Hawkins C. Gay, MD, MPH, MSAI
(contact info available on request)

EDUCATION

Year	Institution	Degree	Field
2021	Northwestern University, School of Engineering	MS	Artificial Intelligence
2015	Emory University, School of Medicine	MD	Medicine
2014	Emory University, School of Public Health	MPH	Epidemiology
2009	Columbia University	N/A	Pre-medical Certificate
2004	University of North Carolina at Chapel Hill	BA	Economics

GRADUATE MEDICAL EDUCATION

Years	Institution	Field
2021-2023	McGaw Medical Center (Northwestern)	Cardiac Electrophysiology
2018-2021	McGaw Medical Center (Northwestern)	Cardiovascular Medicine
2015-2018	McGaw Medical Center (Northwestern)	Internal Medicine

BOARD CERTIFICATION AND LICENSING

Year	Description
2023	American Board of Internal Medicine, Cardiac Electrophysiology, Certified
2021	American Board of Internal Medicine, Cardiovascular Disease, Certified
2018	American Board of Internal Medicine, Internal Medicine, Certified
2017	State of Illinois, Physician Controlled Substance License, 336.106177
2017	State of Illinois, Physician License, 036.144795
2017	USMLE Step 3
2013	USMLE Step 2
2012	USMLE Step 1

HOSPITAL APPOINTMENTS

Years	Specialty	Role	Institution
2023-current	Electrophysiology	Attending	Northwestern Lake Forest Hospital
2021-2023	Electrophysiology	Fellow	Northwestern Memorial Hospital
2018-2021	Cardiology	Fellow	Northwestern Memorial Hospital
2018-2021	Cardiology	Fellow	Jesse Brown VA Medical Center
2015-2018	Internal Medicine	Resident	Northwestern Memorial Hospital
2015-2018	Internal Medicine	Resident	Jesse Brown VA Medical Center

PROFESSIONAL EXPERIENCE

Years	Role	Organization
2023-current	Attending	Northwestern Medicine
2018-2023	Fellow	McGaw Medical Center (Northwestern)
2015-2018	Resident Physician	McGaw Medical Center (Northwestern)
2009-2018	Founder and Director	Malaria Networks, Non-Profit Charity
2005-2007	Financial Analyst	Edgeview Partners, Investment Bank
2004	Financial Intern	Wachovia Securities, Investment Bank

EDITORIAL EXPERIENCE

Years	Role	Journal
2025-current	Associate Editor	Journal of Cardiac Failure-Intersections
2020-current	Social Media Editor	Journal of Cardiovascular Electrophysiology

PROFESSIONAL SOCIETY MEMBERSHIP

American College of Cardiology
American Heart Association
Heart Rhythm Society

TEACHING AND LECTURES

Year	Description
2024	Northwestern Medicine, Lake Forest Hospital Grand Rounds: Artificial Intelligence – Applications in Cardiology and Healthcare

2023	NUvention: Medical, Farley Center for Entrepreneurship and Innovation – Clinical Coach for group of 6 students working to integrate consumer technology ECG tracings into the electronic medical record
2022	Chicago Electrophysiology Society: Recurrent Atrial Arrythmia after MAZE Procedure
2021	Northwestern Medicine, Cardiology Grand Rounds: Machine Learning in Cardiovascular Disease Research – A Case Study with Atrial Flutter
2020	Northwestern Medicine, Valvular Heart Disease Conference: Tricuspid Regurgitation – Past, Present and Future
2020	Northwestern Medicine, Preventative Medicine Conference: Diet and Nutrition for the Prevention of Cardiovascular Disease
2019	Northwestern Medicine, Interventional Conference: Antithrombotic Therapy for Patients with Coronary Intervention and Indications for OAC Therapy
2019	Northwestern Medicine, Interventional Conference: Approach to Bifurcated Coronary Lesion Treatment
2018	Feinberg School of Medicine, Case Based Learning (CBL): led CBL sessions on hemodynamic interpretation and application to small groups of first-year medical students.
2018	Feinberg School of Medicine, Synthesis and Application Module: led ECG interpretation sessions to groups of up to 25 third-year medical students and second-year PA students.
2017	Northwestern Medicine, Lecture: ICU Management of Acute Right Ventricular Failure in the Setting of Pulmonary Hypertension.
2016-2017	Keep Your Heart Healthy, Community Health Program to Prevent Heart Disease in Chicago, IL. Supervised and advised groups of up to seven medical students while providing health assessments and counseling to low-income residents.

DIGITAL MEDIA

2025	In the Rhythm Podcast (Johnson & Johnson Med Tech), Episode 9, AI in EP: Revolutionizing Arrhythmia Management
2024	The Lead Podcast (Heart Rhythm Society), Episode 79, Managing Data Overload: AI, Wearables and Apps
2024	The Lead Podcast (Heart Rhythm Society), Episode 46, Predicting Atrial Fibrillation from Sinus Rhythm ECGs: A Validation Study

BLOG

2023-current	Cardio Cypher (https://cardiocypher.com/): Personal blog focused on the intersection of Digital Health, Artificial Intelligence, Machine Learning (ML) and Healthcare.

QUALITY IMPROVEMENT

2016-2017	Academy for Quality and Safety Improvement (AQSI), seven-month professional development program tailored to healthcare providers.
2016-2017	Utilized DMAIC improvement cycle processes to identify and address issues with hospital specified heart failure discharge procedures in an effort reduce 30-day re-admissions.

SCHOLARLY BIBLIOGRAPHY

Original, peer-reviewed, research and invited articles

1. **Gay HC**, Passman RS. AI and Personal Digital Health Tools: Pioneering the Future of Precision Health Care. JACC Clin Electrophysiol. 2024 Dec; 10(12):2655-2657.

2. **Gay HC**, Cheung CC, Mendenhall GS. Managing data overload: AI, wearables, and apps. Heart Rhythm. 2024 Oct; 21(10):e274-e276.

3. Liu AY, Charron J, **Gay HC**, et al. Implementation of an intravenous sotalol initiation protocol: Implications for feasibility, safety, and length of stay. J Cardiovasc Electrophysiol. 2023 Mar; 34(3):502-506.111

4. **Gay HC**, Yu J, Persell SD, et al. Comparison of Sodium-Glucose Cotransporter-2 Inhibitor and Glucagon-Like Peptide-1 Receptor Agonist Prescribing in Patients with Diabetes Mellitus with and without Cardiovascular Disease. Am J Cardiol. 2023; 189:121-130.

5. Sink J, Nimmagadda K, Zhao M, **Gay HC**, et al. Esophageal temperature management during cryoballoon ablation for atrial fibrillation. J Cardiovasc Electrophysiol. 2022; 33(12): 2560-2566

6. Besler E, Mathur P, **Gay HC**, et al. Inter-Patient Atrial Flutter Classification Using FFT-Based Features and a Low-Variance Stacking Classifier. IEEE Trans Biomed Eng. 2022 Jan; 69(1):156-164.

7. Kaplan RM, Narang A, **Gay HC**, et al. Use of a novel 4D intracardiac echocardiography catheter to guide interventional electrophysiology procedures. J Cardiovasc Electrophysiol. 2021 Dec; 32(12):3117-3124.

8. Shah RU, Mutharasan RK, Ahmad FS, Rosenblatt AG, **Gay HC**, et al. Development of a Portable Tool to Identify Patients with Atrial Fibrillation Using Clinical Notes from the Electronic Medical Record. Circ Cardiovasc Qual Outcomes. 2020 Oct; 13(10)

9. Rao SG, Galaviz KI, **Gay HC**, et al. Factors Associated with Excess Myocardial Infarction Risk in HIV-Infected Adults: A Systematic Review and Meta-analysis. J Acquir Immune Defic Syndr. 2019 Jun; 81(2):224-230.

10. Vaccarino V, Sullivan S, **Gay HC** et al. Mental Stress-Induced-Myocardial Ischemia in Young Patients with Recent Myocardial Infarction: Sex Differences and Mechanisms. Circulation. 2018 Feb; 137(8):794-805.

11. **Gay HC**, Baldridge AS, Huffman MD. Feasibility, Process, and Outcomes of Cardiovascular Clinical Trial Data Sharing: A Reproduction Analysis of the SMART-AF Trial. JAMA Cardiol. 2017 Dec; 2(12):1375-1379.

12. **Gay HC**, Rao SG, Vaccarino V, Ali MK. Effects of Different Dietary Interventions on Blood Pressure: Systematic Review and Meta-Analysis of Randomized Controlled Trials. Hypertension. 2016 Apr; 67(4):733-9.

Case reports, Letters
1. **Gay HC**, Sinha A, Michael E, Mozer AB, Budd A, Feinstein MJ, Benzuly KH, Al-Qamari A, Pawale AA, Vorovich EE. Fulminant myocarditis in a patient with coronavirus disease 2019 and rapid myocardial recovery following treatment. ESC Heart Failure. 2020 Oct; 7(6):4367-4370

2. **Gay HC**, Baldridge AS, Huffman MD. Different Population and End Point Definitions in Reproduction Analysis Based on Shared Data-Reply. JAMA Cardiol. 2018 Sep; 3(9):894.

3. **Gay HC**, Amaral AP. Acquired Methemoglobinemia Associated with Topical Lidocaine Administration: A Case Report. Drug Saf Case Rep. 2018 Apr; 5(1):15.

4. Hayek S, Pibarot P, Harzand A, Cheng JW, **Gay HC**, Chrysohoou C, Ribeiro H, Rodés-Cabau J, Babaliaros V, Lerakis S. Dobutamine stress echocardiography for risk stratification of patients with low-gradient severe aortic stenosis undergoing TAVR. JACC Cardiovasc Imaging. 2015 Mar; 8(3):380-2.

Abstracts
1. **Gay HC**, Yu J, Persell SD, Linder JA, Srivastava A, Isakova T, Huffman MD, Khan SS, Mutharasan RK, Petito LC, Shah SJ, Yancy CW, Ahmad FS. Prevalence of SGLT2 Inhibitor and GLP-1 Receptor Agonist Prescriptions in Patients with Comorbid Diabetes and Cardiovascular Disease. American College of Cardiology Annual Scientific Sessions, Virtual, 2020.

2. **Gay HC**, Baldridge AS, Huffman MD. Cardiovascular Clinical Trial Data Sharing: Reproduction Analysis of the SMART-AF Trial. Lewis Landsberg Research Day, Northwestern University, Chicago, IL. April 2017.

3. Baldridge AS, Ciolino J, Atkins E, Kilbridge H, **Gay HC**, Chow C, Huffman MD. Systolic Blood Pressure Trajectory-Related Predictors and Outcomes: A Secondary Analysis of the SPRINT Trial. SPRINT Data Analysis Challenge. N Engl J Med. Online. March 2017.

4. **Gay HC**, Rao SG, Vaccarino V, Ali MK. Effects of Different Dietary Interventions on Blood Pressure: Systematic Review and Meta-Analysis of Randomized Controlled Trials. American College of Cardiology Annual Fellows in Training Session, Chicago, IL. March 2016.

5. Hayek S, Harzand A, Cheng JW, **Gay HC**, Hartlage G, Howell S, Zhou X, Babaliaros V, Thourani V, Stamatios L. Dobutamine Stress Echocardiography Risk-Stratifies Women with Low-Gradient Aortic Stenosis Undergoing Transcatheter Aortic Valve Replacement. American College of Cardiology Annual Scientific Session and Expo, Washington, D.C. March 2014.

CONFERENCE PRESENTATIONS

1. **Gay HC**, Cheung CC, Mendenhall GS. Managing data overload: AI, wearables, and apps. HRX Digital Heath Conference, Heart Rhythm Society; Atlanta, GA; September 2024

2. **Gay HC**, Besler E, Mathur PK, Skeete JR, Post Z, Wasserlauf J, Sahakian AV, Passman RS. Localizing Atypical Atrial Flutter with an Advanced Machine Learning Pipeline. HRX Digital Heath Conference, Heart Rhythm Society; San Diego, CA; September 2022

3. **Gay HC**, Yu J, Persell SD, Linder JA, Srivastava A, Isakova T, Huffman MD, Khan SS, Mutharasan RK, Petito LC, Shah SJ, Yancy CW, Ahmad FS. Prevalence of SGLT2 Inhibitor and GLP-1 Receptor Agonist Prescriptions in Patients with Comorbid Diabetes and Cardiovascular Disease. American College of Cardiology Annual Scientific Sessions, Virtual, 2020.

4. **Gay HC**, Baldridge AS, Huffman MD. Cardiovascular Clinical Trial Data Sharing: A Reproduction Analysis of the SMART-AF Trial. Presented at the Kathleen A. Zar Symposium; Open Data: Science, Health, Community; University of Chicago; Chicago, IL. April 2017.

5. **Gay HC**, Amaral AP. A Numbing Case of Acquired Methemoglobinemia. Presented at the Society of General Internal Medicine, National Conference, Washington, D.C. April 2017.

6. **Gay HC**, Higdon J. Make No Bones About It. Presented at the Society for General Internal Medicine, National Conference, Denver, CO. 2013.

7. **Gay HC**, Spicer J, Dabhadkar K, Kalra G. An Unusual Bout of Meningitis. Presented at the Society for General Internal Medicine, Southern Regional Conference, New Orleans, LA. 2013.