



PREVENTION

Nolan Family Center for
Cardiovascular Health

Nolan Family Center for Cardiovascular Health

Annual Highlights Report

**ACCOMPLISHMENTS IN RESEARCH,
EDUCATION AND LEADERSHIP**

Nolan Family Center for Cardiovascular Health |



Changing the paradigm from a focus on cardiovascular disease to cardiovascular health through success in research, education, and leadership.

A LETTER FROM THE DIRECTOR |

It is a great privilege to write this letter highlighting the first year of the Nolan Family Center for Cardiovascular Health at the Minneapolis Heart Institute Foundation.

The past year and a half has taught us that opportunities to succeed in life are not always guaranteed. While many individuals and businesses had their opportunities restricted or cancelled entirely during the pandemic, the MHIF Prevention Team had their opportunities to succeed greatly expanded thanks to the incredible generosity of the Nolan family. It is a gift that is beyond generous. Our shared vision for starting the Nolan Family Center for Cardiovascular Health is to change the paradigm from a focus on cardiovascular disease to cardiovascular health through success in research, education, and leadership. The Nolan Family Center has had early success in all three of these areas.

Research is the central driving force behind everything we want to accomplish at the Nolan Family Center. If we want to improve cardiovascular care for our patients, we need a compelling argument for change supported by high quality research. In 2020 and 2021, the Nolan Family Center produced more than 40 peer-reviewed publications covering various topics including cardiovascular risk assessment, appropriate use of aspirin and cholesterol-lowering medications, dietary factors and cardiovascular health, as well as papers focused on population health. Many of our publications have focused on the ideal use of coronary artery calcium scoring – a test to quantify coronary artery plaque and predict future risk for cardiovascular disease. These collaborative research studies are published in prestigious, peer reviewed journals such as The Journal of the American College of Cardiology and JAMA-Cardiology and are likely to influence future national guidelines.

Under the leadership of Dr. Thomas Knickelbine, the Nolan Family Center is involved in several national multi-center research trials evaluating new cholesterol-lowering agents and other cardiovascular prevention medications. Moving forward, the Nolan Family Center team also is excited to be part of several studies evaluating new therapies for cardiovascular prevention, as well as further research into the optimal lifestyle and the role of tailoring treatment approaches to genetic risk for ideal cardiovascular health.

The initiation of the Nolan Family Center allowed for several unique opportunities to expand cardiovascular education at MHIF. In July of 2021, Dr. Ayman Haq started as the inaugural Nolan Family Center Fellow in Cardiovascular Prevention. He brings a passion and enthusiasm for cardiovascular prevention to the center and we look forward to providing high-quality training to Dr. Haq and future fellows.

In September 2021, we resumed the annual Cardiovascular Prevention Symposium, an event focused on sharing the latest research and guidelines in cardiovascular prevention to the local healthcare community. Additionally, in October, we hosted the 3rd annual Kevin Graham Lecture in Cardiovascular Prevention, with world-renowned cardiovascular prevention leader, Dr. Roger Blumenthal.

Establishment of the Nolan Family Center provides further credibility in cardiovascular prevention for the MHIF prevention team, enabling several members to hold leadership positions at local, regional, and national levels. Members of the MHIF prevention team currently hold positions on national guidelines and educational committees for the American Heart Association and the American College of Cardiology.

The success of the Nolan Family Center in its first year was clearly a collaborative effort accomplished by multiple vital members. I would like to thank my fellow providers in cardiovascular prevention including Dr. Tom Knickelbine, Dr. Courtney Jordan Baechler, Dr. Elizabeth Tuohy, and the recently retired Dr. Terry Longe, as well as advanced practice providers, Sandy Oberembt, PA and Amy Cooley, NP.

Translating our work at the Nolan Family Center into excellent clinical care is what defines our practice. I am also appreciative of the MHIF staff for their support and constant enthusiasm for their work; I want to specifically recognize Susan White and Gretchen Benson whose dedication and passion for the Nolan Family Center is inspiring.

Finally, a heartfelt thanks to the Nolan family. On behalf of all of us at the center, we are beyond grateful and humbled by the opportunity you have given us and we strive every day to build a center worthy of your respect and name.

Sincerely,

Michael Miedema, MD, MPH

Director, Nolan Family Center for Cardiovascular Health

Historic gift to the Minneapolis Heart Institute Foundation to help prevent heart attacks, strokes | KSTP – AUGUST 2020



“ *What if there was a crystal ball that could predict when someone might have a heart attack or stroke? Doctors don't have a crystal ball, however, they are getting better at predicting risk.*

A \$5 million donation from the Stuart Nolan family to the Minneapolis Heart Institute Foundation, announced Monday, will help prevent heart attacks and strokes by funding cardiovascular disease prevention research and education.

The donation matches the largest ever received by the foundation. It will establish the MHIF Nolan Family Center for Cardiovascular Health to help doctors look into the future and save lives by better understanding a person's risk for heart attack and stroke.”

Research

Pillar 1: Cutting-edge research is the backbone of the prevention center.

One of the main goals of the prevention center is to help determine the optimal approach to cardiovascular prevention. Our research covers two broad and equally important aspects of cardiovascular prevention:

- 1| Investigator-initiated research
- 2| Industry-sponsored research

Our center is also dedicated to disseminating our findings through multiple media modalities to further expand our reach. In the past year, we have:

44 manuscripts published / 7 abstracts / 14 invited talks



“Association of Body Mass Index with Coronary Artery Calcium and Subsequent Cardiovascular Mortality.”

PUBLISHED IN CIRCULATION, VOLUME 13, ISSUE 7, 2020

Circulation: Cardiovascular Imaging

Volume 13, Issue 7, 2020
<https://doi.org/10.1161/CIRCIMAGING.119.008495>



ORIGINAL ARTICLE

Association of Body Mass Index With Coronary Artery Calcium and Subsequent Cardiovascular Mortality

The Coronary Artery Calcium Consortium

Joseph C. Jensen, MD, Zeina A. Dardari, MS, Michael J. Blaha, MD, MPH, Susan White, MS, Leslee J. Shaw, PhD, John Rumberger, MD, PhD, Alan Rozanski, MD, Daniel S. Berman, MD, Matthew J. Budoff, MD, Khurram Nasir, MD, MPH, and Michael D. Miedema, MD, MPH

BACKGROUND: Obesity is associated with higher risk for coronary artery calcium (CAC), but the relationship between body mass index (BMI) and CAC is paradoxical.

METHODS: We analyzed BMI, CAC, and subsequent cardiovascular mortality in the Coronary Artery Calcium Consortium, a multi-centered cohort of individuals free of cardiovascular disease (CVD) who underwent CAC testing. Mortality was assessed using the National Death Index and cause of death from the National Death Index. Logistic regression was used to determine odds ratios for the categories and prevalent CAC. Cox proportional hazards regression was used to determine hazard ratios for coronary heart disease, CVD, and all-cause mortality across categories of BMI and CAC.

RESULTS: Our sample included 36 509 individuals, 17 509 female, median BMI 26.6 (interquartile range, 24.1–30.1). 10.5% had CAC \geq 400. Compared with individuals with normal BMI, those with CAC $>$ 0 were increased in those overweight (odds ratio, 1.5 [95% CI, 1.4–1.6]). Over a median follow-up of 4.3 years, obese individuals had higher rates of coronary heart disease, CVD, and all-cause mortality while overweight individuals showed no significant increase in mortality. The relationship between BMI and CAC appeared largely limited to men, and there was a lower risk for women (hazard ratio, 0.79 [95% CI, 0.63–0.98]).

CONCLUSIONS: In a large sample undergoing CAC testing, overweight individuals had a higher risk of CAC and subsequent coronary heart disease and mortality. However, overweight individuals did not have a higher risk of CVD or all-cause mortality.

Key Words: body mass index ■ cardiovascular disease ■ coronary artery calcium ■ overweight

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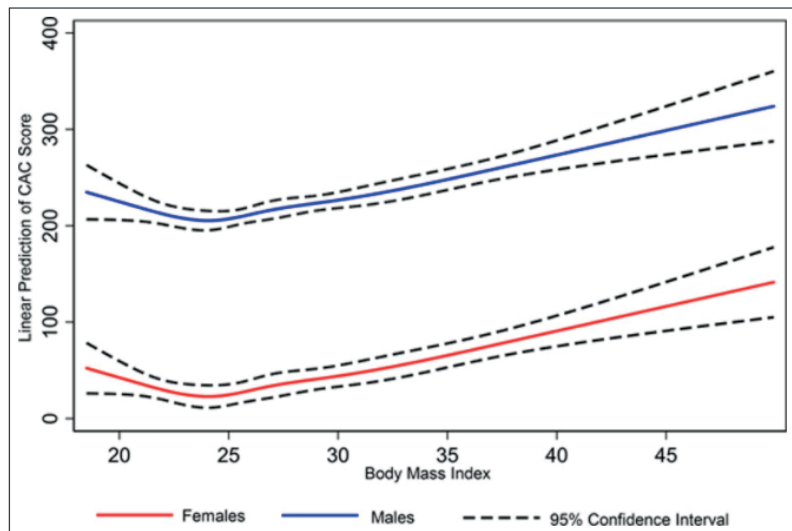


Figure 1. Age-adjusted cubic splines demonstrating the linear relationship of body mass index and coronary artery calcium (CAC) according to sex in 36 509 participants from the CAC Consortium.

The relationship between BMI and coronary calcium showing a clear increase in risk for plaque build-up with increased weight for both men and women.

“Coronary Artery Calcium for Personalized Allocation of Aspirin in Primary Prevention of Cardiovascular Disease.”

PUBLISHED IN CIRCULATION, VOLUME 141, ISSUE 19, 2020

ORIGINAL RESEARCH ARTICLE

Coronary Artery Calcium for Personalized Allocation of Aspirin in Primary Prevention of Cardiovascular Disease in 2019

The MESA Study (Multi-Ethnic Study of Atherosclerosis)

Miguel Cainzos-Achirica, MD, MPH, PhD, Michael D. Miedema, MD, MPH, John W. McEvoy, MB BCH, MHS, Mahmoud Al Rifai, MD, MPH, Philip Greenland, MD, Zeina Dardari, MS, Matthew Budoff, MD, Roger S. Blumenthal, MD, Joseph Yeboah, MD, MSc, Daniel A. Duprez, MD, PhD, Martin Bødtker Mortensen, MD, PhD, Omar Dzaye, MD, PhD, Jonathan Hong, MD, MHS, Khurram Nasir, MD, MPH, and Michael J. Blaha, MD, MPH

BACKGROUND: Recent American College of Cardiology/American Heart Association Primary Prevention Guidelines recommend aspirin use for primary prevention among adults 40 to 70 years of age who are at high risk of cardiovascular disease (ASCVD) risk but not at high risk of bleeding. However, individuals who are best identified. The present study used coronary artery calcium (CAC) for guiding aspirin allocation for primary prevention based on data on cardiovascular disease relative to CAC score.

METHODS: The study included 6471 individuals from the MESA Study (Atherosclerosis). ASCVD risk was estimated using pooled cohort equations. Risk levels were defined: <5%, 5% to 20%, and ≥20%. CAC scores were stratified into 3 groups: 0, 1-99, and ≥100. Relative reduction in cardiovascular disease (NNT₅) calculations, and a 42% relative reduction in the 5-year number needed to harm (NNH₅) were calculated.

RESULTS: Only 5% of MESA participants were at high risk of ASCVD according to the American Heart Association guidelines and using >20% estimated ASCVD risk. NNT₅ calculations were restricted to aspirin use in individuals at high risk of ASCVD (n=3540). The overall NNT₅ was 476 and the NNH₅ was 355. Among estimated ASCVD risk strata, NNT₅ was lowest in the highest risk stratum (NNT₅=140 versus NNH₅=518) and highest in the lowest risk stratum (NNT₅=567).

CONCLUSIONS: CAC may be superior to the pooled cohort equations to inform the allocation of aspirin in primary prevention. Implementation of current 2019 American College of Cardiology/American Heart Association guideline recommendations together with the use of CAC for further risk assessment may result in a more personalized, safer allocation of aspirin in primary prevention. Confirmation of these findings in experimental settings is needed.

Key Words: aspirin ■ calcium ■ cardiovascular diseases ■ hemorrhage ■ risk ■ safety

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<https://www.ahajournals.org/journal/circ>

TABLE 1 Absolute Mortality Rates and Multivariable-Adjusted HRs (95% CIs) for CVD and CHD Deaths by CAC Score Group

	Participants (N = 8,854)	Events (%)	Mortality Rate per 1,000 Person-Years	Unadjusted HR (95% CI)	Model 1 HR (95% CI)	Model 2 HR (95% CI)
CVD death						
CAC = 0	3,119	15 (21.4)	0.4	1.0	1.0	1.0
CAC 1-99	3,365	24 (34.3)	0.6	1.5 (0.8-2.8)	1.6 (0.8-3.1)	1.6 (0.8-3.1)
CAC ≥100	2,370	31 (44.3)	1.0	2.7 (1.5-5.1)	3.0 (1.6-5.6)	3.0 (1.6-5.7)
CHD death						
CAC = 0	3,119	5 (15.6)	0.1	1.0	1.0	1.0
CAC 1-99	3,365	10 (31.3)	0.2	1.9 (0.6-5.5)	1.8 (0.6-5.4)	1.8 (0.6-5.5)
CAC ≥100	2,370	17 (53.1)	0.6	4.5 (1.7-12.3)	4.1 (1.4-11.8)	4.3 (1.4-12.7)

Model 1 adjusted for age and sex. Model 2 adjusted for age, sex, hypertension, dyslipidemia, smoking status, family history of CHD, and diabetes.
 CAC = coronary artery calcium; CHD = coronary heart disease; CI = confidence interval; CVD = cardiovascular disease; HR = hazard ratio.

The potential risks and benefits of aspirin use according to a patient’s coronary artery calcium score (CAC) score.

“Assessment of Coronary Artery Calcium Scoring to Guide Statin Therapy Allocation According to Risk-Enhancing Factors.”

PUBLISHED IN JAMA CARDIOLOGY, 2021

Research

JAMA Cardiology | Original Investigation

Assessment of Coronary Artery Calcium Scoring to Guide Statin Therapy Allocation According to Risk-Enhancing Factors

The Multi-Ethnic Study of Atherosclerosis

Jaldeep Patel, MD, Vincent A. Palazzola, MD, Ramzi Dudum, MD, MPH, Philip Greenland, MD, John W. McEvoy, MBChB, MHS, Roger S. Blumenthal, MD, Salim S. Virani, MD, PhD, Michael D. Miedema, MD, MPH, Steven Shea, MD, MS, Joseph Yeboah, MD, MS, Antonio Abbate, MD, PhD, William G. Hundley, MD, Amy B. Karger, MD, PhD, Michael Y. Tsai, PhD, Vasanth Sathyalakumar, MD, Oluseye Ogunmoroti, MD, MPH, Mary Cushman, MD, Nazir Savi, MD, Kiang Liu, PhD, Khuram Nasir, MD, MPH, Michael J. Blaha, MD, MPH, Seth S. Martin, MD, MHS, Mahmoud Al Rifai, MD, MPH

IMPORTANCE The 2018 American Heart Association/American College of Cardiology Guideline on the Management of Blood Cholesterol recommends the use of risk-enhancing factor assessment and the selective use of coronary artery calcium (CAC) scoring to guide the allocation of statin therapy among individuals with an intermediate risk of atherosclerotic cardiovascular disease (ASCVD).

OBJECTIVE To examine the association between risk-enhancing factors and incident ASCVD by CAC burden among those at intermediate risk of ASCVD.

DESIGN, SETTING, AND PARTICIPANTS The Multi-Ethnic Study of Atherosclerosis is a multicenter population-based prospective cross-sectional study conducted in the US. Baseline data for the present study were collected between July 15, 2000, and July 14, 2002, and follow-up for incident ASCVD events was ascertained through August 20, 2015. Participants were aged 45 to 75 years with no clinical ASCVD or diabetes at baseline, were at intermediate risk of ASCVD ($\geq 7.5\%$ to $<20.0\%$), and had a low-density lipoprotein cholesterol level of 70 to 189 mg/dL.

EXPOSURES Family history of premature ASCVD, premature menopause, metabolic syndrome, chronic kidney disease, lipid and inflammatory biomarkers, and low ankle-brachial index.

MAIN OUTCOMES AND MEASURES Incident ASCVD over a median follow-up of 12.0 years.

RESULTS A total of 1688 participants (mean [SD] age, 65 [6] years; 976 men [57.8%]). Of those, 648 individuals (38.4%) were White, 562 (33.3%) were Black, 305 (18.1%) were Hispanic, and 173 (10.2%) were Chinese American. A total of 722 participants (42.8%) had a CAC score of 0. Among those with 1 to 2 risk-enhancing factors vs those with 3 or more risk-enhancing factors, the prevalence of a CAC score of 0 was 45.7% vs 40.3%, respectively. Over a median follow-up of 12.0 years (interquartile range [IQR], 11.5-12.6 years), the unadjusted incidence rate of ASCVD among those with a CAC score of 0 was less than 7.5 events per 1000 person-years for all individual risk-enhancing factors (with the exception of ankle-brachial index, for which the incidence rate was 10.4 events per 1000 person-years [95% CI, 1.5-73.5]) and combinations of risk-enhancing factors, including participants with 3 or more risk-enhancing factors. Although the individual and composite addition of risk-enhancing factors to the traditional risk factors was associated with improvement in the area under the receiver operating curve, the use of CAC scoring was associated with the greatest improvement in the C statistic (0.633 vs 0.678) for ASCVD events. For incident ASCVD, the net reclassification improvement for CAC was 0.067.

CONCLUSIONS AND RELEVANCE In this cross-sectional study, among participants with CAC scores of 0, the presence of risk-enhancing factors was generally not associated with an overall ASCVD risk that was higher than the recommended treatment threshold for the initiation of statin therapy. The use of CAC scoring was associated with significant improvements in the reclassification and discrimination of incident ASCVD. The results of this study support the utility of CAC scoring as an adjunct to risk-enhancing factor assessment to more accurately classify individuals with an intermediate risk of ASCVD who might benefit from statin therapy.

JAMA Cardiol. 2021;6(10):1161-1170. doi:10.1001/jamacardio.2021.2321
Published online July 14, 2021.

Figure 3. Unadjusted Incidence Rates for Risk-Enhancing Factors Across Coronary Artery Calcium Categories

CAC score category	0 RENF	1-2 RENF	≥3 RENF	Advanced
0	~3.5	~5.5	~5.0	~5.0
1-99	~13.5	~8.5	~9.5	~6.5
≥100	~12.5	~11.5	~13.5	~14.5

The rates of heart attack and stroke according to CAC and other risk-enhancing factors (e.g. pregnancy-related conditions, elevated CRP, family history of heart disease, etc), demonstrating that CAC is the most important tool to assess cardiovascular risk.

CLINICAL TRIALS |

We are currently enrolling in 9 clinical trials and have 8 studies in follow-up. The past year has also given us the opportunity to include 3 COVID-19 studies. Highlights from two featured studies from our portfolio of 20 current research studies:

DESIFOR

The Determining Statin Intolerance For Rosuvastatin (DESIFOR) trial is an investigator-initiated study fully funded by MHIF and the Nolan Family Center for Cardiovascular Health. The first phase of the study is a pilot study which recently completed enrollment of 25 patients, the results of which will be complete within the next year. From there, we plan to move into a multi-center trial aimed at determining true statin intolerance for each patient and the best treatment options for each patient moving forward. If successful, the DESIFOR protocol could become a national standard for addressing possible medication side effects for statin therapy as well as other preventive medications.

HORIZON

This study is evaluating the investigational injectable medication Pelacarsen to lower Lp(a) (lipoprotein a) to determine if it can decrease major cardiovascular events in patients with established cardiovascular disease. Patients are enrolled for 4 years.

Education

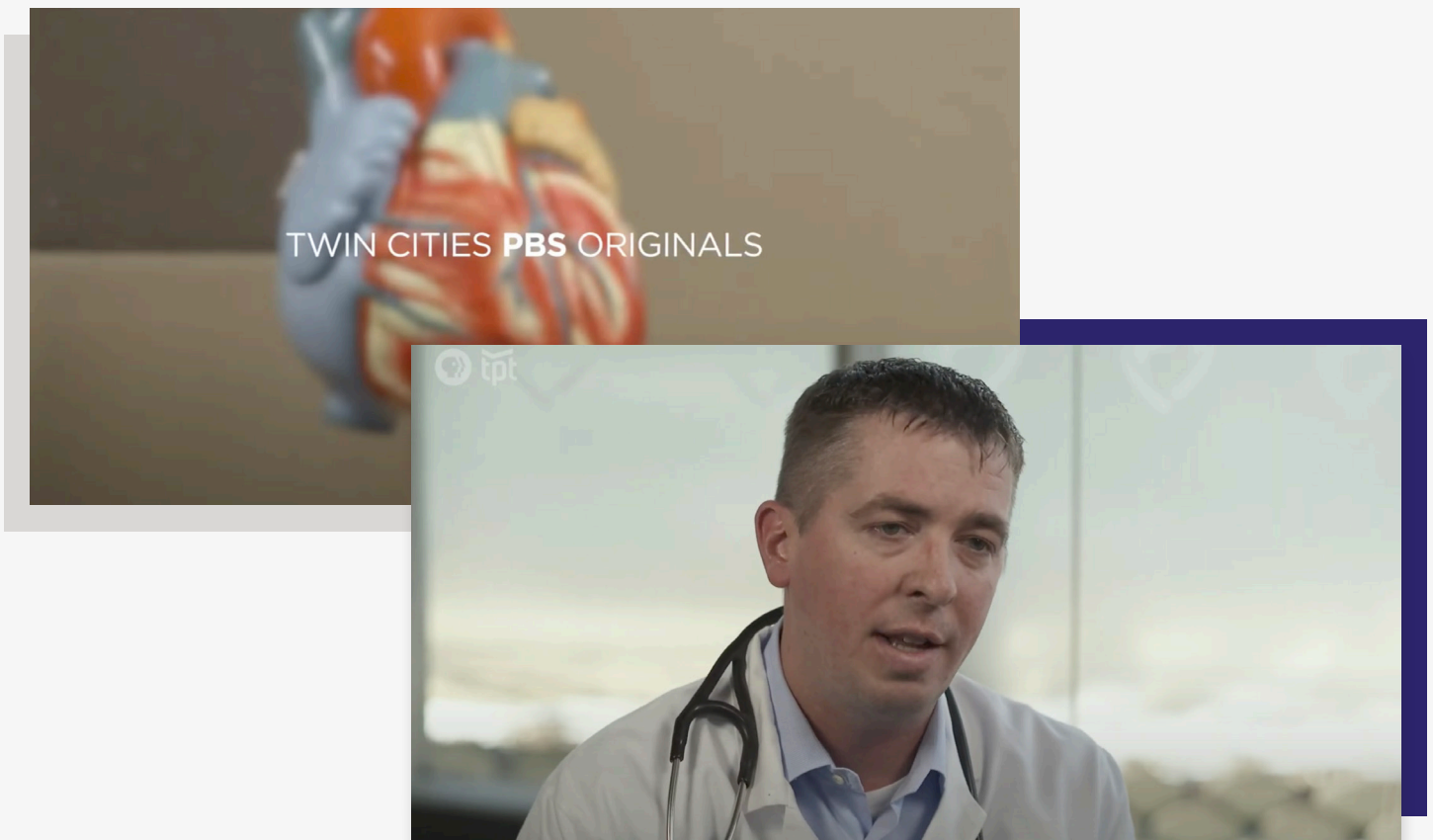
Pillar 2: Education is a vital element of the prevention center, and we accomplished many initiatives in the past year.

The prevention center maintained a strong presence in a variety of media outlets to inform both health professionals and community members. Through thoughtfully crafted messaging campaigns, educational offerings and materials for both providers and consumers, the center will increase prevention awareness and distribute materials broadly for maximum reach.



AWARENESS EFFORTS |

Heart disease is the #1 cause of death for both men and women in the U.S. How can you prevent heart disease? | TWIN CITIES PUBLIC TELEVISION (TPT)



Through a sponsorship of TPT, MHIF was able to create and distribute a video focused on the importance of cardiovascular prevention research. The video aired for three months across various TPT programs.

PROFESSIONAL WEBCASTS |

AllinaHealth

VIDEO

Prevention Update - Aspirin, Cholesterol, Diabetes, Hypertension

Michael Mladema, MD, MPH, discusses the different aspects of preventive cardiovascular care.

Call to refer a patient to Minneapolis Heart Institute® 1-844-7ALLINA

AllinaHealth

VIDEO

2021 Virtual Cardiovascular Evening Symposium: Prevention & EP Updates

2021 Virtual Cardiovascular Evening Symposium: Prevention & EP Updates

Call to refer a patient to Minneapolis Heart Institute® 1-844-7ALLINA

PODCAST |

Podcasts

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FEB 15 - 30M	Aortic Emergencies
FEB 7 - 34M	Acute Coronary Syndrome - STEMI, NSTEMI, Unstable Angina
JAN 31 - 31M	Prevention Update - Aspirin, Cholesterol, Diabetes, Hypertension
JAN 24 - 30M	See More Episodes ↗



5 OUT OF 5 STARS

Annual Kevin Graham Lecture Oct. 11, 2021
The Evolution of the ABCs of Primary & Secondary Prevention of Cardiovascular Disease

SPEAKER: Roger S Blumenthal, MD, FACC, FAHA
Kenneth Jay Pollin Professor of Cardiology, Director
Ciccarone Center for the Prevention of Cardiovascular
Disease, Johns Hopkins University, Baltimore, MD



Cardiovascular Prevention Symposium
Optimal Preventive Care in Sept. 30, 2021

FEATURING: Steven Bradley, MD, MPH, Thomas Knickelbine, MD,
Michael Miedema, MD, MPH and Retu Saxena, MD



Professional Education – Dissemination of Research at Key National Conferences

DR. MICHAEL MIEDEMA shared findings from ‘Coronary Artery Calcium Scoring in Young Adults’ at the Annual Conference - Society of Cardiac Computed Tomography in August 2020.

GRETCHEN BENSON shared lessons learned from *Hearts Beat Back: The Heart of New Ulm Project* at the National Forum for heart disease and stroke prevention’s annual mid-year meeting (May 1, 2020).

HEARTS BEAT BACK: The Heart of New Ulm Project is a previous National Forum Heart Health Stroke Free Award Recipient.

DR. MICHAEL MIEDEMA shared findings from ‘Cardiovascular Risk Assessment at Age 40 - What is the Best Approach?’ at the American College of Cardiology Meeting in September 2021.

Leadership

Pillar 3: MHIF leadership positions support the vision and mission of the Nolan Center for Cardiovascular Health. These positions are vital to the credibility of our program.

A key endeavor in 2021 was the establishment of the cardiovascular prevention fellowship with Dr. Ayman Haq joining our team. Through fellowship and internship opportunities, MHIF will leave a legacy of training future leaders in the field of cardiovascular prevention.



Pictured: Thomas Knickelbine, MD, Donna Skoog, NP, Amy Cooley, NP, Gretchen Benson, RDN, Elizabeth Tuohy, MD, Courtney Baechler, MD, Michael Miedema, MD, Susan White, RDN, Andrea Sarafolean, RN, Sandy Oberembt, PA, and Christine Majeski, RN.

Cardiovascular Prevention Fellow |



As part of the mission for the Nolan Family Center for Cardiovascular Health, the MHI Prevention Team has established a Fellowship in Cardiovascular Prevention. The fellowship will be one of the few fellowships in the country where physicians can get additional training in cardiovascular prevention, including training in clinical CVD prevention as well as additional research experience in CVD prevention. From a group of excellent candidates, the first candidate for the fellowship has been selected and will begin training in the summer of 2021.

Dr. Haq completed his three-year residency in internal medicine in Spring 2021 at Baylor University Medical Center and serves as an adjunct instructor at Texas A&M College of Medicine. He received his medical degree from Texas Tech University Health Sciences Center School of Medicine in 2018 along with a Certificate in Medical Humanities and Bioethics. He earned his Bachelor of Science degrees in biology and business administration from The University of Texas - Dallas.

Leadership Positions within the Nolan Family Center for Cardiovascular Health



Michael Miedema, MD

- *Committee member, 2019 ACC/AHA Guidelines for Primary Prevention of CV Disease*
- *Diabetes Committee member, American Heart Association*
- *Associate Editor, ACC.ORG Prevention section*
- *Director of Cardiovascular Prevention, Minneapolis Heart Institute®*



Thomas Knickelbine, MD

- *Director of Lipid Research, MHIF*



Courtney Jordan Baechler, MD

- *Board of Directors, WomenHeart*
- *Maternal Mortality Committee, Minnesota Department of Health*
- *MN Department of Health Statewide Heart Disease and Stroke Prevention Committee*
- *2021-2022 Policy Fellow at the Humphrey School of Public Affairs*
- *Co-Chair Go Red, American Heart Association, 2020-2021*



Elizabeth Tuohy, MD

- *Medical Director, United Heart & Vascular Clinic's Heart Disease Prevention Clinic*
- *Instructor, United Hospital's Family Medicine Residency Program*



Susan White, RDN

- *Clinical Program Lead, Cardiovascular Health*



Gretchen Benson, RDN, CDCES

- *Professional Practice Committee, American Diabetes Association*
- *Food and Nutrition Advisory Committee, American Diabetes Association*

Nolan Family Center for Cardiovascular Health Report

The MHI Prevention Clinic offers support and preventive care for adults who are at risk for heart attack, stroke and other cardiovascular diseases – as well as people living with heart disease.

The team takes a multidisciplinary approach to address risk factors such as diabetes, high blood pressure, high cholesterol, and smoking. The dedicated of experts works collaboratively to provide the knowledge and tools to help patients pursue a healthy lifestyle. The clinic also specializes in the identification and treatment of lipid disorders including patients with statin intolerance or side effects from their statin medication. State-of-the-art, advanced cardiac imaging tests, such as coronary artery calcium scoring and CT angiography and specialized lab risk markers are available to further assess the patient’s cardiovascular risk. With five main clinic settings in the Twin Cities metro and numerous outreach locations, this specialty practice provides care to more than 2,550 preventive cardiology patients yearly.

Clinical Team:

*Michael D Miedema,
MD, MPH*

Thomas Knickelbine, MD

Courtney J Baechler, MD

Elizabeth J Tuohy, MD

Amy Cooley, NP

*Sandy Oberembt,
PA, PharmD*

Susan K White, RDN

Alyson Ryan, PharmD

Samantha Wills, PhT

*Donna Skoog, NP,
special projects*

"Prevention matters. Lives are either won or lost or change forever, based on the decisions made at the time."

- Kevin Graham, MD



Thank you for your support!

MPLSHEART.ORG/PREVENTION



PREVENTION

Nolan Family Center for
Cardiovascular Health