

BIOGRAPHICAL SKETCH

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NAME: Larry Alexander Allen, MD, MHS

eRA COMMONS USER NAME (credential, e.g., agency login): ALLEN.L

POSITION TITLE: Associate Professor of Medicine, University of Colorado School of Medicine

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
University of Colorado Boulder, CO	BA	05/1994	Chemistry, Biology
Harvard Medical School, MA	MD	06/2001	Medicine
Massachusetts General Hospital, MA	Residency	06/2004	Internal Medicine
Duke University Medical Center, NC	Fellowship	02/2007	Cardiology
Duke University Medical Center, NC	Fellowship	02/2008	Advanced Heart Failure and Transplantation
Duke University, NC	MHS	06/2008	Health Sciences

A. Personal Statement

I am a transplant cardiologist who combines clinical care, operations, research, and education into a synergistic mix of duties around improved care delivery for patients with heart failure. My primary research interest is to better anticipate progression into end-stage heart failure and then help patients make tough choices regarding complex treatment options. I am co-director of the Adult and Child Consortium for Health Outcomes Research and Delivery Science (ACCORDS) Colorado Program for Patient Centered Decisions (<https://patientdecisionaid.org/>). Our team recently completed the PCORI-funded multicenter stepped wedged randomized trial using a decision support tool for patients and their caregivers offered a left ventricular assist device (the DECIDE-LVAD trial) and now is working to disseminate these results (I-DECIDE-LVAD, 2019-2023). I also lead an AHA-funded randomized study of patient activation for heart failure medication prescribing (EPIC-HF). We have developed and tested patient decision aids for hospice care and other major medical decisions. I recently served as Chair for the AHA Committee for Heart Failure and Transplantation, and have helped lead a number of scientific statements in advanced heart failure, palliative care, and decision making. The other half of my time I spend as Associate Division Head for Clinical Affairs in Cardiology and Medical Director of Advanced Heart Failure at the University of Colorado Anschutz Medical campus. In these roles, I keep myself grounded by regularly seeing patients with heart failure, LVADs, and transplants, and am consistently voted in *5280 Magazine* as one of Denver's "Top Doctors".

B. Positions and Honors**Positions and Employment**

1994-1996	Peace Corps Volunteer/Health Educator, Ghana: Stationed in village of 1,000 inhabitants to develop locally-implemented solutions for community health needs.
1996-1997	Fellow in Not-for-Profit Funding, Boettcher Foundation, Denver.
2001-2004	Researcher, under Dr. Donald M. Lloyd-Jones, Massachusetts General Hospital (MGH), Boston: Assessed the relationship of outcomes to guideline-concordant care.
2004-2008	Research Fellow, Duke Clinical Research Institute, Durham: Investigated biomarkers, endpoint measures, resource use, and patient perceptions of prognosis in heart failure.

2008 Instructor, Duke University Medical Center, Durham.
 2008-2016 Affiliate Investigator, Kaiser Permanente Colorado, Institute for Health Research
 2008-Present Professor (2018), Division of Cardiology, Department of Medicine, University of Colorado School of Medicine, Aurora: Tenure track position.

- Medical Director of Advanced Heart Failure
- Associate Division Head for Clinical Affairs

Other Experience and Professional Membership

2004-Present Fellow (FACC status 2009), American College of Cardiology
 2005-Present Fellow (FAHA status 2013), American Heart Association
 2007-Present Fellow (FHFSA), Heart Failure Society of America
 2007-2008 Chief Fellow, Duke Clinical Research Institute
 2009-2018 Trustee, Boettcher Foundation: \$310 million foundation, 1 of 9 board members
 2010-2012 Associate Editor, Journal of Cardiac Failure
 2012-2016 Associate Editor, American Heart Journal (reviewer since 2004)
 2012-2018 Clinical Guidelines Committee, Heart Failure Society of America
 2014-2015 Merit Reviewer, Patient Centered Outcomes Research Institute
 2014-2018 Steering Committee, Get With The Guidelines Heart Failure, American Heart Association
 2015-2019 Committee for Scientific Sessions Program, American Heart Association
 2016-Present Associate Editor (intermittent Deputy Editor), Circulation: Heart Failure
 2017-2019 Chair, Heart Failure and Transplantation Committee, American Heart Association
 2020 Chair, Patient Committee, Heart Failure Society of America
 2021 Chair, Annual Scientific Sessions, Heart Failure Society of America

Honors

1994 Summa cum laude, University of Colorado Boulder
 1994 Outstanding Graduate: top graduate University of Colorado Boulder
 2000 Aesculapian Club member, Harvard Medical School
 2001 Massachusetts Medical Society Scholar Award
 2004 Teaching Award, Massachusetts General Hospital: 1 of 2 residents selected annually
 2006 Best Fellow Award, Duke: 1 fellow selected annually by the medicine house staff
 2006 Floyd Award, Duke: 1 fellow selected annually by the cardiology fellows
 2007 Martinez Award, Duke: leadership in cardiac transplant; \$50,000 support
 2007-2012 Loan Repayment Program, National Institutes of Health
 2009 Outstanding Cardiology Educator Award, University of Colorado: voted by the fellows
 2009 Good Citizen Award, Division of Cardiology, University of Colorado: voted by faculty
 2010 Fellow of the American College of Cardiology (FACC)
 2012 Pioneer Award, Medical Staff, University of Colorado Hospital
 2012-2020 "Top Doctor", Heart Failure, 5280 Magazine: peer-voted among Colorado physicians
 2019 Kenneth Poirier Endowed Chair in Medicine, University of Colorado
 2019 American Society for Clinical Investigation (ASCI), inductee

C. Contributions to Science

1. Medical Decision Making: I have helped extend shared decision making into cardiovascular care. My role as PI of the PCORI DECIDE-LVAD multi-center effectiveness trial (12/1/2014-11/30/2017) and co-I for the I DECIDE LVAD dissemination and implementation study (2019-2023) demonstrates the benefits of patient decision aids for invasive, high-risk, high-reward technologies. As PI for the AHA EPIC-HF trial, I helped prove that patient empowerment in prescribing decisions through flipped classroom delivery of a simple video and checklist before clinic visits can help overcome therapeutic inertia and improve use of high-value medications.

- a) **Allen LA**, Stevenson LW, Grady KL, Goldstein NE, Matlock DD, Arnold RM, Cook NR, Felker GM, Francis GS, Hauptman PJ, Havranek EP, Krumholz HM, Mancini D, Riegel B, Spertus JA, on behalf of the American Heart Association Councils on Quality of Care and Outcomes Research, Clinical Cardiology, and Cardiovascular Nursing. Decision Making in Advanced Heart Failure: A Scientific Statement from the American Heart Association. *Circulation*. 2012;125:1928-1952.
- b) **Allen LA**, McIlvennan CK, Thompson JS, Dunlay SM, LaRue SJ, Lewis EF, Patel CB, Blue L, Fairclough DL, Leister EC, Glasgow RE, Cleveland JC Jr, Phillips C, Baldrige V, Walsh MN, Matlock DD. Effectiveness of an Intervention Supporting Shared Decision Making for Destination Therapy Left

Ventricular Assist Device: The DECIDE-LVAD Randomized Clinical Trial. *JAMA Intern Med.* 2018 Apr 1;178(4):520-529.

- c) Knoepke CE, **Allen LA**, Kramer DB, Matlock DD. Medicare Mandates for Shared Decision Making in Cardiovascular Device Placement. *Circ Cardiovasc Qual Outcomes.* 2019 Jul;12(7):e004899.
 - d) Wallace BC, **Allen LA**, Knoepke CE, Glasgow RE, Lewis CL, Fairclough DL, Helmkamp LJ, Fitzgerald MD, Tzou WS, Kramer DB, Varosy PD, Gupta SK, Mandrola JM, Brancato SB, Peterson PN, Matlock DD. A Multicenter Trial of a Shared DECision Support Intervention for Patients offered implantable Cardioverter-DEFibrillators: DECIDE-ICD; Rationale, Design, Medicare Changes, and Pilot Data. *Am Heart J.* 2020. Apr 20;226:161-173.
 - e) **Allen LA**, Venechuk G, McIlvennan CK, Page li RL, Knoepke CE, Helmkamp LJ, Khazanie P, Peterson PN, Pierce K, Harger G, Thompson JS, Dow TJ, Richards L, Huang J, Strader JR, Trinkley KE, Kao DP, Magid DJ, Buttrick P, Matlock DD. An Electronically Delivered, Patient-Activation Tool for Intensification of Medications for Chronic Heart Failure with Reduced Ejection Fraction: The EPIC-HF Trial. *Circulation.* 2020 Nov 17.
2. Quality and Equity of Care: In the setting of a fractionated health system and movement towards value-based purchasing, my NHLBI K23 award (9/2011-8/2016) focused on patients recently hospitalized with worsening heart failure, aiming to quantify the largest gaps in care, understand barriers and facilitators to evidence-based care, and leverage the electronic health record to optimize transitions of care. I have also lead analyses into large quality improvement registries (AHA GWTG, ACC PINNACLE, INTERMACS) to better understand care patterns and opportunities for improved delivery of evidence-based medicine.
- a) Breathett K, **Allen LA**, Helmkamp L, Colborn K, Daugherty SL, Khazanie P, Lindrooth R, Peterson PN. The Affordable Care Act Medicaid Expansion Correlated With Increased Heart Transplant Listings in African-Americans But Not Hispanics or Caucasians. *JACC Heart Fail.* 2017 Feb;5(2):136-147.
 - b) Gupta A, **Allen LA**, Bhatt DL, Cox M, DeVore AD, Heidenreich PA, Hernandez AF, Peterson, ED, Matsouaka RA, Yancy CW, Fonarow G. Implementation of the Hospital Readmissions Reduction Program, Readmissions, and Mortality in Heart Failure. *JAMA Cardiology.* 2017.
3. Anticipating End-of-Life: I have helped refine risk assessment for patients with heart failure. My primary focus has been early identification of patients transitioning to end-stage D heart failure, who may benefit from referral for consideration of transplantation, mechanical circulatory support, or palliative care. This initially involved exploring biomarkers (e.g. red cell distribution width) and other markers of risk (e.g. health status, frailty, and post-discharge environment / social instability). More recently I have been working to quantify the uncertainty of risk modeling, so that individual patients better understand the nature of population-based estimates applied to individual care decisions.
- a) **Allen LA**, Matlock DD, Shetterly SM, Xu S, Levy WC, Portalupi LB, McIlvennan CK, Gurwitz JH, Johnson ES, Smith DH, Magid DJ. Use of Risk Model to Predict Death in the Next Year Among Individual Ambulatory Patients with Heart Failure. *JAMA Cardiology.* 2016.
 - b) Warraich HJ, Xu H, DeVore AD, Matsouaka R, Heidenreich PA, Bhatt DL, Hernandez AF, Yancy CW, Fonarow GC, **Allen LA**. Trends in Hospice Discharge and Relative Outcomes Among Medicare Patients in the Get With The Guidelines-Heart Failure Registry. *JAMA Cardiol.* 2018.
 - c) McIlvennan CK, Grady KL, Matlock DD, Helmkamp LJ, Abshire M, **Allen LA**. End of life for patients with left ventricular assist devices: Insights from INTERMACS. *J Heart Lung Transplant.* 2019 Apr;38(4):374-381.

Complete List of Published Work in NCBI MyBibliography:

<https://www.ncbi.nlm.nih.gov/sites/myncbi/1vES6oSIh9qAA/bibliography/42085868/public/?sort=date&direction=descending>

D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

Heart Failure Strategically Focused Network (Allen, L) 07/01/2016-06/30/2021 2.4 calendar
American Heart Association \$250,000 (Annual Direct)
EPIC-HF: Electronic health record-leveraged, Patient-centered, Intensification of Chronic care for Heart Failure (Population Project)

The major goal is to assess the ability of a tool designed to engage patients directly in medication decisions for heart failure with reduced ejection fraction to optimize prescribing.

Role: Principal Investigator

R01HL130502-01 (Grady, K) 12/01/2016-11/30/2021 0.1 calendar
NIH, National Heart Lung and Blood Institute \$105,000 (Annual Direct)
MCS A-QOL: Mechanical Circulatory Support: Measures of Adjustment and Quality of Life

The major goal of this proposed study is to develop a measurement system to assess adjustment to mechanical circulatory support (MCS) implant and health-related quality of life (HRQOL) in patients with advanced heart failure (HF) who undergo surgery.

Role: Site-PI, co-investigator

R01HL136403-01 (Matlock) 04/01/2017-03/31/2022 0.6 calendar
NIH, National Heart, Lung, and Blood Institute \$821,921 (Annual Direct)

DECIDE-ICD Trial: A Multicenter Trial of a Shared DECision Support Intervention for Patients offered implantable Cardioverter-DEfibrillators:

The major goal is to assess real-world effectiveness and implementation of patient decision aids for high-risk decisions using the implantable cardioverter-defibrillator as a model.

Role: Co-investigator

Dissemination and Implementation [1310-06998] (Matlock) 10/01/2018-09/30/2021 2.4 calendar
Patient-Centered Outcomes Research Institute (PCORI) \$486,291 (Annual Direct)

I-DECIDE-LVAD: Tailored Implementation of a Decision Support Strategy for Left Ventricular Assist Devices across All Programs in the United State

Role: Co-investigator

The major goal of this project is to disseminate the LVAD shared decision making program at as many of the 173 LVAD programs across the United States as possible and evaluate implementation.

UG3HL144163-01 (Ho) 07/01/2018-06/30/2019 0.6 calendar
NIH, National Heart, Lung, and Blood Institute \$528,606 (Annual Direct)

NUDGE: Personalized patient data and behavioral nudges to improve adherence to chronic cardiovascular medications

The major goal is to employ population level pharmacy data to identify non-adherent patients and utilize ubiquitous cell phone technology to send tailored, engaging, and motivating text messages.

Role: Co-investigator

A015658 (Dickert) 01/01/2019-12/31/2024 0.6 calendar
NIH, National Heart, Lung, and Blood Institute \$250,000 (Annual Direct)

Integrating Costs into Shared Decision Making for Heart Failure with Reduced Ejection Fraction

The major goal is to understand how cost information informs patient decision making around prescription drug decisions and adherence.

Role: Co-investigator

Big Ideas (Allen, Matlock) 07/01/2019-06/30/2020 0.0 calendar
Data-to-Value D2V \$250,000 (Annual Direct)

Values to Value in End-of-Life Heart Failure.

Pilot project to develop a P01 Project Grant Proposal on reframing end-of-life discussions in HF.

Role: Co-Principal Investigator