

# Kristen T. Pogue, PharmD, FCCP, BCCP

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## Professional Experience

<b>Clinical Pharmacist Specialist, Cardiology</b> University of Michigan Health System, Ann Arbor, MI	<b>2008 – Present</b>
<b>Director, PGY2 Cardiology Pharmacy Specialty Residency</b> University of Michigan Health System, Ann Arbor, MI	<b>2018 – Present</b>

## Teaching Experience

<b>Clinical Associate Professor</b> University of Michigan College of Pharmacy, Ann Arbor, MI	<b>Nov 2020 – Present</b>
<b>Preceptor Cardiology, Heart Failure/Transplant, CCU Rotations</b> P4, PGY-1, PGY-2 cardiology, and PGY-2 transplant University of Michigan Hospitals and Health Centers, Ann Arbor, MI	<b>Aug 2008 – Present</b>
<b>Adjunct Clinical Assistant Professor</b> University of Michigan College of Pharmacy, Ann Arbor, MI	<b>Aug 2008 – Oct 2020</b>
<b>Adjunct Clinical Instructor</b> University of Michigan College of Pharmacy – Ann Arbor, MI	<b>Jul 2006 – Aug 2008</b>

## Education and Training

<b>PGY-2 Cardiology Specialty Resident</b> University of Michigan Health System, Ann Arbor, MI	<b>2007 – 2008</b>
<b>PGY-1 Pharmacy Practice Resident</b> University of Michigan Health System, Ann Arbor, MI	<b>2006 – 2007</b>
<b>Doctor of Pharmacy</b> Wayne State University, EACPHS, Detroit, MI	<b>2002 – 2006</b>

## Licensure and Certification

<b>Registered Pharmacist, Michigan (License number 5302034329)</b>	<b>2006 – Present</b>
<b>Board Certified Pharmacotherapy Specialist (BCPS)</b> <ul style="list-style-type: none"><li>▪ Added Qualifications in Cardiology (2009 – 2021)</li></ul>	<b>2007 – 2021</b>
<b>Board Certified Cardiology Pharmacy Specialist (BCCP)</b>	<b>2019 – Present</b>

## Publications

Stettner S, Adie S, Hanigan S, Thomas M, **Pogue K**, Zimmerman C. Effect of replacing vendor QTc alerts with a custom QTc risk alert in inpatients. *Appl Clin Inform* 2022;13:19–29.

Adie SK, Bitar A, Konerman MC, Dorsch MP, Andrews CA, **Pogue K**, Park JM. Tacrolimus time in therapeutic range and long-term outcomes in heart transplant recipients. *Pharmacotherapy* 2022;42(2):106-111. doi: 10.1002/phar.2653. Epub 2021 Dec 20. PMID: 34882822.

Cordwin DJ, Berei TJ, **Pogue KT**. The role of sGC stimulators and activators in heart failure with reduced ejection fraction. *J Cardiovasc Pharmacol Ther* 2021;26(6): 593-600.

Kenny M, Clarke MM, **Pogue KT**. Overview of riociguat and its role in the treatment of pulmonary hypertension. *J Pharm Pract* 2020 Oct 21:897190020961291.

Hanigan S, Das J, **Pogue K**, Barnes GD, Dorsch MP. The real world uses of combined P-glycoprotein and moderate CYP3A4 inhibitors with rivaroxaban or apixaban increases bleeding. *J Thromb Thrombolysis* 2020;49(4):636-43.

Coons JC, **Pogue K**, Kolodziej AR, Hirsch GA, George MP. Pulmonary arterial hypertension: a pharmacotherapeutic update. *Curr Cardiol Rep* 2019;21:141.

Adie S, Bitar A, Hanigan S, **Pogue K**, Koelling T, Dorsch M. Real-world prevalence of adverse events after initiating sacubitril/valsartan compared to angiotensin converting enzyme inhibitors or angiotensin receptor blockers in systolic heart failure. *J Card Fail* 2019;25:412-3.

Rollins A, Hanigan S, **Pogue K**, Renner E, Barnes G, Dorsch M. Identifying clinical predictors of switching from direct oral anticoagulants to warfarin. *Clinical Medicine Insights: Therapeutics* 2019;11:1-6.

Smith ZR, Rangarajan K, Barrow J, Carter D, Coons JC, Dzierba AL, Falvey J, Fester KA, Guido MR, Hao D, Ou NN, **Pogue KT**, MacDonald NC. Development of best practice recommendations for the safe use of pulmonary hypertension pharmacotherapies using a modified Delphi method. *Am J Health Syst Pharm* 2019;76:153-65.

Early C, Park J, Dorsch M, **Pogue K**, Aaronson K, Hanigan S. Effect of metronidazole use on tacrolimus concentrations in transplant patients treated for *Clostridium difficile*. *Transpl Infect Dis* 2016;18:714-20.

Kaminsky BM, **Pogue KT**, Hanigan S, Koelling TM, Dorsch MP. Effects of total dose infusion of iron intravenously in patients with acute heart failure and anemia (hemoglobin < 13 g/dL). *Am J Cardiol* 2016;117:1942-6.

Macauley TE, Covell MB, **Pogue KT**. An update on the management of pulmonary arterial hypertension and the pharmacist's role. *J Pharm Pract* 2016;29:67-76.

**Pogue KT** and Walter CP. Pulmonary Arterial Hypertension. In: *Pharmacotherapy Self-Assessment Program*, 2016 Book 1. Cardiology. Lenexa, KS: American College of Clinical Pharmacy.

Dorsch MP and **Pogue KT**. Newer antithrombotic agents and their role in ACS. In: *Pharmacotherapy Self-Assessment Program*, 2013 Book 1. Cardiology and Endocrinology. Lenexa, KS: American College of Clinical Pharmacy, 2013:105-127.

Nicolasora NP, Malani PN, Riddell J, Dorsch MP, **Reaume KT**, Dyke BD, Pagani FD, Aaronson KD and Kaul DR. Opportunistic infections in heart transplant patients: The role of Thymoglobulin and corticosteroid dosing. *Infect Dis Clin Pract* 2010;18:318-23.

**Reaume KT**, Erickson SR, Dorsch MP, et al. Effects of cerivastatin withdrawal on statin persistence. *Ann Pharmacother* 2008;42:956-61.

**Reaume KT**, Regal RE, Dorsch MP. Indications for dual antiplatelet therapy with aspirin and clopidogrel: Evidence-based recommendations for use. *Ann Pharmacother* 2008;42:550-7.

Hayes ML, **Reaume KT**, Dabaja GS, Kalus JS. Practical application of nonrandomized research to patient care: a case study of nesiritide. *Pharmacotherapy* 2007;27:143-51.

## **Selected Presentations**

### **Monotherapy or Combination Therapy for PAH: Tailoring Therapy Based on Risk**

Speaker

HFSA Annual Scientific Meeting, Denver, CO – September 2021

### **Opportunities to Optimize Care in Pulmonary Arterial Hypertension**

ACPE Accredited Pharmacist CE Presenter, *Pharmacy Times* CE

ASHP Regional Chapter Meetings (4), Nation Webinar (1); Virtual Presentation – March-April 2021

### **Speaking from the Heart: Great Debates in Cardiology – Single Antithrombotic Therapy in TAVR**

Speaker

ASHP Midyear Clinical Meeting, Virtual Presentation – December 2020

### **Pulmonary Arterial Hypertension – Exploring Clinical Updates and Optimizing Treatment**

ACPE Accredited Pharmacist CE National Webinar Presenter, *Pharmacy Times* CE

Asembia Specialty Pharmacy Summit, Virtual Presentation – May 2020

### **The Aging Heart and Polypharmacy**

Cardiovascular Team Symposium Speaker

Michigan Chapter of the American College of Cardiology Annual Conference, Grand Rapids, MI – November 2019

### **Should We Have PERT-Like Teams for Anticoagulation Reversal**

Breakout Session Speaker

PERT Consortium 5<sup>th</sup> Annual Pulmonary Embolism Symposium, Boston, MA – October 2019

### **Hot Topics in Pulmonary Vascular Disease**

Scientific Session Co-Chair

American College of Cardiology Scientific Sessions, New Orleans, LA – March 2019

**Inspiration on the Pharmacotherapy of PAH: An Overview of Drug Therapy Options**

Pharmacology Pathway Scientific Session Speaker

American College of Cardiology Scientific Sessions, New Orleans, LA – March 2019

**Innovative Use of Students in Inpatient and Ambulatory Practices**

ACPE Accredited Pharmacist Continuing Education Program

MPA Annual Meeting, Detroit, MI – February 2019

**Hope or Hype for Pulmonary Arterial Hypertension (PAH): Incorporating New Treatments in Clinical Practice**

Cardiology PRN Focus Session and ACPE Accredited Pharmacist Continuing Education Program

ACCP Global Clinical Pharmacy Conference, Seattle WA – October 2018

**Novel Target-Specific Therapies in Cystic Fibrosis and Idiopathic Pulmonary Fibrosis: Moving Toward Precision Medicine Approaches for Advanced Pulmonary Disorders**

Session Chair, Pulmonary PRN Focus Session and ACPE Accredited Pharmacist Continuing Education Program

ACCP Global Clinical Pharmacy Conference, Seattle WA – October 2018

**Hot Topics and Great Debates in Pulmonary Hypertension**

Scientific Session Co-Chair

American College of Cardiology Scientific Sessions, Orlando, FL – March 2018

**Integrating Pharmacy Students into Your Practice – Making it Happen in the Inpatient Setting**

ACPE Accredited Pharmacist Continuing Education Program

University of Michigan College of Pharmacy's Preceptor Symposium, Ann Arbor, MI – May 2017

**Hot Topics and Great Debates in Pulmonary Hypertension**

Scientific Session Co-Chair

American College of Cardiology Scientific Sessions, Washington, DC – March 2017

**Demystifying and Managing Pulmonary Hypertension and RV Dysfunction: It Takes a Village**

Team Based Approach to Care Panelist

American College of Cardiology Scientific Sessions, Washington, DC – March 2017

**DOACs – Avoiding Confusion in Clinical Practice**

ACPE Accredited Pharmacist Continuing Education Program

MPA Annual Meeting, Detroit, MI – February 2016

**Advanced Therapy for Pulmonary Embolism: ECMO, Thrombolysis, Filters and Novel Anticoagulants**

Scientific Session Co-Chair

American College of Cardiology Scientific Sessions, San Diego, CA – March 2014

**Antithrombotics in Peripheral Vascular Disease**

Nursing Continuing Education Program Panelist

Take Heart Update in Cardiovascular Nursing Symposium, Ann Arbor, MI – March 2014

**ASHP Midyear, Resident Match Program and Personnel Placement Service**

Discussion session for Opportunities in Pharmacy P550 Course

University of Michigan College of Pharmacy, Ann Arbor, MI – Annually 2013-2014

**Contemporary Issues in the Management of Pulmonary Hypertension**

Cardiology PRN Focus Session and ACPE Accredited Pharmacist Continuing Education Program

ACCP Annual Meeting, Albuquerque, NM – October 2013

**Mentoring For Success: Investing in the Future of Pharmacy**

ACPE Accredited Pharmacist Continuing Education Program (2 sessions)

ASHP National Pharmacy Preceptors Conference, Washington, DC – August 2013

**Antiplatelet Agents In The Treatment of Patients with Cardiovascular Disease after an Acute Coronary Syndrome**

Clinical Pearl and ACPE Accredited Pharmacist Continuing Education Program

MPA Annual Meeting, Detroit, MI – February 2013

**Novel Oral Anticoagulants: The Elusive Pursuit of Perfection**

Clinical Pearl and ACPE Accredited Pharmacist Continuing Education Program

MSHP Annual Meeting, Grand Rapids, MI – November 2010

**Medications After Heart Transplant**

LVAD and Heart Transplant Patient Support Group

University of Michigan Health System, Ann Arbor, MI – Annually since 2009

**Approaches to Statin Intolerance**

ACPE Accredited Pharmacist Continuing Education Program

University of Michigan Health System, Ann Arbor, MI – January 2008

**Dual Antiplatelet Therapy with Aspirin and Clopidogrel**

ACPE Accredited Pharmacist Continuing Education Program

University of Michigan Health System, Ann Arbor, MI – January 2007

**Abstracts**

Chen Y, Adie SK, **Pogue KT**, Hayek SS. Identifying Predictors of Immune-Checkpoint Inhibitor Myocarditis. American College of Cardiology Pharmacist Working Group; March 2021, Virtual.

Cordwin D, Bitar A, Dorsch MP, Adie S, **Pogue K**, Walter C, Hanigan S. Effect of digoxin on right ventricular function in patients with left ventricular assist devices. American College of Cardiology Pharmacist Working Group; March 2020, Virtual.

Cordwin D, Adie S, Walter C, Aggarwal V, Dorsch M, Hanigan S, **Pogue K**. Riociguat adoption in real-world CTEPH practice. American Society of Health-Systems Pharmacists Midyear Clinical Meeting; December 2020, Las Vegas, NV.

Liu Q, Wilson A, Hanigan S, **Pogue K**, Dorsch M. Adverse events as a result of using continuous infusion of loop diuretics in acute decompensated heart failure. American Society of Health-Systems Pharmacists Midyear Clinical Meeting; December 2020, Las Vegas, NV.

Hanigan S, Das J, **Pogue K**, Dorsch M. Use of dual P-glycoprotein and moderate CYP3A4 inhibitors with rivaroxaban or apixaban increases bleeding. American College of Cardiology; March 2019, New Orleans, LA.

Leung H, Adie S, Hanigan S, Walter C, Bitar A, Dorsch MP, **Pogue K**. Association between warfarin time in therapeutic range and post-transplant outcomes in heart transplant recipients. American College of Cardiology Pharmacist Working Group; March 2019, New Orleans, LA.

Adie S, Konerman M, Dorsch M, Golbus J, **Pogue K**, Hanigan S. Impact of lipid levels and statin use on incidence of cardiac allograft vasculopathy. American College of Cardiology Pharmacist Working Group; March 2018, Orlando, FL.

Adie S, Jackson EA, Hanigan S, **Pogue K**, Dorsch M. Attitudes toward atherosclerotic cardiovascular disease risk score. American College of Cardiology Pharmacist Working Group; March 2018, Orlando, FL.

Adie S, **Pogue K**, Hanigan S, Bitar A, Dorsch M. Real-world incidence of adverse events for sacubitril/valsartan compared to ACE inhibitors or ARBs in heart failure. American Society of Health-Systems Pharmacists Midyear Clinical Meeting; December 2017, Orlando, FL.

Das J, Dorsch MP, **Pogue KT**, Hanigan S. Safety of rivaroxaban and apixaban use with dual P-glycoprotein and moderate CYP3A4 inhibitors. American Society of Health-Systems Pharmacists Midyear Clinical Meeting; December 2017, Orlando, FL.

Rollins A, Dorsch M, Hanigan S, **Pogue K**, Renner E. Identifying clinical predictors of switching from direct oral anticoagulants to warfarin. American Society of Health-Systems Pharmacists Midyear Clinical Meeting; December 2017, Orlando, FL.

Conway M, Tan J, **Pogue K**, Hanigan S, Dorsch M. Effectiveness of a pharmacist population health intervention for newer medications in cardiology. American Society of Health-Systems Pharmacists Midyear Clinical Meeting; December 2016, Anaheim, CA.

Kaminsky B, **Pogue K**, Dorsch M, Hanigan S, Koelling T. The effects of total dose infusion intravenous iron administration in patients with acute heart failure. American College of Clinical Pharmacy Global Conference on Clinical Pharmacy; October 2015, San Francisco, CA.

Sutter D, Dorsch M, **Pogue K**, Hanigan S, Bleske B. The effects of beta-blockers versus other rate-controlling agents on recurrent atrial fibrillation. American Society of Health-Systems Pharmacists Midyear Clinical Meeting; December 2014, Anaheim, CA.

Vu N, Jaynes E, Hanigan S, **Pogue K**, Dorsch M, Alaniz C. Comparison of aPTT versus anti-IIa monitoring for argatroban dosing. Society of Critical Care Medicine (SCCM) 43rd Critical Care Congress; January 2014, San Francisco, CA.

Unger KM, Dorsch MP, Hasan R, **Pogue K**. Retrospective Review of Initial Tacrolimus Dosing In Adult Heart Transplant Recipients. American Society of Health-Systems Pharmacists Midyear Clinical Meeting; December 2013, Orlando, FL.

Vu N, Jaynes E, Hanigan S, **Pogue K**, Dorsch M, Alaniz C. Comparison of aPTT versus anti-IIa monitoring for argatroban dosing. American Society of Health-Systems Pharmacists Midyear Clinical Meeting; December 2014, Orlando, FL.

Williams JB, Kurtz B, **Pogue K**, Hanigan S, Dorsch M. Effect of comprehensive anticoagulation management on attainment and maintenance of therapeutic INRs after orthopedic surgery. American Society of Health-Systems Pharmacists Midyear Clinical Meeting; December 2013, Orlando, FL.

Walter C, **Pogue KT** and Dorsch MP. Effectiveness of a post-discharge email medication education program for acute myocardial infarction patients. American Society of Health-Systems Pharmacists Midyear Clinical Meeting; December 2012, Las Vegas, NV.

Gowler A, Butler S, Dorsch MP, **Pogue KT**, Clark A, Haft J, and Cowger J. Evaluation of anticoagulation with intravenous heparin in post-operative left ventricular assist device (LVAD) patients. American Society of Health-Systems Pharmacists Midyear Clinical Meeting; December 2012, Las Vegas, NV.

**Reaume KT**, Park JM, Dorsch MP, et al. Incidence of rejection and infection in heart transplant recipients within the first year post-transplant. American Society of Health-Systems Pharmacists Midyear Clinical Meeting; December 2007, Las Vegas, NV.

**Reaume KT**, Erickson SR, Dorsch MP. Effects of the withdrawal of cerivastatin on statin adherence in patients hospitalized for acute coronary syndrome. American Society of Health-Systems Pharmacists Midyear Clinical Meeting; December 2006, Anaheim, CA.

**Reaume KT**, Blackmore CD, Kalus JS. Should the renin-angiotensin-aldosterone system be targeted in the treatment of atrial fibrillation? American Society of Health-Systems Pharmacists Midyear Clinical Meeting; December 2005, Las Vegas, NV.

## **Pharmacy Practice Initiatives**

### **Contact for safety, policies/guidelines and CPOE ordering processes (2008-present)**

- Review patient safety reports, perform necessary updates to policies and procedures, facilitate education and monitor needs for changes to order sets for parenteral prostacyclins, oral pulmonary hypertension agents, dofetilide and therapeutic anticoagulants.

### **Creation and review of EPIC order sets for inpatient conversion (2013-2014)**

- Served as pharmacy representative for review of order sets for general cardiology, heart failure/transplant, cardiac intensive care unit, interventional cardiology and electrophysiology.
- Developed drug specific order sets/panels for parenteral prostacyclins, dofetilide and therapeutic anticoagulants.
- Served as Super User for the department of pharmacy.

### **Update of adult heart transplant treatment protocols (2011-2014)**

- Lead the Adult Heart Transplant Quality Committee in facilitating discussion and development of consensus for updated protocols for immunosuppression, infection prophylaxis, osteoporosis prophylaxis and rejection treatment.

### **Conversion from aPTT to anti-Xa monitoring of unfractionated heparin (2012-2013)**

- Developed a proposal for conversion from aPTT to anti-Xa based monitoring of adult patients receiving unfractionated heparin via nomogram.
- Developed educational plan with nursing, physicians, pharmacists, phlebotomy and laboratory personnel.
- Facilitated communication, system requirements, update of policies and procedures and day-of conversion plan.

### **Epoprostenol for ischemically threatened digits (2012-2021)**

- Developed guidelines for use of epoprostenol for digital ischemia including standard dosing and titration schedule, guideline for preparation within pharmacy to differentiate from pulmonary hypertension indication, medication safety concerns and CPOE order set build.
- Transition from intermittent 5 day infusion to 30 hour continuous infusion.

### **Heart transplant patient education standardization (2012-2013)**

- Worked with nursing to standardize patient education of heart transplant recipients across the various patient care areas where they are housed.
- Created medication section for post-transplant patient education manual.

### **Inpatient Pharmacist-Assisted Anticoagulation Service (iPAS) (2009-2012)**

- Developed policies and guideline in anticipation of implementation of pharmacist dosing, monitoring, education and transitions of care for adult patients receiving therapeutic anticoagulants.
- Assisted with planning and implementation of phased implementation of the service.

## **Professional Service**

### **Board of Pharmacy Specialties Cardiology Specialty Council**

**2019 – Present**

- Chair (2022-Present)
- Vice-Chair (2021-2022)
- Member (2019-Present)

### **American College of Clinical Pharmacy**

**2006 – Present**

- Pulmonary PRN
  - Immediate past-chair (2019-2020)
  - Chair (2018-2019)
  - Founding Vice-Chair (2017-2018)
- Cardiology Practice and Research Network (PRN) Communications and Social Media Committee
  - Chair (2019-20)
  - Vice-chair (2018-2019)
  - Member (2017-2018)

### **American College of Cardiology**

**2014 – Present**

- Cardiovascular Team (CVT) Pharmacist Workgroup (Member)
- Annual Scientific Session Programming Committee
  - CVT Content Expert, PAH and VTE pathway (April 2016 – April 2019)



**Michigan Society of Health-System Pharmacists**

**2013 – 2017**

- Educational Affairs Committee (Member)

**American Heart Association**

**2009 – Present**

- Washtenaw County Heart Walk Team Captain (2009 – 2020; 2022 – Present)
- University of Michigan Heart Walk Planning Committee (2016 – 2018)
- Greater Washtenaw County Young Professionals Board (2016 – 2018)

**University of Michigan Hospitals and Health Centers**

**2006 – Present**

- Anticoagulation Management Subcommittee
  - Co-Chair (November 2015 – Present)
  - Secretary (November 2010 – November 2015)
- Medication Reconciliation Oversight Committee Member (2016-present)
- Cardiology Clinical Quality Committee
- Adult Heart Transplant Quality Improvement Committee
- Pharmacy Residency Advisory Committee
  - Co-chair (July 2012 – June 2014)
  - Member (2017 – Present)

**Professional Affiliations/Memberships**

**American Heart Association**

**2016 – Present**

**American College of Cardiology, Cardiac Care Associate**

**2012 – Present**

**International Society of Heart and Lung Transplantation**

**2010 – 2011**

**American College of Clinical Pharmacy**

**2005 – Present**

- Cardiology Practice and Research Network
- Immunology/Transplant Practice and Research Network
- Pulmonary Practice and Research Network

**Rho Chi Pharmacy Honor Society**

**Inducted 2003**

- Wayne State University EACPHS

**Reviewer**

Peer reviewer:

Pharmacotherapy (2015-Present)  
Journal of Cardiac Failure (2018-Present)  
Pulmonary Circulation (2020-Present)  
American Journal of Health-System Pharmacy (2021-Present)  
Journal of the American College of Cardiology (2021-Present)

Abstracts

ACC Annual Scientific Sessions

- Spotlight on Special Topics: Shared Decision Making (2017 – 2020)
- Pulmonary Vascular Disease: Pharmacology (2021, abstract captain)

Board Preparation/Recertification

ACCP/ASHP Critical Care Self-Assessment Program – Critical Care Cardiology, Right Ventricular Failure With or Without Pulmonary Arterial Hypertension Chapter Reviewer (2020)

ACCP/ASHP Cardiology Pharmacy Practice Preparatory and Recertification Course – Pulmonary Arterial Hypertension (2017, 2018)

**Honors and Awards**

October 2021	Fellow, American College of Clinical Pharmacy (FCCP)
May 2017	Preceptor of the Year, University of Michigan College of Pharmacy
2013-Present	Making a Difference Employee Recognition Award (8)
May 2006	Facts and Comparisons Award of Excellence in Clinical Communication