2019.

- “What’s New in Anticoagulation and Expanding Indications for DOACs”, Internal Medicine Update CME Course, University of Michigan, Mackinac Island, MI, July 26, 2019.


- “Topics in Cardiology”, Fall Update in Family Medicine CME Course, University of Michigan, Ann Arbor, MI, October 4, 2019.
A Reflection on 55 Years of Cardiovascular Research...

Paraphrasing Eugene Braunwald, modified by Kim Eagle (January 8, 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 im-

partial question.
MEET OUR MCORRP TEAM
Constantina Alexandris-Souphis, RN, BSN, BS

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 MAQIP2 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, BA, MS

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 at the UofM for over a decade.

In 2017 Scott earned his M.S. 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 dreams of sailing the world while writing, playing instruments, illustrating, making movies and of course programming.
Geoffrey Barnes, MD, 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, BA, 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 held various support roles beginning with her work on clinical drug trials. For 6 years she worked as a data manager for a cardiac interventional database.

Then in 2007 she began working on other databases as well as helping to coordinate MCORRP’s Summer Student program. Currently, Patsy prepares most of the IRB (Ethics board) and Legal/Compliance Committee submissions for MCORRP projects and helps coordinate work on the FMD database. Outside of work, Patsy enjoys being active, cooking and spending time with her family.
Thomas Crawford, MD

Dr. Thomas Crawford is an Associate 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 electrophysiologist, 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 90 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 CardioSource 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 studying predictors of cardiomyopathy progression in a Chagas disease cohort in Bolivia.

Debbie DeCamillo, BSN, RN

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 received her BSN from Mercy College of Detroit in 1986 and worked as a pediatric oncology nurse at the Children’s Hospital of Michigan for 13 years, where she first became involved in clinical research.

Before joining MCORRP, Debbie was employed at Wayne State University where over the past 16 years 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 both at the Detroit Medical Center. Debbie enjoys exploring Michigan and spending time with family and friends.
Kim A. Eagle, MD,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 of 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 720 peer-reviewed articles, 74 chapters, and edited 8 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 has been Study Chair of its Genetic Causes of Thoracic Aortic Conditions (GenTAC) since 2006. 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.
James Froehlich, MD, MPH, FACC, FSVM

James Froehlich, MD, MPH, FACC, FSVM, is Professor of Internal Medicine, Director of Vascular Medicine, Medical Director of Pharmacy, Assistant Chair of Medicine for Quality and Innovation, 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), he joined the faculty of the University of Massachusetts Medical Center, with a joint appointment in vascular surgery and cardiology, before returning to Michigan and his current position.

Dr. Froehlich has served on the editorial boards of the Journal of Vascular Surgery, the Cardio source 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 120 articles 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.

Xiaokui Gu, MA

Xiaokui Gu graduated from Shanghai Medical University. She worked as a resident doctor in the Cardiology Department at Shanghai Chest Hospital for 5 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, RN, BS, MS

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.
Janet Kandrevas BS MD

Janet is the newest addition to the MCORRP team and joined as a Clinical Research Coordinator in April 2019. Janet first became involved in research as an undergraduate at the University of Michigan. After graduating medical school, Janet was employed at Henry Ford Health System where she focused on secondary prevention of stroke management through NIH-funded clinical research trials. She then transitioned into the role of quality initiative efforts for prevention and education of disease.

Janet facilitates MAQI2 data entry into UM. She serves as the lead for all UM database abstraction as well as oversees MAQI2 adverse event reporting and auditing. She also builds new translational research studies into a REDCap database and implements its rollout to UM and other national sites. Lastly, Janet serves as a mentor for student interns throughout the year and deems this her most rewarding role.

In addition to her work schedule, Janet is currently enrolled as a graduate student pursuing a Master of Science in Clinical Research Design and Statistical Analysis through the UM School of Public Health. She is excited to bring her newfound knowledge into her current and future MCORRP projects. Janet enjoys spending time with her family and dog, Blue, as well as watching UM sports.

Xiaowen King, MS

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 5 years. Xiaowen has over 7 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 works as a hobby.
Eva Kline-Rogers, RN, NP, AACC

Eva Kline-Rogers is the co-director of MCORRP at Michigan Medicine, project manager for the Fibromuscular Dysplasia (FMD) Registry, and functions as a cardiovascular Nurse Practitioner in general cardiology. Previously, she has worked as an inpatient NP and case manager. Her work in cardiology dates back to 1984 when she began coordinating cardiovascular research studies and remained in clinical research, coordinating a variety of thrombolytic and PCI trials until 1993.

She has published multiple articles on thrombolytic therapy and quality improvement and lectures on topics ranging from quality improvement to C-V outcomes research. She has been a member of several ACC working groups, including the ACC's Best Practice and Quality Improvement (BPQI) Subcommittee, and received the designation of Associate of the American College of Cardiology. In 2015, she was elected to the Board of Directors of the Anti-coagulation Forum and is a Steering Committee Member for Quantum-AF.

Todd Koelling, MD

Todd Koelling received his medical degree from the Johns Hopkins School of Medicine in 1990 after receiving his bachelor’s 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 an Associate 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.
**Troy LaBounty, MD**

Dr. Troy LaBounty is an Assistant Professor of Medicine and Radiology at the University of Michigan Medical Center. 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 trans catheter 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.

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**Vallerie Mclaughlin, MD**

Vallerie V. McLaughlin, MD, is the Kim A. Eagle, MD, Endowed Professor of Cardiovascular Medicine, Director of the Pulmonary Hypertension Program, Associate Chief Clinical Officer for Cardiovascular Services for UMMG 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).
Dan Montgomery, BS

Dan Montgomery graduated from the University of Michigan with a B.S. in Zoology after initially studying art and design at Michigan State University. He worked for the University of Michigan in Cardiovascular Pharmacology for 5 years as a research assistant testing experimental anti-arrhythmic medications in animal models for treatment and prevention of sudden coronary death.

Before joining MCORRP in 2005, he spent 17 years in the Cardiology Division as a research associate analyzing and modeling ventricular function utilizing cardiac catheterization data from patients with defective heart valves. Dan also coached women’s volleyball teams at the high school, club, and college levels for 12 years. His hobbies include sailboat racing and performing music.

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.
Melvyn Rubenfire, MD

In 1991, Dr. Rubenfire joined the University of Michigan as a Professor of Internal Medicine, and is presently the Director of Preventive Cardiology in the Division of Cardiovascular Medicine. His clinical and research interests include risk assessment for atherosclerosis, lipids, metabolic syndrome, and cardiac rehabilitation. He served as Director of the Pulmonary Hypertension Program at the University of Michigan for eight years.

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.
M. Adil Sheikh MD

Dr. M. Adil Sheikh is an Assistant Professor of Medicine at the University of Michigan. After completing medical school at Dow University of Health Sciences in Karachi, Pakistan he came to the United States for internal medicine residency at Wayne State University. Dr. Sheikh then joined the Hospital Medicine faculty at University of Michigan.

Although a practicing hospitalist Dr. Sheikh’s interest in cardiovascular medicine lead him to MCORRP. Dr. Sheikh has been active in MCORRP since 2019 being involved with various registries including, MHYH, cardiac sarcoidosis, MAQI and FMD. He remains committed to outcomes research in cardiovascular medicine.

Jordan Schaefer, MD 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 MD 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, BS

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 Drupal content management system upon which the 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.

Rachel Krallman, BS

Rachel graduated from the University of Michigan in 2011 with a Bachelor of Science degree in Brain Behavior and Cognitive Science. She is a research coordinator for the Project Healthy Schools (PHS) database, the US Registry for Fibromuscular Dysplasia, and the Bridging the Discharge Gap Effectively (BRIDGE) registry. She has also been assisting in the development of a registry for heart failure patients.

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. She also participates in middle school screenings during the spring and fall in order to obtain physiological data from students participating in the PHS program. With the help of the entire MCORRP team, Rachel assists in the coordination of the MCORRP summer internship program. Outside of the office, she enjoys cooking, watching reruns of Forensic Files, and high-quality puns.
Elise Woznicki, BS

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. Elise is grateful to be involved with this registry and looks forward to future projects dedicated to further advancing our knowledge of aortic disease.
“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.”
MEET OUR **NEW** STUDENT INTERNS
Meet our New interns...

Zahra Arabzada  BS
Hobartt and William Smith College
Geneva, NY

Zahra Arabzada grew up in a refugee camp in Iran and moved to Kunduz, Afghanistan in 2005. She graduated from Hobart and William Smith Colleges with a B.S. in Biochemistry in 2019. She is an avid runner who has completed a 50-miler, marathons and many half marathons. She is an ambassador for Free to Run Organization which aims to empower women in conflict zone countries through sport and outdoor events. Zahra was awarded the “College Women of the Year in 2018 “ by Glamour Magazine for her dedication to change the narrative of Muslim Women in the West.

Zahra Arabzada conducted research to create a treatment algorithm for low risk DVT patients to be treated as outpatients and also worked on cardiac rehab registry.

Rossteen Abbasi
University of Michigan
Ann Arbor, MI

Rossteen grew up in West Bloomfield, MI and will be entering his junior year at the University of Michigan, where he is studying Biochemistry Cognition and Neuroscience. Outside of the classroom, Rossteen is a research assistant at the NCRC, an active member in United2Heal and UM Persian Student Association. He enjoys many activities like playing tennis, soccer, chess, volunteering at WMR, in his free time.

Ross is a student working with BRIDGE. Ross's research is focused on how various substances affect patient outcomes.
Meet our New interns...

Mohsin Arsiwala
University of Michigan
Ann Arbor, MI

Mohsin Arsiwala is a rising senior at the School of Public Health at the University of Michigan. He is studying Global and Community Health with a minor in Education for Empowerment. Mohsin helped found a non-profit, Heal-Move-Shift, that focuses on educating the youth regarding Mental, Nutritional, and Cardiovascular Health. They host 10-week programs that create dialogue and build community amongst the students. In his free time, Mohsin enjoys playing team sports like football and basketball and rewatching The Office. He is an avid IM sports participant and is looking forward to win his first championship.

As a member of the BRIDGE team, Mohsin will be exploring the impact of zip codes on adverse outcomes such as 30-day readmissions and death. Specifically, he will be focusing on measuring the distance from the hospital and socioeconomic status as demographics to compare outcomes.

Rana-Armaghan Ahmad
University of Michigan
Ann Arbor, MI

Rana-Armaghan Ahmad is a rising senior majoring in bimolecular science and philosophy at the University of Michigan. Outside of classwork, he is a research assistant in the biochemistry department at the University of Michigan Medical school and works on a project studying the effects of oxidative stress in relation to the Keap1 and Nrf2 system using animal mice models. Rana-Armaghan also enjoys volunteering at World Medical Relief, sorting both medical supplies and helping with the My Heart Your Heart’s pacemaker project. In this free time, he likes to play basketball and read.

Rana-Armaghan is on the Michigan Anticoagulation Quality Improvement Initiative team this summer and he is studying the relationship between bleed risk and hypertension for warfarin patients.
Meet our New interns...

**Mara Carrigan**  
University of Kansas  
Lawrence, KS

Mara Carrigan grew up in Chapman, Kansas and is a rising Sophomore at the University in Kansas. She is majoring in Behavioral Neuroscience. Mara is an active member of the KU LGBTQ+ club, a dorm activities assistant, and a mental health advocate. She enjoys going to see live music, spending time with her family, and traveling.

This summer Mara Carrigan worked on MAQI². Her project focused on the percentage of VTE patients that were being treated appropriately according to the anticoagulant therapy guidelines and whether or not their VTE was or was not provoked.

**George Cholack BS**  
Oakland University – William Beaumont School of Medicine  
Troy, MI

George Cholack will be entering his second year at Oakland University William Beaumont School of Medicine. He is an alumnus of the University of Michigan with a BS in Biomolecular Science. His medical interests include subspecialties of internal medicine and public health; he hopes to enter academic medicine. In his spare time, he loves to play piano, read, and create chamber music with others.

This summer, George is working on the BRIDGE database investigating different factors among ACS patients that may be associated with readmission timeline status. In other words, he is researching if there are significant differences between ACS patients readmitted early (0-7 days) and late (8-30 days).
Meet our New interns...

Evan Claggett
Grand Valley State University
Grand Rapids, MI

Evan grew up in Canton, MI and is a rising senior at Grand Valley State University. He enjoys long hikes in the mountains and ham mocking with a good book. At GVSU, he studies biomedical science and runs a nonprofit to support kids battling cancer. In his free time he works as an Emergency Medical Technician working on both 12 hour and 24 hour trucks. He is currently in the process of applying to medical school in hopes of becoming a physician. He has a passion for knowledge, both growing his own, and passing it on to others.

Although he has many research interests, he is especially interested in seeking new and innovative methods to increase access to medical care that provides positive patient outcomes.

Rumi Deb
University of Michigan
Ann Arbor, MI

From Detroit, Michigan, Rumi is a rising senior at the University of Michigan, where she is studying Cellular, Molecular, and Developmental Biology (MCDB) with a minor in Gender and Health. In addition to her studies, Rumi is involved with the UM Bangladeshi Students Association and with research within the UM MCDB department. In the long run, Rumi hopes to become involved with academia medicine and conduct research. In her free time, Rumi like to cook, watch movies, visit parks and forests, and enjoy time with friends.

This summer, Rumi is working on the Cardiac Rehabilitation (CR) registry. Her project will take a closer look at how having social support might impact patient outcomes. It will examine how the level of support and the type of social support males and females receive affect the patients CR completion rate. Rumi is very grateful for the experience that MCORRP has provided her and for all her friends and family that have supported her.
Meet our New interns...

Regan Fleisher
University of Iowa
Iowa City, IA

Regan Fleisher is an incoming senior at the University of Iowa. He is currently studying Biomedical Sciences and pursuing a minor in Chemistry. He participates in several clubs and activities on campus, including volunteering with the DeGowin Blood Center club for blood donations to ensure the safety and comfort of donors and at the university hospital in the cardiovascular intensive care unit. Additionally, he enjoys spending his free time playing baseball for the university’s club baseball team and searching for good music and concerts to attend.

Regan is working on the International Registry of Acute Aortic Dissection. His research project is a time-trend analysis of type B aortic dissection patients--stratified by risk level--who have received endovascular treatments and their outcomes.

Ashley Francis
University of Michigan
Ann Arbor, MI

Ashley is entering her senior year at the University of Michigan where she will be earning a Bachelor of Science in Neuroscience. She’s originally from Sterling Heights and has lived in Michigan her whole life. On campus, Ashley is involved with research at University of Michigan’s Molecular, Cellular, and Development Biology Department and is a volunteer at Peace Neighborhood Center. In her spare time, she enjoys horse-back riding, reading, and trying new restaurants.

This summer, Ashley will be abstracting data for the BRIDGE registry while using the database to study the patient population diagnosed with depression.
Meet our New interns...

Joshua Garfein BS  
University of Michigan, School of Public Health  
Ann Arbor, MI

Josh is from northern Indiana and graduated last year from Brown University with a degree in biology. He is currently an MPH student in epidemiology at the University of Michigan. He plans to combine research with clinical medicine, possibly through an MD/PhD program, with an emphasis on cardiovascular disease prevention. When not in class and working on research, Josh volunteers with Project Healthy Schools and enjoys a variety of outdoor activities, including cycling, tennis, and running.

This summer, Josh is studying the effectiveness of the BRIDGE clinic by using statistical models to investigate whether attendance at the clinic is associated with readmission, ED visits, or mortality. He is also assisting with data analysis for several other MCORRP projects.

Suzanne Irani  
University of Michigan  
Ann Arbor, MI

Suzanne is a rising junior at the University of Michigan studying Biopsychology, Cognition, and Neuroscience with a minor in Spanish Language, Literature, and Culture. At Michigan, Suzanne is the Internal President of HeForShe, a chapter of the UN Women solidarity movement for gender equality. She has conducted developmental psychology research and has enjoyed volunteering with Henry Ford Health System’s Women’s Health Services clinic. In her free time, Suzanne is often reading and watching movies with her sister.

Suzanne worked on the Cardiac Rehabilitation Registry this summer. Her project investigated the effect of education level and gender on adherence to nutritional guidelines in Cardiac Rehabilitation patients.
Meet our New interns...

Gouthman Karuppiah
University of Michigan
Ann Arbor, MI

Goutham Karuppiah is from Troy, MI and is a rising junior at the University of Michigan studying Bio molecular Science and Economics. Outside of studies, he is an active member of Health Promotion at the University of Michigan and the American Medical Student Association. Goutham enjoys spending time with friends, dancing on the university team competitively, and playing and following sports in his free time.

This summer, Goutham is working on the Pulmonary Hypertension registry. His project is focused on the DETECT algorithm as a correlative tool linking systemic sclerosis and pulmonary hypertension.

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Emily Liu
University of Michigan
Ann Arbor, MI

Emily is a rising sophomore at the University of Michigan studying Business Administration and Pre-Medicine. Outside of her studies, she is a research assistant at the Michigan Institute of Social Research examining the impact of a company's leadership makeup on the success of the company, Vice President of Finance of Michigan Business Club, and a volunteer at Adaptive Gymnastics. In her free time, Emily enjoys watching medical dramas, traveling, and baking.

Emily is working on the Pulmonary Hypertension registry this summer looking at how the DETECT risk score in scleroderma patients has helped lead to earlier diagnoses of systemic sclerosis pulmonary hypertension and consequently leading to earlier intervention.
Meet our New interns...

Joeita Macfield
University of Michigan
Ann Arbor, MI

Joeita grew up in Grand Rapids, MI and is a rising junior at the University of Michigan School of Public Health. Joeita is a research assistant in the Leung Lab in the Nutritional Sciences Department studying the cognitive and physical effects of food insecurity on mothers and children. During the school year, Joeita was a Peer Mentor in the Women in Science and Engineering Residence Program. Joeita also enjoys being a part of the Bangladeshi Students Association and Design Movement, exploring new restaurants in Ann Arbor, and spending time with friends, family, and her dog.

Joeita is working on the MAQI\textsuperscript{2} database this summer, and her project involves how GI bleeding events in MAQI\textsuperscript{2}-DOAC patients on aspirin who are taking a PPI compare to those who are not on a PPI. Joeita is also working on the Project Healthy Schools - Bangladesh team.

Lakshmi Meyyappan
University of Michigan
Ann Arbor, MI

Lakshmi is from Troy, MI and will be a sophomore at the University of Michigan, where she aims to study Public Health. Outside of school, Lakshmi is a violinist in the UM Campus Orchestras, a director for UM Project RISHI, an organization that aims to promote sustainable growth of rural Indian communities, and a research assistant at a Developmental Pediatrics lab through UROP. Lakshmi loves to travel, dance, and spend time with her friends and family.

This summer, Lakshmi will be working on the Pulmonary Hypertension (PH) registry. Her project focuses on PH patients with Pulmonary Veno-Occlusive Disease and any baseline clinical differences they may present with in comparison to those with group 1 PH.
Meet our New interns...

**Carsten Opris**  
**Royal College of Surgeons in Ireland**  
**Dublin, Ireland**

Carsten Opris is a medical student going into his third of six years at the Royal College of Surgeons in Ireland (RCSI). He loves what he is studying and could not see himself doing anything else. As an elective project, he was part of a team that created a website for a breast cancer researcher in Ireland. He also keeps busy by staying involved in the paediatric society as a teddy bear hospital coordinator. Teddy bear hospital is a hands on event for kids in the Dublin area that tries to make the hospital less intimidating by having the kids bring in their 'sick' teddy bears so they can see what the hospital would be like. Outside of school life Carsten enjoys playing volleyball, riding his trusty steed Haley, and volunteering with the Irish Red Cross.

Carsten is working on the IRAD registry and will be looking at patients with an Acute Type A Aortic Dissection repaired by a simple ascending graft. He hopes to find characteristics of patients that have poorer outcomes with this procedure to ultimately build on another IRAD paper that found there is no acute downside to having a more extensive repair done.

**Ahana Raina**  
**Smith College**  
**Northhampton, MA**

Ahana Raina is a rising senior at Smith College. She is majoring in Economics with a focus on poverty alleviation in developing countries. She is working in the Cardiac Rehab registry and hopes to combine her love for development with her interest in cardiovascular health. In her free time she likes to read, explore new cities and binge watch sitcoms on Netflix!

Ahana is working in Cardiac Rehabilitation registry this summer. Her project is looking at the health outcomes for different socioeconomic groups enrolled in cardiac rehabilitation.
Meet our New interns...

Hallie Remer  
University of Michigan  
Ann Arbor, MI

Hallie Remer grew up in West Bloomfield, Michigan and is a rising junior at the University of Michigan. There she is studying movement science and intraoperative neuromonitoring with the aims of becoming a neuromonitorist and eventually attending medical school. Outside the classroom, Hallie is a research assistant at the Brain Behavior Lab and avid volunteer at the Ronald McDonald House. In her free time, she enjoys attending sporting events and hanging out with friends.

Hallie worked on MAQI² this past summer. She presented a project on Watchful Waiting for Slightly Out of Range INRs.

Anita Sehra  
Wayne State University  
Detroit, MI

Anita Sehra is from Windsor, Ontario Canada and is a rising sophomore at Wayne State University studying Biological Sciences. In addition to her studies, she conducts research at a metabolic diseases lab and works as a patient transporter at Beaumont Grosse Pointe. She also enjoys volunteering at Beaumont, tutoring students, teaching music, and fundraising for the World Medical Relief. In her free time she enjoys playing the piano, trying new restaurants, watching movies, and spending time with family.

This summer, Anita is working on the Pulmonary Hypertension registry. She is completing a case report on Pulmonary Hypertension associated with Eisenmenger’s syndrome and Congenital Heart Disease. She is looking forward to learn more about this rare condition. She is very grateful for her position at MCORRP.
Meet our New interns...

Cora White  
Oregon State University  
Corvallis, OR

Cora White is a rising senior at Oregon State University Honors College studying Biochemistry and Molecular Biology with a minor in Chemistry. She was raised in Prineville, Oregon and enjoys hiking and baking. In college, Cora has worked as an undergraduate learning assistant for Biology and Physics. Additionally, she does research in Dr. Ishmael’s pharmaceutical sciences laboratory and volunteers for hospice.

This summer Cora is working on the IRAD registry, she is researching surgical trends of patients 85 and older with type A dissections.

Julia Vespoli BS  
University of Michigan  
Ann Arbor, MI

Julia Vespoli grew up in Pittsburgh, PA and graduated from the University of Michigan in Winter 2019. She studied Biopsychology, Cognition and Neuroscience with a minor in Biology. Julia had the opportunity to work as a research assistant in the Social Minds Lab under Felix Warneken, studying trust and resource allocations in children. Outside of her studies, she served on the executive board raising money to grant wishes through MStars for the Make-A-Wish Foundation. She enjoys spending time with her family, traveling, and exploring new foods.

Julia worked on the Pulmonary Hypertension registry this summer. Her project follows pulmonary venoocclusive disease (PVOD) patients through their treatment process and time to diagnosis, since PVOD is often misdiagnosed.
MEET OUR **RETURNING** STUDENT INTERNS
MEET OUR RETURNING INTERNS

Sarkis Dagley
University of Michigan
Ann Arbor, MI

Sarkis graduated from South Lyon East High School in 2016 where he was a captain of the basketball as well as the track and field teams. He will now be entering his junior year at the University of Michigan where he is studying neuroscience and plays on the rugby team. He will also serve as the president of the Armenian club this upcoming year. At home, Sarkis enjoys playing cards and board games with his family and friends.

This summer Sarkis is working on the Cardiac Rehabilitation registry and is enjoying learning about all the intricacies of research here at MCORRP.

Delaney Feldeisen  BA
University of Michigan School of Medicine
Ann Arbor, MI

Delaney is from Ann Arbor, MI and graduated from Washington University in St. Louis in May 2018. She earned her BA in Mathematics, with minors in Biology and Chinese. She just finished a gap year where she worked at MCORRP on various projects. She will be starting at University of Michigan Medical School this August.

This summer, Delaney is one of the student managers as well as the team leader for the BRIDGE database. She has very much enjoyed her time working at MCORRP and getting to know all of the phenomenal staff, interns, and physicians. She is grateful for every opportunity that MCORRP has provided her these past few years.
Joseph Kim  BS  IRAD Team Leader
University of Notre Dame
Notre Dame, IN

Joe hails from the great state of Indiana. His hometown is West Lafayette. He is a recent graduate of Indiana University. This fall, he will begin his Master of Global Health program at the University of Notre Dame. Other than his studies, he enjoys exercising, golfing, listening to jazz, reading self-help books, and cheering for the Fightin’ Irish.

This summer, Joe enjoyed being a team leader for the IRAD registry (along with Cam Pawlik) and continuing his research from last summer. He thanks Regan, Cora, and Carsten for being wonderful teammates. He especially thanks Dr. Eagle, Eva Kline-Rogers, Elise Woznicki, the Good Lord, and his family for their support and encouragement.

PHS Field Day@ Tappan Middle School
MEET OUR RETURNING INTERNS

Spencer Morgan BS  
Cardiac Rehabilitation Team

Spencer graduated from Hope College in May 2018 and is enjoying his life after graduation. He hopes to continue to his passions of medical research, and learn more about various topics in medicine. His long term plan is to become a physician, with a strong emphasis on research. With an understanding of most registries MCORRP works with, Spencer focused on Cardiac Rehab and the Pulmonary Embolism Response Team.

Hailing from Ann Arbor, he really appreciates all the city has to offer. For fun, Spencer likes to enjoy the outdoors. He also is a host for Sporcle trivia in Ann Arbor!

Julian Neshewat  
MAQI² Team Leader
Pulmonary Hypertension Team Leader

Julian Neshewat is a recent graduate from the University of Michigan with a Bachelor of Science in Biopsychology, Cognition, and Neuroscience. He is in the process of applying to medical school and hopes to spend his gap year continuing to do clinical research, volunteering with St. Jude Children’s Hospital, perfecting his cooking skills, and catching up on all of the shows he hasn’t had a chance to watch.

He returned this summer to co-lead the Pulmonary Hypertension and MAQI² registries in addition to working on a couple more projects. He co-authored a paper about epistaxis education with anticoagulation patients and studied risk factors amongst the patients here at UMHS with pulmonary hypertension.
MEET OUR RETURNING INTERNS

Anjali Purohit
Williams College
Williamston, MA

Anjali is a rising junior majoring in Anthropology at Williams College. She is from Ann Arbor and graduated from Greenhills School in 2016. She is excited to be back home for the summer with MCORRP. In her free time, Anjali enjoys playing tennis and spending time outside with her two younger brothers. She is also looking forward to spending next year studying at the University of Oxford.

This summer, Anjali is working on the MAQI\(^2\) registry and conducting research with Project Health Schools. She is very grateful for the opportunity to be at MCORRP and has had a great experience so far.
Meet our returning interns...

Cameron Pawlik  
**MCORRP Student Manager**  
MCORRP Sporting Events Chairperson  
*University of Michigan*  
*Ann Arbor, MI*

Cameron is a rising senior studying Neuroscience with a minor in business at the University of Michigan. He grew up in Clarkston, MI. Outside of MCORRP this summer, Cameron is enjoying spending time with his family, playing sand volleyball, and working on his application to medical school. During the school year, Cameron serves as a Co-President of the Pre-Medical Club, volunteers at the U of M hospital, and he will be teaching introductory Finance this coming fall. Cameron’s research this past summer at MCORRP focused on anxiety and depression in fibromuscular dysplasia and he is continuing this project.

For MCORRP this summer, Cameron is serving as one of the Student Managers as well as an IRAD Team Leader alongside Joey Kim. He is very grateful to the MCORRP staff for the opportunity to return this summer and for creating this amazing program for students to further their understanding of clinical research. He will miss all the peeps he has come to know and love.

Nicole Souphis  
**MCORRP Student Manager**  
*Michigan State University*  
*East Lansing, MI*

Nicole is a rising senior at Michigan State University with a double major in Neuroscience and Psychology. After graduation, she plans to receive her Master’s in Public Health and attend Physician Assistant school. During the school year, she volunteers in various clubs and charitable organizations including OCF (Orthodox Christian Fellowship). Nicole is the director of Spartan Support Network which advocates for mental health awareness on MSU campus. Nicole enjoys running, traveling, and spending time with friends and family. In prior years, she has worked on Project Healthy Schools, where she developed an educational brochure for families to reference for good eating habits. Nicole also worked on the MAQI² registry where her project focused was on warfarin monotherapy vs aspirin for obese patients with atrial fibrillation or venous thromboembolic diseases, which is co-authored with Dr Jordan Shaffer.

This summer, Nicole returned to MCORRP for the third summer as a Student Manager, Cardiac Rehab and World Medical Relief team leader. Her project this summer focused on the Pacemaker Recondition Lab Steps. She is grateful for all the opportunities MCORRP has offered her and wishes to thank Dr Eagle, Dr Froehlich, Dr Barnes, Crawford, Eva and the MCORRP Team for their dedication to MCORRP!
Meet our returning interns...

Amanda Wasserman
University of Michigan
Ann Arbor, MI

Amanda Wasserman is a rising Senior at the University of Michigan where she is studying Biology, Health, and Society, with the hopes of attending Physician Assistant school after graduation. Despite the cold winters, Amanda loves all things Michigan, and has loved spending the summer months in her second home. Aside from school, Amanda loves being involved in Dance Marathon at U of M and the March of Dimes club, playing tennis, and spending time with friends.

Amanda would like to thank all of the MCORRP staff, student leaders, and interns for making this experience so much fun and so rewarding. She has loved every minute of co-leading the MAQI² and Pulmonary Hypertension registries and she is currently working on an epistaxis education with anticoagulation paper and a pulmonary hypertension risk factor paper.

Kevin Wunderly
University of Michigan
Ann Arbor, MI

Kevin grew up in Kalamazoo, MI where he graduated from Kalamazoo Christian High School in 2016. He will be entering his senior year at the University of Michigan where he is studying Biophysics. Outside of the classroom, Kevin is involved with his church and volunteers in the community. Kevin also has a twin brother at the university with whom he enjoys playing basketball with.

This summer, Kevin is a team leader for the Cardiac Sarcoidosis Consortium and Project My Heart Your Heart. His project involves investigating mitral valve disease in patients with cardiac sarcoidosis. He also has gotten back from a research trip to Sierra Leone, Africa where he was involved with a team that implanted the first few pacemakers in the country.
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