

CURRICULUM VITAE

Jerry A. Krishnan, M.D., Ph.D.

Professor of Medicine
Division of Pulmonary, Critical Care, Sleep and Allergy (College of Medicine)

Professor of Public Health
Division of Epidemiology and Biostatistics (School of Public Health)

Associate Vice Chancellor for Population Health Sciences and Executive Director
Institute for Healthcare Delivery Design, Office of the Vice Chancellor for Health Affairs

University of Illinois at Chicago
Chicago, IL

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SUMMARY OF PROFESSIONAL TRAINING AND ACTIVITIES

Dr. Krishnan is Professor, Associate Vice Chancellor for Population Health Sciences, and Executive Director of the Institute for Healthcare Delivery Design in the Office of the Vice Chancellor for Health Affairs at the University of Illinois at Chicago. He is responsible for developing, testing, and implementing healthcare interventions to improve care, outcomes, and affordability of care for populations served by UI Health System. He received a MD degree with Honors from Baylor College of Medicine in Houston, Texas, and completed a Residency in Internal Medicine and Fellowship in Pulmonary/Critical Care Medicine at the Johns Hopkins Hospital. He received a PhD in Clinical Investigation from the Johns Hopkins Bloomberg School of Public Health (Advisors: Jonathan M. Samet, MD, MSc, and Cynthia S. Rand, PhD).

Dr. Krishnan is a leader in the field of healthcare delivery science, including the methods of stakeholder engagement, clinical effectiveness, and implementation science. He is a founding investigator and Chair of the Steering Committee for the COPD Outcomes-based Network for Clinical Effectiveness and Research Translation (CONCERT), which was funded by AHRQ to develop the first, national, stakeholder-supported research agenda in comparative effectiveness research / implementation science for COPD and by NIH/NHLBI to develop a national research infrastructure to conduct comparative effectiveness research in COPD. He was also a founding investigator in PCORnet, including CAPriCORN and the COPD Patient-Powered Research Network (COPD PPRN) consortia. He serves as a Principal Investigator of studies funded by NIH/NHLBI in asthma, COPD, and sickle cell disease (AsthmaNet, PRECISE, ISAAC) and in PCORI-funded pragmatic trials on care transitions, peer-to-peer coaching for the use of supplemental oxygen equipment, and the comparative effectiveness of roflumilast and azithromycin in COPD (PARtNER, PELICAN, CHICAGO Plan, and RELIANCE). Dr. Krishnan is also a co-investigator in the ALA Airways Clinical Research Centers and the NIH/NHLBI SPIROMICS consortia.

He participates in several national and international advisory groups or committees. Examples include the European Respiratory Society / American Thoracic Society COPD Exacerbations Guidelines (past co-Chair), FDA Pulmonary and Allergy Drugs Advisory Committee (past chair), NIH/NHLBI Clinical Trials Review Committee (past chair), NIH/NCATS Special Emphasis Panel for CTsAs (ad hoc member), NIH/NHLBI EPR-4 Working Group (member), and Global Initiative for Asthma (GINA) Science Committee (member) and its Dissemination and Implementation Committee (member). Since 2003, he has taught clinical research methodology in low and middle-income countries as a faculty member in the American Thoracic Society's Methods in Epidemiologic, Clinical, and Operations Research (MECOR) program.

Dr. Krishnan has received several awards, including a Parker B. Francis Award (2001), Lifetime Achievement Award from the Behavioral Sciences / Health Services Research Assembly by the ATS (2015), Solovy Award for Advancement in COPD by the Respiratory Health Association (2017), and he was named a "Researcher to Know in Advancing Medicine in 2018" by the Illinois Science & Technology Coalition. Recent presentations include the John Butler Lecture at the University of Washington (2017), the John B. Hickam Endowed Lecture for the Central Society for Clinical and Translational Research (2018), the Thomas L. Petty Memorial Lecture

for the American Association of Respiratory Care (2018), and the Samuel J. Sills MD Distinguished Scholar for the Trudeau Society (2019).

DEMOGRAPHIC INFORMATION

Current Appointment

Professor (tenure)

Director, Breathe Chicago Center (<https://breathechicago.uic.edu/>)

Division of Pulmonary, Critical Care, Sleep, and Allergy

Department of Medicine

College of Medicine

University of Illinois at Chicago

Professor

Division of Epidemiology and Biostatistics

School of Public Health

University of Illinois at Chicago

Associate Vice Chancellor for Population Health Sciences

Director, Institute for Healthcare Delivery Design

Office of Vice Chancellor for Health Affairs

University of Illinois Hospital & Health Sciences System

University of Illinois at Chicago

Business Address

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EDUCATION AND TRAINING

<u>Degrees/Year</u>	<u>Institution</u>	<u>Discipline</u>
Bachelor of Arts (Honors)/1989	University of Texas, Austin	Biology
Doctor of Medicine (Honors)/1993	Baylor College of Medicine	Medicine
Internship and Residency/1996	Johns Hopkins University	Internal Medicine
Fellowship/2001	Johns Hopkins University	Pulmonary/ Crit. Care Medicine
Doctor of Philosophy/2005	Johns Hopkins Bloomberg School of Public Health	Clinical Investigation (PhD Advisor: J. Samet, MD, MS)

Professional Experience

<u>Dates</u>	<u>Position</u>	<u>Department</u>	<u>Institution</u>
1997-99	Intensivist	Medicine	Mercy Medical Center, Baltimore
2001-04	Instructor	Medicine	Johns Hopkins School of Medicine
2004-06	Assistant Professor	Medicine	Johns Hopkins School of Medicine
2005-06	Assistant Professor	Epidemiology	Bloomberg School of Public Health
2006-11	Associate Professor	Medicine	The University of Chicago
2007-11	Associate Professor	Health Studies	The University of Chicago
2011-	Professor	Medicine	University of Illinois at Chicago
2011-16	Professor	Epi / Biostat	University of Illinois at Chicago
2011-15	Associate VP for Population Health Sciences	Office of VP for Health Affairs	University of Illinois Hospital & Health Sciences System
2012-	Physician	Medicine	Jesse Brown VA, Chicago
2016-	Associate VC for Population Health	Office of VC for Health Affairs	University of Illinois Hospital & Health Sciences System
2018-	Exec. Director, Institute for Healthcare Delivery Design	Population Health Sciences Office VC Health Affairs	University of Illinois Hospital & Health Sciences System

ADMINISTRATIVE ACTIVITIES

The mission of the UI Health is to leverage its unique combination of clinical care, health sciences education and biomedical research to provide high quality, cost effective healthcare for the people of the State of Illinois and to deliver “personalized health” in pursuit of the elimination of racial and ethnic health disparities. The Office of the Vice Chancellor for Health Affairs (previously Vice President for Health Affairs, 2011-2015) is comprised of seven functional areas: Community Based Practice, Enterprise Strategy, Finance, Hospital Operations, Population Health Sciences, Professional Practice, and Quality and Patient Safety. The Population Health Sciences program supports the mission of UI Health by providing strategic, technical, and operational support for developing, testing, and implementing population-level programs designed to eliminate racial and ethnic health disparities. Listed below are initiatives led by Dr. Krishnan, Associate Vice Chancellor for Population Health Sciences.

- **Chair, Search Committees (Summer / Fall 2012)**

In collaboration with a national executive search firm, led successful searches for the Associate Vice President for Community Based Practice, Associate Vice President for Hospital Operations, Associate Vice President for Professional Practice, and Associate Vice President for Quality and Patient Safety.

- **Integration of the Englewood Health Center into Mile Square (July 2012)**

Led a successful application to the City of Chicago Community Health Centers RFP #11-01 FQHC resulting in the University of Illinois Hospital & Health Sciences System-Mile Square Health Center (UI Health-MSHC) being named, in spring 2012, as the new care provider for the Englewood Neighborhood Health Center. We were awarded a two-year, \$525,000/year, contract with the City of Chicago to provide care for the uninsured. The UI Health-MSHC at Englewood extends the reach of our health system to population s in need for high quality healthcare.

- **Implementation of the Warfarin Genetics Service (August 2012)**

UI Health is the first hospital in the nation to implement a warfarin pharmacogenetics service to provide genotype-guided warfarin dosing and anticoagulation assistance for all patients newly starting warfarin while hospitalized at UI Health (Nutescu et al. *Pharmacotherapy* 2013). This interdisciplinary consult service operates seven days a week and involves faculty from the Colleges of Pharmacy, Medicine, and Molecular Pathology. The new service has reduced time to therapeutic range and a decreased number of patients at risk for thrombotic and hemorrhagic complications.

- **UI Health Innovative Health Care Strategy Award (April 2013)**

Implemented a program to solicit, review, prioritize, and fund faculty-led programs that test new healthcare models within our health system. The explicit objective of the Innovative Health Care Strategy Awards is to: 1) improve the health of patients served by UI Health; 2) serve as the basis for conducting inter-professional education and training activities; and 3) develop expertise and capacity for our health system to implement value-based care. Proposal development awards to date:

1) Patient-centered medical home for patients with kidney disease (PI: Denise Hynes, PhD, MPH, RN; proposal was subsequently awarded a \$2 million PCORI contract – “Bringing Care to Patients: A Patient-Centered Medical Home for Kidney Disease”);

2) Care coordination model for high-risk patients with chronic conditions (PI: Cheryl Schraeder, RN, PhD);

3) Preventative care and care coordination for high-risk children (PI: Benjamin Van Voorhees, MD, MPH; proposal was subsequently awarded a \$19.6 million CMS Health Care Innovation Award – “University of Illinois CHECK (Coordination of Healthcare for Complex Kids)”);

4) Emergency Patient Interdisciplinary Care Coordination for Frequent ER Visitors (EPIC; PI: Terry Vanden Hoek, MD). In April 2013, UI Health initiated a demonstration project based on Dr. Vanden Hoek’s EPIC project, a \$1.5 million 3-year program. Developed by an inter-professional team of clinicians and researchers from the Colleges of Medicine, Nursing, Pharmacy, and Social Work, EPIC will use an interdisciplinary care coordination model to address both the medical and psychosocial complications faced by patients who are frequent visitors to the emergency department.

▪ **University of Illinois Community Assessment of Health Needs (UI-Can; June 2013)**

In collaboration with the Office of Policy Health Policy and Programs, led the development of the Affordable Care Act-required community health needs assessment report for UI Health. A community health needs assessment is a new requirement for all 501(c)(3) hospitals to maintain their tax-exempt status.

http://hospital.uillinois.edu/emails/about/UI_Health_CHNA_FINAL.pdf

▪ **PATient Navigator to rEduce Readmissions (PARtNER; October 2013 to present)**

The Patient-Centered Outcomes Research Institute (PCORI) awarded a \$2M research contract to UI Health to study the effectiveness of Patient Navigators to reduce hospital readmissions. This research project focuses on developing and testing a program that combines proactive lay patient advocates from the community in which the patient lives (community health worker, CHW) together with a peer-led telephone information line to improve patient experience and reduce hospital readmissions. The development of PARtNER involves collaboration between individuals in multiple UI departments and from several institutions (including the Society of Hospital Medicine, COPD Foundation, Northwestern University, University of Illinois – Urbana-Champaign, Veterans Administration, University of Illinois Sickle Cell Patient Council, Academy Health, National Jewish Health, Howard University, Social Work Policy Institute, Baystate Medical Center, Olmsted Medical Center, University of California at San Francisco, Respiratory Health Association of Metropolitan Chicago, Mended Hearts).

▪ **PEer-Led O2 Infoline for patients and CAregivers (PELICAN; November 2013 to present)**

PCORI awarded a \$2M research contract to UI Health to develop a program to improve the use of supplemental oxygen in patients with chronic obstructive pulmonary disease (COPD). Six to eight centers in the U.S. will participate in a multicenter pragmatic trial to test a phone-based educational curriculum delivered by peer coaches. This project involves collaboration with

National Jewish Health, the University of California-Los Angeles/Los Angeles BioMedical Research Institute, AlphaNet, the COPD Foundation, Pulmonary Hypertension Association, Coalition for Pulmonary Fibrosis, Respiratory Health Association, Apria Healthcare, and Invacare.

- **Coordinated Healthcare Interventions for Childhood Asthma Gaps in Outcomes (CHICAGO Plan; March 2014 to present)**

A collaborative led by UI Health was awarded a \$4 million, 3-year contract from PCORI to test both provider- and patient-level interventions to improve clinically meaningful outcomes in children presenting to the emergency department with uncontrolled asthma. The broad-based CHICAGO Trial collaborative includes health care institutions (Sinai Health System, Ann & Robert H. Lurie Children's Hospital of Chicago, University of Chicago Medicine, Rush University Medical Center, John H. Stroger, Jr. Hospital of Cook County, NorthShore University Health System, Northwestern University), advocacy groups (Respiratory Health Association, Chicago Asthma Consortium), the City of Chicago Department of Public Health, patient-centered outcomes researchers (Illinois Institute of Technology Institute of Design, Illinois Emergency Department Asthma Surveillance Program), and the NIH/NCATS Clinical and Translational Science Award (CTSA) Chicago consortium.

- **Chicago Area Patient Centered Clinical Outcomes Research Network (CAPriCORN; January 2014)**

The University of Illinois Hospital & Health Sciences System is part of a coalition of 20 health and hospital organizations that has been awarded an 18-month, \$7 million PCORI award to establish a clinical data research network. The coalition will be part of a larger national network that will model how health care institutions in complex urban settings can overcome barriers of competition, care fragmentation and limited resources to develop, test and implement strategies to improve care for diverse populations and reduce health disparities.

- **Design and conduct of the Community Health Needs Assessments (CHNAs) for the University of Illinois Hospital & Health Sciences System; 2013, 2016, and 2019 (planned)**

The implementation of the Affordable Care Act (ACA) will change how health care is delivered in the U.S. The ACA is stimulating health systems to transition from a volume-based reimbursement model (higher volume, higher revenue) to a value-based model (higher quality care and better outcomes, higher revenue). Implicit in this transformation is the necessity for health systems to understand the needs of the patients they serve. UI Health has undertaken an ambitious and comprehensive evaluation of the health-related needs of the population we serve, which will inform the development and test the implementation of future health care models. For the 2016 CHNA, we conducted the University of Illinois Survey on Neighborhood (UNISON) Health. UNISON Health employed a stratified population sampling strategy to examine patient-reported and biometric data across 24 community areas served by UI Health. The design and content of UNISON Health were developed in collaboration with all seven Health Sciences colleges, internal and external community advisory boards, and the UIC Survey Research Laboratory.

- **Achieving Patient-Centered Care and Optimized Health In Care Transitions by Evaluating the Value of Experience (Project ACHIEVE; January 2015 to 2017)**

The University of Illinois Hospital & Health Sciences System is part of a collaboration of nationally recognized leaders in health care and research methods, partnering with patients and caregivers to evaluate the effectiveness of current efforts at improving care transitions and develop recommendations on best practices for patient-centered care transitions and guidance for spreading them across the U.S. This partnership has been funded by a 3-year award from PCORI.

▪ **Director, Clinical Research Center, Center for Clinical and Translational Science (2012- 2014; NIH/NCATS UL1TR000050)**

The Center for Clinical and Translational Science has three overarching mandates: education, research support, and facilitation of novel and collaborative approaches to clinical and translational research. The CCTS has five research cores, including the Clinical Research Core (CRC), directed by Dr. Krishnan. The CRC provides research infrastructure (trained personnel, equipment, and space) to facilitate clinical and translational research studies. Key accomplishments include: 1) expansion of ambulatory research space for study visits (10 to 23 clinic rooms); 2) successful implementation of research facilitation “without walls” for research nurse / research coordinator services, including for inpatient research; 3) two-fold increase in the total number of visits over the past 5 years and double the number of research protocols; and 4) expansion of research staff to include a bilingual workforce (English and Spanish) to meet the recruitment and retention needs of investigators.

▪ **Member, Search Committee for the Chancellor and Vice President, University of Illinois at Chicago (2014).**

Represented the Office of the Vice President for Health Affairs / University of Illinois Hospital & Health Sciences System. The Chancellor and Vice President reports directly to the President of the University of Illinois and, under the direction of the President, serves as the chief executive officer for the Chicago campus.

<http://www.uillinois.edu/cms/one.aspx?portalId=1117531&pageId=1516840>

▪ **Chair, Health Affairs Transitions Steering Committee, University of Illinois at Chicago (2015).**

Appointed by the Vice President for Health Affairs and Chancellor of the University of Illinois at Chicago to consider the current and future structure of the Vice President/Vice Chancellor of Health Affairs Office, develop an operational plan to handle transitional matters, and identify considerations that need further discussions.

▪ **Chair, Selection committee, George H. Miller Memorial Fund Health Science Student Research Awards (2015)**

Appointed by the Vice President for Health Affairs to develop funding opportunities that promote cross-college mentored research featuring inter-professional models of care. Three 1-year research efforts were awarded in 2015:

1) Improving inpatient rounding practices (College of Applied Health Sciences and College of Medicine)

- Student awardees: Joanna Jaros and Mary Buzzard
- Faculty mentors: Karl Kochendorfer, Joanna Abraham

- 2) Reducing out-of-hospital complications in adults with sickle cell disease (College of Medicine and College of Nursing)
 - Student awardees: Frank Zdravec, Keesha Roach
 - Faculty mentors: Robert Molokie, Crystal Patil
- 3) Increasing access to long-acting reversible contraceptive methods in school-based health centers (College of Medicine and School of Public Health)
 - Student awardees: Molly Murphy, Katrina Stumbras
 - Faculty mentors: Sadia Haider, Kristin Rankin

▪ **Improving Sickle cell care in Adolescents & Adults in Chicago (ISAAC; August 2016 to present)**

The ISAAC program is a collaboration between UI Health and the Sinai Health System, Chicago, IL, and is funded by the National Heart, Lung, and Blood Institute; Dr. Victor Gordeuk is the contact Principal Investigator for this program. Sickle cell disease (SCD) is an inherited condition that causes pain and organ damage and shortens life. While best practices for managing SCD are available, there are several gaps in the implementation of evidence-based care by clinicians and by patients. The ISAAC project will improve the health and lives of patients with SCD by promoting longitudinal care, use of hydroxyurea, and achieving adequate control of pain during sickle cell crises.

▪ **Chair, UI Health Information Repository Committee (2016)**

Appointed by the Vice Chancellor for Health Affairs. The charge was to 1) identify individuals and units requiring access to health-related information for business and research functions; 2) describe the qualities required for a functional, multi-use health data warehouse; 3) identify current resources available to support development of a data warehouse; 4) assess current resources; and 5) develop a plan to ensure oversight of the use of individual health information so that it is coordinated, provides institution-wide secure HIPAA-compliant environments, recognizes varied needs of clinicians, health care administrators and researchers, and does not unnecessarily burden investigators.

▪ **Member, Search committee, Dean of the School of Public Health, University of Illinois at Chicago (December 2016 to June 2017)**

Appointed by the Vice Chancellor for Health Affairs.

▪ **Member, Search committee, Vice Chancellor for Research, University of Illinois at Chicago (November 2017 to May 2018)**

Appointed by the Chancellor of the University of Illinois at Chicago.

▪ **Discovery Partners Institute, University of Illinois**

- Academic Executive Committee. Appointed by the Chancellor of the University of Illinois at Chicago, November 2017 to present.
- Search Committee, Managing Director. Appointed by the Interim Director, Discovery Partners Institute, February 2019 to present.

▪ **Director, Institute for Healthcare Delivery Design, Office of the Vice Chancellor for Health Affairs, University of Illinois (November 2018 to present)**

The Institute for Healthcare Delivery Design is a resource to accelerate the integration and application of human-centered design methods to assist delivery systems during the transformation from fee-for-service to value-based models of care. The Institute employs a human-centered population sciences framework in healthcare delivery design to identify, understand, and address the complex and diverse needs of patients, caregivers, clinicians, and other decision makers in healthcare contexts.

RESEARCH ACTIVITIES

1. Peer-reviewed original research articles

Asthma or chronic obstructive pulmonary disease:

1. **Krishnan JA**, Diette G, Skinner E, Clark B, Steinwachs D, Wu A. Race and sex differences in the consistency of care with national asthma guidelines in managed care organizations. *Arch Intern Med* 2001; 161:1660-1668. PMID: 11434799.
2. Diette GB, **Krishnan JA**, Dominici F, Haponik E, Skinner EA, Steinwachs D, Wu AW. Asthma in older patients: Factors associated with hospitalization. *Arch Intern Med* 2002; 162:1123-1132. PMID: 12020182.
3. Wolfenden LL, Diette GB, **Krishnan JA**, Skinner EA, Steinwachs DM, Wu AW. Lower physician estimate of underlying asthma severity leads to undertreatment. *Arch Intern Med* 2003; 163:231-236. PMID: 12546615.
4. **Krishnan JA**, Collier MC, McCoy JV, Chanmugam A, Rand CS. Nebulized β_2 -agonist use in high-risk inner-city adults with asthma. *J Asthma* 2003;40:367-373. PMID: 12870832.
5. Patil SP, **Krishnan JA**, Lechtzin N, Diette GB. In-hospital mortality following acute exacerbations of chronic obstructive pulmonary disease. *Arch Intern Med* 2003 May 26;163:1180-1186. PMID: 12767954.
6. Bartlett SJ, **Krishnan JA**, Riekert K, Butz A, Rand CS. Maternal depression and adherence to therapy in inner-city children with asthma. *Pediatrics* 2004; 113: 229-237. PMID:14754931.
7. Diette GB, **Krishnan JA**, Wolfenden LL, Skinner EA, Steinwachs DM, Wu AW. Relationship of physician estimate of underlying asthma severity to asthma outcomes. *Ann Allergy Asthma Immunol* 2004; 93: 546-552. PMID: 15609763.
8. Okelo, SO, Wu AW, **Krishnan JA**, Rand CS, Skinner EA, Diette GB. Emotional quality of life and outcomes in adolescents with asthma. *J Pediatr* 2004; 145: 523-529. PMID: 15480379.
9. **Krishnan JA**, Riekert KA, McCoy JV, Stewart DY, Schmidt SL, Chanmugam A, Hill P, Rand CS. Corticosteroid use after hospital discharge among high-risk adults with asthma. *Am J Respir Crit Care Med* 2004; 170: 1281-1285. PMID: 15374842.
10. Breyse PN, Buckley TJ, Willams DA, Beck CM, Jo S-J, Merriman B, Kanchanaraksa S, Swartz LJ, Callahan KA, Butz AM, Rand CS, Diette GB, **Krishnan JA**, Mosley AM, Curtin-Brosnan J, Eggleston PA. Indoor exposures to air pollutants and allergens in the

- homes of asthmatic children in inner-city Baltimore. *Environ Res* 2005; 98: 167-176. PMID: 15820722.
11. Paasche-Orlow MK, Riekert KA, Bilderback A, Chanmugam A, Hill P, Rand CS, Brancati FL, **Krishnan JA**. Tailored education may reduce health literacy disparities in asthma self-management. *Am J Respir Crit Care Med* 2005; 172: 980-986. PMID: 16081544.
 12. Eggleston PA, Butz AM, Rand C, Curtin-Brosnan J, Kanchanaraksa S, Swartz L, Breyse P, Buckley T, Diette G, Merriman B, **Krishnan JA**. Home environmental intervention in inner-city asthma: a randomized controlled clinical trial. *Ann Allergy Asthma Immunol* 2005; 95: 518-524. PMID: 16400889.
 13. Machado M-CL, **Krishnan JA**, Buist SA, Bilderback AL, Fazolo GP, Santarosa MG, Queiroga F, Jr, Vollmer WM. Sex differences in survival of oxygen-dependent patients with chronic obstructive pulmonary disease. *Am J Respir Crit Care Med* 2006; 174: 524-529. PMID: 16778158.
 14. Hansel NN, Eggleston PA, **Krishnan JA**, Brosnan-Curtin J, Rand CS, Diette GB. Asthma-related health status determinants of environmental control practices for inner-city pre-school children. *Ann Allergy Asthma Immunol* 2006; 97: 409-417. PMID: 17042150.
 15. Smith A, **Krishnan JA**, Bilderback AL, Rand CS, Bartlett SJ. Depression and adherence to asthma therapy after hospital discharge. *Chest* 2006; 130: 1034-1038. PMID: 17035435.
 16. Matsui EC, Eggleston PA, Buckley TJ, **Krishnan JA**, Breyse P, Diette GB. Household mouse allergen exposure is associated with asthma morbidity in inner-city pre-school children. *Ann Allergy Asthma Immunol* 2006; 97: 514-520.
 17. Krishnan V, Diette GB, Rand CS, Merriman B, Hansel N, Bilderback AL, **Krishnan JA**. Mortality in patients hospitalized for asthma exacerbations in the United States. *Am J Respir Crit Care Med* 2006; 174: 633-638. PMID: 16778163.
 18. Hansel NN, Rand CS, **Krishnan J**, Okelo S, Breyse P, Eggleston P, Matsui E, Diette GB. Influence of caregiver's health beliefs and experiences on their use of environmental control practices in homes of pre-school children with asthma. *Pediatric Asthma, Allergy and Immunology*. Winter 2006, 19: 231-242.
 19. Diette GB, Patino CM, Merriman B, Paulin L, Riekert K, Okelo S, Thompson K, **Krishnan JA**, Quartey R, Perez-Williams D, Rand C. Patient factors that physicians use to assign asthma treatment. *Arch Int Med* 2007; 167: 1360-1366. PMID: 17620528.
 20. Okelo SO, Wu AW, **Krishnan JA**, Diette GB. Are physician estimates of asthma severity less accurate in black than in white patients? *J Gen Intern Med* 2007; 22: 976-981. PMID: 17453263.
 21. Okelo SO, Patino CM, Hansel NN, Eggleston PA, Curtin-Brosnan J, **Krishnan JA**, Rand CS, Diette GB. Use of asthma specialist care in high-risk inner-city black children. *Pediatr Asthma Allergy Immunol* 2007; 20: 255-262.

22. Patino CM, Okelo SO, Rand CS, Riekert KA, **Krishnan JA**, Thompson K, Quartey RI, Perez-Williams D, Bilderback A, Merriman B, Paulin L, Hansel N, Diette GB. The Asthma Control and Communication Instrument: a clinical tool developed for ethnically diverse populations. *J Allergy Clin Immunol* 2008; 122: 936-943. PMID: 18848721.
23. Davis SQ, Permutt Z, Permutt S, Naureckas ET, Bilderback A, Rand CS, **Krishnan JA**. Perception of airflow obstruction in patients hospitalized with acute asthma. *Ann Allergy Asthma Immunol* 2009; 102: 455-461. PMID: 19558002.

Manuscripts #24 to 32 are based on a Joint Task Force Report from the American Academy of Allergy Asthma and Immunology [Co-chair: Michael Schatz, MD, MS; Past President], the American Academy of Emergency Medicine [Co-chair: Amin Antoine Nabih Kazzi, MD; Past President] and the American Thoracic Society [Co-chair, Jerry A. Krishnan, MD, PhD; Chair, Documents Development and Implementation Committee]

24. Schatz M, Kazzi AA, Brenner B, Camargo CA Jr, Corbridge T, **Krishnan JA**, Nowak R, Rachelefsky G. Joint Task Force Report: supplemental recommendations for the management and follow-up of asthma exacerbations. Introduction. *J Allergy Clin Immunol* 2009; 124 (2 Suppl): S1-4. PMID: 19647130.
25. Schatz M, Kazzi AA, Brenner B, Camargo CA Jr, Corbridge T, **Krishnan JA**, Nowak R, Rachelefsky G. Joint Task Force Report: supplemental recommendations for the management and follow-up of asthma exacerbations. Introduction. *Proc Am Thorac Soc* 2009; 6: 353-356. [**Simultaneous publication with #24**]. PMID: 19647130.
26. Schatz M, Kazzi AA, Brenner B, Camargo CA Jr, Corbridge T, **Krishnan JA**, Nowak R, Rachelefsky G. Joint Task Force Report: supplemental recommendations for the management and follow-up of asthma exacerbations. Introduction. *J Em Medicine* 2009; 37 (Suppl 1): S1-5. [**Simultaneous publication with #24**]. PMID: 19647130.
27. **Krishnan JA**, Nowak R, Davis SQ, Schatz M. Anti-inflammatory treatment after discharge home from the emergency department in adults with acute asthma. *J Allergy Clin Immunol* 2009; 124 (2 Suppl): S29-S34. PMID: 19647133.
28. **Krishnan JA**, Nowak R, Davis SQ, Schatz M. Anti-inflammatory treatment after discharge home from the emergency department in adults with acute asthma. *Proc Am Thorac Soc* 2009; 6: 380-385. [**Simultaneous publication with #27**]. PMID: 19675348.
29. **Krishnan JA**, Nowak R, Davis SQ, Schatz M. Anti-inflammatory treatment after discharge home from the emergency department in adults with acute asthma. *J Em Medicine* 2009; 37 (Suppl 1): S35-41. [**Simultaneous publication with #27**]. PMID: 19683663.
30. Schatz M, Rachelefsky G, **Krishnan JA**. Follow-up after acute asthma episodes: what improves future outcomes. *J Allergy Clin Immunol* 2009; 124 (2 Suppl): S35-42. PMID: 19647134.
31. Schatz M, Rachelefsky G, **Krishnan JA**. Follow-up after acute asthma episodes: what improves future outcomes. *Proc Am Thorac Soc* 2009; 6: 386-393. [**Simultaneous publication with #30**]. PMID: 19675349.

32. Schatz M, Rachelefsky G, **Krishnan JA**. Follow-up after acute asthma episodes: what improves future outcomes. *J Em Medicine* 2009; 37 (Suppl 1): S42-50. [**Simultaneous publication with #30**]. PMID: 19683664.
33. Machado MCL, Vollmer WM, Togiero SM, Bilderback AL, Oliveira MVC, Leitao FS, Queiroga-Jr F, Lorenzi-Filho G, **Krishnan JA**. CPAP treatment and survival of moderate-to-severe OSAS and hypoxemic COPD. *Eur Respir J* 2010; 35: 132-137. PMID: 19574323
34. Lee TA, Wilke C, Joo M, Stroupe T, **Krishnan JA**, Schumock G, Pickard SA. Outcomes associated with tiotropium use in patients with chronic obstructive pulmonary disease. *Arch Int Med* 2009; 169: 1403-1410. PMID: 19667304.
Also appears as: Lee TA, Wilke C, Joo M, et al. Outcomes associated with tiotropium use in chronic obstructive pulmonary disease patients. Effective Health Care Research Report No. 15. (Prepared by Chicago-Area DEcIDE Center Under Contract No. HSA29020050038I TO4). Rockville, MD: Agency for Healthcare Research and Quality. December 2009. Available at: <http://effectivehealthcare.ahrq.gov/reports/final.cfm>.
35. **Krishnan JA**, Davis SQ, Naureckas ET, Gibson P, Rowe BH. An umbrella review: Corticosteroid therapy for adults with acute asthma. *Am J Med* 2009; 122: 977-91. PMID: 19854321.
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Invited review articles

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175. Nyenhuis SM, **Krishnan JA**. Stepping Up Asthma Therapy in the "Real World" *Ann Am Thorac Soc*. 2015; 12: 789-90. PMID: 26075550
176. Erwin K, **Krishnan JA**. Using design methods to provide the care that people want and need. *J Comp Eff Res*. 2016; 5:13-5. PMID: 26698828
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178. Beuther DA, **Krishnan JA**. Finding asthma: building a foundation for care and delivery. *Am J Respir Crit Care Med* 2017; 196: 401-402. PMID: 28475356
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Book chapters

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Letters

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192. Prieto-Centurion V, **Krishnan JA**. Access to Supplemental Oxygen Therapy: A Crisis. *Ann Am Thorac Soc*. 2018; 15: 893-894. PMID 29688756
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Other

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195. Diette GB, **Krishnan JA**, Lechtzin N, Belcastro D. Evidence report on chronic obstructive pulmonary disease: treatment and risks. Submitted to *CardioContinuum*, September, 1999.
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Under review

1. Arjomandi, M. et al. Radiographic Lung Volumes Predict Progression to COPD in Smokers with Preserved Spirometry in SPIROMICS (Eur R Journal).

In preparation

1. Tan AYT, Vines DL, Prieto-Centurion V, Krishnan JA, Nguyen H, Kallstrom TJ. Evaluating the need for home oxygen in patients with COPD prior to hospital discharge: the U.S. RIsOTTO Study.

Sponsored research: Current

Care delivery science:

1. **U01HL134042 (Multi PI, Gordeuk, Hirschtick, Hsu, Krishnan) 8/5/2016-6/30/2022**
NIH/NHLBI \$4,403,497 (entire award)

Improving Sickle cell care in Adolescents & Adults in Chicago (ISAAC)

To conduct an implementation trial evaluating interventions using community health workers and technology to promote longitudinal care, increase use of hydroxyurea, and better treatment for sickle-cell related pain.

2. **PCS-1504-30430 (PI, Krishnan) 1/1/2017 to 12/15/2018 (Phase 1)**
Patient Centered Outcomes Research Institute Phase 1 contract \$899,822 (entire contract)
Roflumilast or Azithromycin to Prevent COPD Exacerbations (RELIANCE) Phase 2 contract \$13,712,392 (pending)

To conduct a pragmatic trial to evaluate chronic roflumilast versus azithromycin therapy in high-risk patients with COPD, with a primary outcome of hospitalization or death. Secondary outcomes are patient-reported measures of physical function, problems with sleep, fatigue, anxiety, and ability to perform usual activities, measured using the NIH-PROMIS instruments. Participants will be followed up for a period of 6 months (minimum) to 36 months (maximum).

3. **AS-1307-05420 (PI, Krishnan) 3/1/2014 to 10/31/2018**
Patient Centered Outcomes Research Institute \$3,999,823 (entire contract)
Coordinated Healthcare Interventions for Childhood Asthma Gaps in Outcomes (CHICAGO) Trial \$1,272,216 (UI, entire contract)

To test both provider- and patient-level interventions to improve clinically meaningful outcomes in a minority pediatric ED population with uncontrolled asthma.

Discovery science:

4. U10HL098096 (PIs, Smith/Solway/ Krishnan/Pongracic)

NIH/NHLBI **9/30/09-6/30/19**

Chicago Metropolitan AsthmaNet \$160,611 (Core)

Consortium (CMAC) \$519,091 (Protocol startup)

The CMAC aims to 1) address important clinical management questions in asthma through trials that will help identify optimal therapies for a variety of asthma phenotypes, genotypes, and racial and ethnic backgrounds; 2) conduct small studies designed to advance novel asthma therapies and to investigate the mechanistic basis for interventions in asthma clinical trials; and 3) inform future clinical practice and updates to federal guidelines.

Roles: Multiple Principal Investigator and Core leader (Clinical Research Skills Development Core)

5. U01HL137880 (Woodruff)

09/15/2017-05/31/2022

NIH/NHLBI

SPIROMICS II: Biological Underpinnings of COPD Heterogeneity and Progression.

To identify targeted approaches to COPD treatment and disease modification that are based on the heterogeneous biological pathways that underlie COPD progression and exacerbations.

Role: Site Principal Investigator

6. U19AR069526 (Gershon, Paller)

09/30/16-09/29/19

NIH/NIAMS

AAD-PEPR: Asthma and Atopic Dermatitis Validation of PROMIS Pediatric Instruments.

Seeks to validate patient-reported outcomes (PRO) measures in pediatric asthma enrolled in multiple trials.

Role: Site Principal Investigator

7. U10HL098115 (Lazarus)

09/30/09-06/30/18

NIH/NHLBI

Steroids In Eosinophil Negative Asthma (SIENA)

Clinical trial to assess whether asthmatic patients who are persistently non-eosinophilic differ in their benefit from inhaled corticosteroid treatment compared to patients who are not persistently non-eosinophilic. Conducted through the NHLBI AsthmaNet consortium.

Role: Site Principal Investigator

8. ILCHI 60043659 (PI, Smith; UIC site PI, Krishnan)

7/1/2016 to 6/30/2019

American Lung Association

\$21,231 (total core costs)

Illinois Consortium for the ALA-Airways Clinical Research Centers

To conduct clinical trials in asthma and COPD as part of the Airway Clinical Research Centers network.

9. 1UG1HL139118 (PI, Denlinger, Jarjour, Krishnan)

09/23/2017-08/31/2023

NIH/NHLBI

The Great Lakes PrecISE Partnership

To develop and evaluate a personalized medicine approach for the treatment of severe asthma using sequential adaptive clinical efficacy trials.

Role: Co-investigator and Site PI, and Chair of Communications Committee

10. U10HL128954 (Au, Ma) 08/01/2016-07/31/2020
NIH/NHLBI

Intervention Study in Overweight Patients with COPD (INSIGHT).

Pragmatic trial to determine if a program to promote modest weight loss and increased physical activity will improve COPD symptoms for those with a high body mass index. INSIGHT is conducted through the Network Management Core (NEMO)/Pulmonary Trials Cooperative.

Role: Site Principal Investigator

11. 085139 (Barr) 08/31/2016-05/31/2022
COPD Foundation

Subpopulations and intermediate Outcome Measures in COPD Study (SPIROMICS-Bridge).

Supports the prospective collection and analysis of phenotypic, biomarker, genetic, genomic, and clinical data from subjects with COPD to identify subpopulations and intermediate outcome measures.

Role: Site Principal Investigator

12. U01HL128951 (Wise) 02/01/2017-07/31/2019
NIH/NHLBI

Losartan Effects on Emphysema Progression Trial (LEEP).

Clinical trial to determine if losartan decreases the progression of COPD. LEEP is conducted through the NHLBI NEMO/PTC framework.

Role: Site Principal Investigator

Funded Extramural Sponsorship: Previous

13. IH-12-11-4365 (PI, Krishnan) 10/1/2013 to 05/18/2018
Patient Centered Outcomes Research Institute \$1,973,706 (entire contract)
PATient Navigator to rEduce Readmissions \$1,730,727 (UI, entire contract)
(PArTNER)

To develop and test a community health worker and peer-led telephone line intervention to improve patients experience and outcomes after hospital discharge at a minority serving institution. We will conduct a pragmatic clinical trial in collaboration with patients, patient advocacy groups, and other stakeholders.

14. CE-1304-6490 (PI, Krishnan) 11/1/2013 to 10/31/2017
Patient Centered Outcomes Research Institute \$1,981,913 (entire contract)
Comparative effectiveness of a PEer-Led O2 \$1,068,714 (UI, entire contract)
Infoline for patients and CAregivers (PELICAN)

To develop and test a peer-led telephone line intervention to improve adherence to oxygen therapy in patients with COPD recently discharged from the hospital. We will evaluate the comparative effectiveness of proactive vs. reactive PELICAN interventions vs. usual care on adherence to O2, assessed utilizing novel methodology, in a pragmatic clinical trial in

collaboration with patients/caregivers, advocacy groups, a national O2 supplier, and other stakeholders.

15. UG3 OD023189 (PI, Greenland, Winn, Daviglus, Ahsan) 7/6/2016 to 6/30/2021
Office of the Director, NIH \$5,301,304 (total, year 1)

Illinois Precision Medicine Consortium

The objective is to serve as a Precision Medicine Initiative (PMI) Cohort Program HPO Enrollment Center. IPMC comprises 3 major Chicago-area academic institutions (Northwestern University, University of Chicago, and the University of Illinois at Chicago) and their healthcare provider organization (HPO) partners across Illinois.

Role: Co-investigator

16. TC-1403-14049 (PI, Williams) 1/1/2015 to 2/28/2017
Patient Centered Outcomes Research Institute \$14,996,291 (entire contract)

Project ACHIEVE (Achieving Patient-Centered Care and Optimized Health In Care Transitions by Evaluating the Value of Evidence)

To identify which transitional care services and outcomes matter most to patients and caregivers, evaluate the comparative effectiveness of ongoing multi-component efforts at improving care transitions, and develop recommendations on best practices for the design, implementation and large-scale national spread of highly effective, patient-centered care transition programs.

Role: Co-investigator (co-chair of stakeholder engagement activities)

17. U34-HL130787 (McMahon (contact), Gutierrez, Ignoffo, Krishnan, Martin)
NIH/NHLBI 9/11/2015 to 8/31/2016

Coordinated Healthcare Interventions for Childhood Asthma Gaps in Outcomes (CHICAGO) Collaboration II
\$288,144 direct (\$322,385 total)

To develop, test, and implement a sustainable model of care that successfully reduces asthma disparities in high-risk minority children in Chicago. By the end of the U34 project period, the CHICAGO Collaboration II team will be prepared to apply for the companion U01 application (HL-17-001) to support the clinical trial, assess sustainability, and define the best practices for implementation.

18. HHSN 268200900018C 04/1/10-07/31/16
NIH/NHLBI (site PI: Krishnan; subcontract to Univ. Utah, R. Kanner) \$235,930

Subpopulations and intermediate outcome measures in COPD study (SPIROMICS)

This is a multi-center study to identify subpopulations and intermediate outcome measures for chronic obstructive pulmonary disease (COPD). SPIROMICS is collecting and analyzing phenotypic, biomarker, genetic, genomic, and clinical data from subjects with and without COPD.

19. CDRN-1306-04737 (contact PI, Mazany) 1/1/2014 to 6/30/2015
Patient Centered Outcomes Research Institute \$6,992,682 (entire contract)
Chicago Area Patient Centered Clinical Outcomes Research Network (CAPriCORN) \$886,606 (UI, entire contract)

To develop a clinical data research network encompassing private, county, state hospitals and health systems, a consortium of Federally Qualified Health Centers, two Veterans Administration Hospitals, and other partners.

Role: Co-investigator

20. PPRN-1306-04748 (PI, Mularski) 1/1/2014 to 6/30/2015
Patient Centered Outcomes Research Institute \$1,005,000 (entire contract)
***COPD Patient Research Network* \$43,252 (UI, entire contract)**

To develop and host the COPD Foundation Patient Powered Research Network (PPRN), and enroll 100,000 people with COPD into a registry with scalable data hub for the sole purpose of supporting patient-driven, patient centered outcomes research.

Role: Co-investigator.

21. RO1 HS 018431 (PI, Yawn) 9/30/2010 – 7/31/2015
AHRQ

Assessing decision maker tools for Asthma: The Asthma APGAR

To implement asthma guidelines in primary care using a clinical decision tool.

Role: Consultant

22. R01 HS019828 (PI, Hazlehurst) 9/30/2010 – 9/23/2013
AHRQ

Enhancing clinical effectiveness research with Natural Language Processing of EMR

To accelerate the creation of standardized knowledge used to normalize heterogeneous EMR data as representations of clinical events for comparative effectiveness research. Two studies will be used to address the effectiveness of interventions in asthma and tobacco use.

Role: Consultant

23. U10 HL074422 (site PI, Krishnan; subcontract to Univ. Michigan, PI F. Martinez)
NIH/NHLBI 10/1/10-07/31/14
***COPD Clinical Research Network* \$198,240**

Prospective Randomized Placebo-Controlled Trial of SimvaSTATin in the Prevention of COPD Exacerbations (STATCOPE)

The aim is to conduct a placebo-controlled clinical trial in patients with COPD as part of the COPD Clinical Research Network.

24. UL1TR000050 (PI: Azar; Clinical Interface Core PD/PI, Krishnan)
NIH/NCATS 4/1/2013-10/15/2014

UIC Center for Clinical and Translational Research (CCTS)

Clinical Interface Core

The CCTS has three overarching mandates: education, research support, and facilitation of novel and collaborative approaches to clinical and translational research. The CCTS has five research cores, including the Clinical Interface Core (CIC), directed by Dr. Krishnan. The CIC provides research infrastructure (trained personnel, equipment, and space) to facilitate clinical and translational research studies.

25. RC2 HL1011618 [PIs, Krishnan (contact)] 09/30/09-09/29/12

NIH/NHLBI

\$7,803,594

RC2: CONCERT-Clinical Effectiveness Research (CONCERT-CER)

To develop the nation's first multicenter research infrastructure (clinical centers and data coordinating center) to conduct stakeholder-supported pragmatic clinical trials of effectiveness in patients with COPD (novel multicenter Data Hub linking electronic sources of clinical data in managed and non-managed care settings; recruitment of patients across the network to validate data elements in the Data Hub and to develop a research registry to expedite recruitment into future studies; submission of 4 grant proposals to evaluate the effectiveness of care strategies of care).

Role: MPIs: Krishnan (Steering Committee Chair and contact PI); Au; Carson; Lindenauer; Lee Mularski; McBurnie

26. D55HP03365 (PI, Ewigman); relinquished 9/15/2011

Department of Health and Human Services

07/01/09 – 06/30/12

Primary Care Clinical Scholars: Faculty Development

The major goals of this project are to train physicians who have completed residency training and seek additional training to develop careers as primary care generalist clinician investigators who will provide service and/or research in medically underserved communities. In addition, they and the core faculty will provide opportunities for minority high school students to encourage entry into health careers.

Role: Co-investigator/faculty

27. U19AI095230 (MPIs: White/Ober); relinquished 9/15/2011

NIH/NIAID

8/1/11 to 6/30/16

Airway inflammation and HLA-G in asthma: Asthma and Allergic Diseases Cooperative Research Centers (U19)

To clarify the cellular and molecular mechanisms that lead to chronic asthma in order to identify novel, more effective therapies. The Center will concentrate on immune mechanisms that underlie chronic airway inflammation with a clear focus the class I major histocompatibility complex protein human leukocyte antigen (HLA)-G.

Role: Director, Patient Recruitment and Data Analysis Core

28. R01HL097805 (PI, Solway); relinquished 9/15/2011

NIH/NHLBI

8/1/09 to 7/31/13

HLA-G – LILRB – SHP2 Axis in Airway Smooth Muscle

To evaluate the role of HLA-G in the pathogenesis of asthma.

Role: Significant contributor

29. Contract No. HHSM-500-2006-00007I (IMPAQ, International, LLC)

Centers for Medicare & Medicaid

6/2010 – 5/2012

CMS Comparative Effectiveness Research Public Use Data Project (CER PUF)

To create, disseminate, and support privacy-protected Medicare claims public use files (PUFs) that can be accessed to conduct comparative effectiveness research.

Role: Consultant

30. UL1RR024999 (Admin. Supp.) (PI, Solway); relinquished 9/15/2011

NCRR/CTSA

6/1/11 to 5/31/12

Re-engineering Translational Research at the University of Chicago

To design and selectively pilot infrastructure for hospital-based comparative effectiveness research by academic hospitals in Chicago area led by the 3 Chicago-area CTSAAs.

Role: Co-project leader (Meltzer/Krishnan)

31. U18 HS016967 (PI, Meltzer)

Agency for Healthcare Research Quality

09/01/07 – 08/31/11

Center for Education and Research on Therapeutics: Hospital Medicine and Economics

Project: Validating Performance Measures for Patients Hospitalized with COPD

Exacerbations

To evaluate the validity of billing data for use in identify patients hospitalized for COPD exacerbations and to evaluate the quality of care in this population.

Role: Project Leader

32. RC2 HL101543 (PIs: Raby/Weiss/Ober)

NIH/NHLBI

09/30/09 – 09/29/11

RC2: The Asthma BioRepository for Integrated Genomics Research

To establish a biorepository for genomics research, an open-access collection of immortalized cell lines, cDNA and DNA, phenotypic data, genome-wide SNP genotype, and gene expression, and methylation data.

Role: Co-investigator

33. R13 HS017894 (PI, Krishnan)

AHRQ/NHLBI

09/01/08 - 08/31/10

Setting effectiveness and translational research priorities to improve COPD care

To convene a consensus conference with a broad-base of stakeholders representing patient advocacy groups, clinicians, policymakers, government agencies, regulators, and researchers to develop and prioritize topics for comparative effectiveness and implementation science in COPD.

34. No grant numberr (PI, Krishnan)

Asthma and Allergy Foundation of America Research Grant & American Thoracic Society

Repeated High-dose Inhaled Corticosteroids

01/01/08-12/31/09

for acute asthma (ReHICS) study

To conduct a placebo-controlled clinical trial of high dose inhaled corticosteroids vs. placebo in adults with asthma.

35. R34 AI080962 (PI, Solway)

NIH/NHLBI

09/05/08-08/31/09

Novel Therapeutic Targets in Asthma

To plan a multicenter clinical trial of lovastatin for severe asthma.

Role: Co-investigator

36. HHSA290-2005-0038 1 (PI, Pickard)

DHHS/AHRQ

11/01/08-08/31/09

Chicago-area DEcIDE Research Center

Development of a Multicenter Prospective Study to Assess the Effectiveness of Treatments for COPD

Role: Co-investigator

37. No contract number (PI, Krishnan)

University of Chicago: ISAP for Pilot and Collaborative Translational and Clinical Studies Award **5/1/08 to 4/30/09**

Reducing smoking in the Chicago Southside Community

To evaluate the knowledge and health beliefs about smoking cessation in the South Side community.

38. No contract number (PI, Krishnan)

Hill-Rom, Inc. **12/1/06 to 11/30/09**

Chest Wall Oscillation for Asthma and COPD Exacerbations Trial (COAT II)

To conduct a multicenter, sham-controlled clinical trial of high frequency chest wall oscillation for the treatment acute asthma and COPD.

39. No contract number (PI, Krishnan)

Bowman Lingle Trust **10/1/07 to 9/30/08**

University of Chicago Asthma Center

Role: Principal Investigator

40. (PI, Noth)

Asthmatix, Inc. **9/1/2006 to 8/31/2007**

Safety and effectiveness of the Alair® System for the Treatment of Asthma: A Multicenter Randomized Clinical Trial (Asthma Intervention Research 2 (AIR2) Trial)

Role: Sub-investigator (no support)

41. (relinquished; PI, Rand and Malveaux)

NIH/NHLBI **9/30/02 to 7/31/07**

Howard/Hopkins Center to Reduce Asthma Disparities

Role: Co-Investigator

42. (relinquished; PI, Hassoun)

NIH/NHLBI **1/12/2007 to 12/31/2011**

SCCOR in Pulmonary Vascular Disease: Molecular determinants of pulmonary arterial hypertension

Role #1: Core Leader, *Data Management/Statistics Core*

Role #2: Co-investigator, Project #1, *Scleroderma-associated PAH*

43. (relinquished; PI, Yung and Hansel)

Asthmatix, Inc. **12/1/05-11/30/10**

Safety and effectiveness of the Alair® System for the Treatment of Asthma: A Multicenter Randomized Clinical Trial (Asthma Intervention Research 2 (AIR2) Trial)

Role: Sub-investigator (no support)

- 44. (PI, Krishnan)**
NIH/NHLBI K23 **9/1/2001 to 8/30/2006**
Increasing Adherence In Inner-City Adults With Asthma
- 45. 5M01RR000052-46 (PI, Krishnan)**
NIH/NCRR **12/1/2006 to 9/16/2007**
Macrolides to prevent exacerbations of asthma
- 46. (PI, Krishnan)**
Johns Hopkins General Clinical Research Center **3/1/2005 to 2/28/2006**
Corticosteroid Responsiveness after Severe Asthma Exacerbations
- 47. (PI, Krishnan)** **4/1/2005 to 3/31/2006**
Johns Hopkins NIEHS Center for Urban Environmental Health
Role of Urban Air Toxic Exposures in Corticosteroid Responsiveness after Severe Asthma Exacerbations
- 48. (PI, Krishnan)**
Advanced Respiratory/Hill-Rom, Inc. **10/1/2003 to 4/1/2004**
Chest Wall Oscillation for Acute Asthma Treatment
- 49. (PI, Krishnan)**
Parker B. Francis Foundation **7/1/2001 to 6/30/2004**
Increasing Adherence in Inner-City Adults with Asthma
- 50. (PI, Eggleston)**
National Institutes of Environmental Sciences **11/1/1998 to 10/31/2003**
Center for Childhood Asthma in the Urban Environment: Cohort Study of Environmental Exposures, Environment Control Measures, and Outcomes of Children with Asthma
Role: Co-Investigator
- 51. (PI, Segal)**
Agency for Healthcare Research and Quality **10/1/2001 to 3/31/2003**
Management of Deep Venous Thrombosis and Pulmonary Embolism
290-97-0006, Task Order #11
Role: Co-Investigator
- 52. (PI, Krishnan)** **7/1/1999 to 6/30/2000**
CHEST Foundation and Glaxo
Welcome Clinical Research Trainee Award for Asthma Assessment of Gender and Race Differences in Quality of Asthma Care and Effects on Clinical Outcomes

EDUCATIONAL ACTIVITIES

A. Teaching

Classroom instruction (within University):

1. The Graduate Training Program in Clinical Investigation: The Science of Clinical Investigation: “Design of Clinical Studies” (1 class per week for 3 months for Faculty, Post-Doctoral Fellows, Researchers)
<http://www.jhsph.edu/gtpci/default.html>
Johns Hopkins Bloomberg School of Public Health, 1999-2005
2. Clinical Epidemiology (Second year medical students; 1 class per day for 1 week)
“Assessing the validity of diagnostic and screening tests”
Johns Hopkins University School of Medicine, 2002
3. Management of Chronic and Acute Asthma (housestaff, medical students; 1 lecture per year)
Olser Medical Residency
Johns Hopkins University School of Medicine, 2002-2005
4. Journal Club, Director (Post-Doctoral Fellows; 1 hour per week)
Division of Pulmonary and Critical Care Medicine
Johns Hopkins University School of Medicine, 2002-2005
5. Pathophysiology of asthma (Second year medical students; 1 lecture per year)
Johns Hopkins University School of Medicine, 2003-2005
6. Innovations in Respiration
Four-day Preceptorship for Specialists
“Nutrition in the ICU”
Johns Hopkins University
Baltimore, MD, December 2003
7. The Good, The Bad, and the Inflamed: Genomics of Pulmonary Disease (MOLM-57000; for K-12 grant recipients and post-doctoral trainees)
University of Chicago
Summer 2008, one 3 hour lecture and discussion
“Epidemiology of Obstructive Lung Diseases”
8. Genomics of Pulmonary Disease (MOLM-57000; for K-12 grant recipients and post-doctoral trainees)
University of Chicago
Summer 2010, one 3 hour lecture and discussion
“Epidemiology of Obstructive Lung Diseases”
9. Epidemiology and Research Design MEDC 30011 (First year medical school students)
University of Chicago
March 2010
“Clinical Cohort Studies”
1 lecture, 1 hour

- 10. Clinical Epidemiology Research Methods (Health Studies 307; for post-doctoral trainees, junior Faculty)**
University of Chicago
Summer 2007, 2 hours per lecture, 4 lectures
“Writing a testable hypothesis”
“Writing a research protocol”
“Cross-sectional study designs”
“Sample size calculations”
- 11. Clinical Epidemiology Research Methods (Health Studies 307; for post-doctoral trainees, junior Faculty)**
University of Chicago
Summer 2008, 2 hours per lecture, 5 lectures
“Taxonomy of study designs and measures of disease”
“Writing a testable hypothesis”
“Cross-sectional study designs”
“Writing a research protocol”
“Sample size calculations”
- 12. Clinical Epidemiology Research Methods (Health Studies 307; for post-doctoral trainees, junior Faculty)**
University of Chicago
Summer 2009, 2 hours per lecture, 4 lectures
“Writing a testable hypothesis”
“Writing a research protocol”
“Cross-sectional study designs”
“Sample size calculations”
- 13. Clinical Epidemiology Research Methods (Health Studies 307; for post-doctoral trainees, junior Faculty)**
University of Chicago
Summer 2010, 2 hours per lecture, 6 lectures
“Experimental study designs”
“Clinical comparative effectiveness”
“Diagnostic tests”
“Sample size calculations: how much data do you need”
“Journal Club: experimental study”
“Journal Club: observational study”
- 14. Clinical Epidemiology Research Methods (Health Studies 307; for post-doctoral trainees, junior Faculty)**
University of Chicago
Summer 2011, 2 hours per lecture, 6 lectures
“Experimental study designs”
“Clinical comparative effectiveness”
“Diagnostic tests”

“Sample size calculations: how much data do you need”
“Journal Club: experimental study”
“Journal Club: observational study”

- 15. Clinical and Translational Research Spectrum**
CCTS 2013 Summer Program in Clinical and Translational Research Methods
University of Illinois at Chicago
July 2013

Classroom instruction (national courses):

- 16. Biostatistics in Pulmonary Medicine, How To Understand and Critique the Methods**
“Study Designs” (1 hour lecture for Pulmonary/Critical Care Medicine post-doctoral trainees, Faculty, industry attendees)
American College of Chest Physicians, Seattle, Washington, October 2004
- 17. Co-chair, Post-Graduate course: “A guide to understanding clinical research: how to critically appraise published studies in pulmonary and critical care medicine”** (1 hour lecture for Pulmonary/Critical Care Medicine post-doctoral trainees, Faculty, industry attendees)
American Thoracic Society International Conference, 2005
- 18. Pulmonary Update Course, Division of Pulmonary & Critical Care Medicine, Johns Hopkins University:** “Management of asthma and COPD exacerbations: An update”; “Asthma care in 2005: adherence issues for patients and physicians”
Santa Fe, New Mexico, July 2005
- 19. Johns Hopkins Internal Medicine Board Review 2006: “Pulmonary Embolism”,** Baltimore, MD, June 2006
- 20. Kishwaukee Community Hospital, CME; “Asthma management: an update”**
DeKalb, IL, November 2008
- 21. Faculty, Post-Graduate course: “Cox regression: time-to-event analysis”**
American Thoracic Society International Conference, May 2008
- 22. 2009 Midwest Allergic Asthma Regional Academic Multidisciplinary Conference**
Continuing Medical Education (sponsored by University of Chicago; The France Foundation); 1 full day
When Is it Severe Asthma and When Is it Not Asthma at All?
Faculty and Panel discussion October, 2009
- 23. Post-graduate course, American Thoracic Society International Conference**
Quality measurement and improvement: a practical guide
“Moving from guidelines to Quality Metrics”
1 lecture, 30 minutes
May, 2010

24. Pragmatic Trials Workshop. Center for Research in Implementation Science and Prevention (CRISP), University of Colorado, School of Medicine.; *“Flexibility in delivery of intervention and patient adherence”*, Faculty, panel discussant, and small group facilitation, September, 2014

Classroom instruction (international courses):

25. **Methods in Epidemiologic, Clinical & Operations Research (MECOR):** Applied Clinical Research Methods, Data Analysis and Scientific Writing; for post-doctoral fellows, faculty, and public health officers with a focus in pulmonary, critical Care, or sleep medicine <http://www.thoracic.org/sections/meetings-and-courses/mecor-courses/index.html>
American Thoracic Society

Topics (varies by course)

“How can epidemiology make a difference in developing countries?”

“Selecting a research question”

“Study designs”

“Role of statistics in research”

“Cross-sectional studies”

“Questionnaires and their development”

“Confounding and bias”

“Sample size calculations”

“Confidence intervals”

“Developing a study protocol”

“Data Analysis Tutorials: Bivariate analysis”

“Data Analysis Tutorials: Linear regression”

“Data Analysis Tutorials: Logistic regression”

“Data Analysis Tutorials: Survival analysis”

Locations

- Buenos Aires, Argentina (2003); Faculty
- Punta Del Este, Uruguay (2004); Faculty
- Prague, Czech Republic (2005); Faculty
- Quito, Ecuador (2005); Faculty
- Alphaville, Brazil (2006); Faculty
- Santiago, Chile (2007); Faculty
- Chennai, India (2009); Country Director (co-sponsored by CDC and India ICMR/NIE)
- Mumbai, India (2010); Country Director (co-sponsored by CDC)
- Chennai, India (2012); Country Director (co-sponsored by CDC)
- New Delhi, India (2014); Country Director (co-sponsored by CDC and India National Centre for Disease Control)
- Jaipur, India (2016); Country Director (co-sponsored by CDC and Indian Chest Society)
- Chennai, India (2017); Course Faculty (co-sponsored by CDC and ICMR/NIE)
- Bangalore, India (2018); Course Faculty (co-sponsored by CDC)
- Chennai, India (2019); Course Faculty

26. First Winter Indo-American CME Meeting

American Tamil Medical Association, American Association of Physicians of Indian Origin,
Association of Physicians of India Tamil Nadu State Chapter
“Key Advances in the Management of Asthma and COPD”
Chennai, India, January, 2006

Clinical instruction:

27. Firm Faculty, 2003-2006

Longcope Firm (housestaff, medical students): 1 month/year
Johns Hopkins School of Medicine

28. Attending in Obstructive Lung Disorders clinic (housestaff), 2001-2006

½ day per week
Johns Hopkins School of Medicine

29. Attending on inpatient medical intensive care unit (Fellows, housestaff, medical students), 2001-2006

2 months per year
Johns Hopkins School of Medicine

30. Attending on inpatient Pulmonary Consultation services (Fellows, housestaff, medical students), 2007-2011

2.5 months per year
University of Chicago Medical Center

CME instruction:

31. Update in Mechanical Ventilation for Critically Ill Patients, Division of Pulmonary & Critical Care Medicine, Johns Hopkins University

“Nutrition in Critically Ill Patients”
Baltimore, MD, July 2000

32. The UPR School of Medicine & Puerto Rico Society of Pneumology Fourth Annual Convention

“Nutrition in mechanically ventilated patients”
“Long-term outcomes of acute respiratory failure requiring mechanical ventilation”
Rio Grande, Puerto Rico, November 2001

33. Pulmonary Update Course, Division of Pulmonary & Critical Care Medicine, Johns Hopkins University

“Nutrition in critically ill patients: Where’s the beef?”
Santa Fe, New Mexico, August 2002

34. Clinical Course and Outcome of Patients Admitted to an ICU for Status Asthmaticus. In *Practical Reviews: Critical Care Medicine*. October 2002; 6(3).

35. Early versus late enteral feeding of mechanically ventilated patients: results of a clinical trial. In *Practical Reviews: Critical Care Medicine*. October 2002; 6(3).
36. IV Magnesium Sulfate in the treatment of acute severe asthma: a multicenter randomized controlled trial. In *Practical Reviews: Critical Care Medicine*. December 2002; 6(5).
37. Gastrointestinal promotility drugs in the critical care setting: a systematic review of the evidence. In *Practical Reviews: Critical Care Medicine*. October 2002; 6(5).
38. A randomized controlled trial of intravenous montelukast in acute asthma. In *Practical Reviews: Critical Care Medicine*. April 2003; 6(9).
39. Effect of mechanical ventilator weaning protocols on respiratory outcomes in infants and children: a randomized controlled trial. In *Practical Reviews: Critical Care Medicine*. April 2003; 6(9).
40. 19th Annual Asthma and Allergy Update, University of Rochester. “Keynote address: Medication adherence in asthma”. Rochester, NY
1 lecture, 1 hour
November, 2014
41. 54th Annual Chest Disease Conference, Oregon Thoracic Society / American Thoracic Society. Sunriver, OR, February 13, 2016.
“Implementing asthma guidelines in the Emergency Department for children with uncontrolled asthma”; 1 lecture; 1 hour
“Asthma-COPD Overlap Syndrome- ACOS; what you should know”; 1 lecture; 1 hour
42. 40th Annual Meeting and Educational Conference
NAMDRC 2017: Precision Medicine in Pulmonary, Critical Care and Sleep Medicine
Napa Valley, CA, March 23-24, 2017
“Reducing COPD Readmissions – Where are we now?”; 1 lecture; 45 minutes
43. COPD: Managing Individuals and Populations
Cleveland Clinic Center for Continuing Education
Cleveland Clinic, OH, April 20, 2018
“COPD 30-day Readmissions – Quality Metric or Not?”; 1 lecture; 30 minutes; and Panel discussion on COPD Population Management

B. Mentoring

Pre-doctoral:

1. **Jon V. McCoy, medical student, 12/2000 to 12/2001 (subsequently received MD)**, Johns Hopkins University
Project: Adherence to corticosteroid therapy in hospitalized adults

Awards: National Medical Fellowship, American Thoracic Society/Behavioral Assembly Travel Award

Present position: Assistant Professor of Emergency Medicine, Robert Wood Johnson Medical School, University of Medicine & Dentistry of New Jersey

- 2. Dana M. Stewart, medical student, 8/2001 to 5/2002 (subsequently received MD), Johns Hopkins University**
Project: Health literacy and adherence to asthma therapy
Present position: Private Practice, Preferred Pediatrics of Lafayette, IN
- 3. Kenneth S. Ho, MPH, medical student, 7/2002 to 6/2003 (subsequently received MD), Johns Hopkins University**
MPH project: "Predictors of Missed Appointments in an Urban Inner City Clinic"
Present position: Medical Director, Pitt Men's Study, MACS; Project Silk; Pharmacovigilance Safety Officer
- 4. Amena W. Smith, undergraduate, 6/2003 to 7/1/2005 (subsequently received MD, PhD), Johns Hopkins University**
Project: Relationship between depressive symptoms and adherence to corticosteroids
Present position: Fellow, Neurodevelopmental disabilities residency program, Johns Hopkins
- 5. Scott Chowning, medical student, 6/2005 to 8/2005 (subsequently received MD), Johns Hopkins University**
Project: Measuring exhaled nitric oxide
Present position: Pediatrician, Prosper, TX
- 6. Kirstin Baca, medical student, 6/2005 to 8/2005 (subsequently received MD, MS), Johns Hopkins University**
Project: Diskus weights as a measure of adherence to therapy
Present position: Field Medical Director, Rheumatology, AstraZeneca
- 7. Zachary Permutt, undergraduate, 6/2005 to 8/2005 (subsequently received MD), Johns Hopkins University**
Project: Lung function predictors of asthma re-exacerbation after hospital discharge
Present position: Consultant at McKinsey & Co, Hospitalist at UCSD Medical Center
- 8. Prabu Selvam, undergraduate, 6/2005 to 8/2005 (subsequently received MD, MS), Johns Hopkins University**
Project: Diskus weights as a measure of adherence to therapy
Present position: Resident, Emergency Medicine, USAF-WSU
- 9. Vanessa Walker-Harris, medical student, 7/2005 to 6/2006 (subsequently received MD), Johns Hopkins University**
Project: High frequency chest wall oscillation for acute exacerbations of asthma and COPD
Present position: Assistant Professor, Medicine, Johns Hopkins

- 10. Pooja Solanki, graduate student, 9/2013 to 7/2014 (subsequently awarded MPH) ,**
University of Illinois at Chicago
MPH project: “Poor inhaler technique among veterans with COPD exacerbations”
- 11. Vanessa Gonzalez, graduate student, 7/2014 to 5/2016 (subsequently awarded MPH),**
University of Illinois at Chicago
MPH project: “Physical function and ambulatory oxygen equipment in people with chronic obstructive pulmonary disease.”
Current position: Science & Research Manager, American Academy of Sleep Medicine
- 12. Yoo Jin Kim, 1/2019 to present**
University of Illinois at Chicago
Addressing transportation barriers in population health
Current position: Medical Student

Post-doctoral:

- 13. Benoit Tano, MD, PhD, 7/2004 to 6/2006** (co-mentor with Dr. Cynthia S. Rand, PhD);
Johns Hopkins University
Project: *Prevalence and predictors of heliox use in patients hospitalized for asthma exacerbations*
Present position: Associate Professor of Medicine, University of Texas Health Sciences Center at Tyler, Texas.
- 14. Emmanuelle Clerisme, MD, 7/2005 to 6/2006** (co-mentor with Drs. Cynthia S. Rand, PhD and Robert A. Wise, MD); Johns Hopkins University
Project: *Obesity and asthma*
Present position: Associate Director, Respiratory, Clinical Development & Medical Affairs, Boehringer Ingelheim Pharmaceuticals, Inc.
- 15. Steven Q. Davis, MD, 9/2006 – 6/2008;** University of Chicago
Project: *Acute effects of high dose inhaled corticosteroids in patients hospitalized for asthma exacerbations*
Grants/Awards:
Respiratory Health Association of Metropolitan Chicago Fellow Award, 2007;
American Thoracic Society Scientific Abstract, Environmental and Occupational Health Assembly Travel Award, 2008;
Present position: Private Practice, Texas Pulmonary & Critical Care Consultants, Fort Worth, TX
- 16. Brian Stein, MD, 1/2007 – 7/2009;** University of Chicago
Project: *Validation of COPD performance measures*
Present position: Assistant Professor, Department of Medicine, Rush University, Chicago
- 17. Mark Pohlman, MD, 1/2007 – 6/2008** (Mentoring committee; primary mentor Jesse B. Hall, MD); University of Chicago

Project: *Breath-stacking in patients with acute respiratory syndrome ventilated with small tidal volumes*

Present position: Private practice, Corvallis, OR

- 18. Oana Klein, MD, MS, 7/2008-6/2009;** University of Chicago
Project: Effect of Diabetes Mellitus on lung function
Present position: Assistant Professor, Department of Medicine, and Department of Surgery, University of California, San Francisco
- 19. Susan Glick, MD, 8/2007 – 8/2010;** University of Chicago
Project: *Validation of a Clinical Prediction Rule to Identify Nonadherence to Inhaled Corticosteroid Therapy in Patients with Asthma*
Present position: Associate Professor of Medicine, University of Chicago
- 20. Lisa Shah, MD, 1/2007 – 2010;** University of Chicago
Project: *Tobacco cessation among hospitalized smokers*
Grants:
American Cancer Society Illinois Division Research Grant in Psychosocial and Behavioral Research, 2008-2010, *“Improving adherence to in-hospital tobacco cessation guidelines”*;
American Lung Association Grant, 2009-2011, *“Evaluating Medication Adherence to Varenicline in a Population of Underserved Minority Smokers”*.
Present position: Vice President, Evolent Health; Assistant Professor of Medicine, Johns Hopkins Medicine
- 21. Roberto Machado, MD, 2009 – 2010;** (co-mentor with Dr. JGN Garcia, MD); University of Chicago
Project: Carbon Monoxide Therapy for Severe Pulmonary Arterial Hypertension
Grants:
NHLBI K23 HL098454 – *“Carbon Monoxide Therapy for Severe Pulmonary Arterial Hypertension”*
Present position: Dr. Calvin H. English Professor and Chief of Pulmonary, Critical Care, Sleep, and Occupational Medicine, Indiana University, Indianapolis, IN
- 22. Bharati Prasad, MD, 2010 – 2013;** University of Illinois at Chicago
Project: Strategies to evaluate and manage sleep apnea
Grants:
KM1CA156717 – *“Comparative Effectiveness to Enhance Outcomes in African-Americans with Sleep Apnea”*
Present position: Assistant Professor, University of Illinois at Chicago
- 21. Ankit A. Desai, MD, 2013 – 2014;** University of Illinois at Chicago
Project: Imaging & genomic approaches to identify cardiac fibrosis and enhances risk profiles of sickle cell-related sudden death
Grants:
14CRP18910051- *“Imaging & genomic approaches to identify cardiac fibrosis and enhance risk profiles of sickle - (AHA) National Population & Mentored Clinical Research Program*

Present position: Assistant Professor of Clinical Medicine, University of Arizona

- 22. Valerie Press, MD, MPH, 1/2007 – 9/2011;** University of Chicago
Project: *Educating hospitalized patients to use of respiratory inhalers*
Grants:
CTSA-Institute of Translational Medicine grant (2009-2010);
NIH Loan Repayment Program award;
KM1CA156717 - “Effectiveness of interventions to Teach Respiratory Inhaler Technique (E-TRaIN)”
K23 HL118151 - Video vs. TTG respiratory inhaler technique assessment and instruction (V-TRAIN)
Present position: Assistant Professor, Department of Medicine and Department of Pediatrics, University of Chicago
- 23. Sharmilee Nyenhuis, MD, 2011 - 2015;** University of Illinois at Chicago
Project: Airway inflammatory patterns in asthma
Present position: Assistant Professor, University of Illinois at Chicago
- 24. Valentin Prieto-Centurion, MD, 2011 - present;** University of Illinois at Chicago
Project: Hospitalizations for COPD exacerbations
American Thoracic Society Trainee Awards in 2011, 2013, 2014
Grants: K23 HL130524 – Promoting activity after COPD exacerbations (PACE); COPD Foundation Patient Powered Research Network - Oxygen use in COPD
Present position: Assistant Professor, University of Illinois at Chicago
- 25. Farhan Zaidi, MD, 2014 - 2016;** University of Illinois at Chicago
Project: Transitional care, supplemental oxygen, and pulmonary rehabilitation.
Present position: Attending physician, Northshore University, Chicago
- 26. Ai-Yui Maria Tan, MD, 2016-2018;** University of Illinois at Chicago
Project: Supplemental oxygen in patients with COPD
Present position: Post-doctoral clinical fellow, University of Illinois at Chicago
- 27. Breda Cushen, MB, BCh, BAO (Hons), MRCPI, PhD External Examiner, October 2018;** Royal College of Surgeons in Ireland
Project: Risk Factors for Repeat Healthcare Use following Hospitalisation with an Acute Exacerbation of Chronic Obstructive Pulmonary Disease

EDITORIAL ACTIVITIES

Associate Editor, American Journal of Respiratory and Critical Care Medicine, 2015-
Editorial Board, Journal of the COPD Foundation, 2014-
Associate Editor, Annals American Thorac Soc, 2013-2014
Editorial Board, Proceedings in the American Thoracic Society, 2008-2012
Ad hoc reviewer, American Journal of Medicine

Ad hoc reviewer, CHEST
Ad hoc reviewer, Critical Care Medicine
Ad hoc reviewer, European Respiratory Journal
Ad hoc reviewer, Intensive Care Medicine
Ad hoc reviewer, Journal of General Internal Medicine
Ad hoc reviewer, Journal of Allergy and Clinical Immunology
Ad hoc reviewer, Journal of American Medical Association (JAMA)
Ad hoc reviewer, Mayo Clinic Proceedings
Ad hoc reviewer, Pediatrics
Ad hoc reviewer, Lancet
Ad hoc reviewer, Lancet Respiratory Medicine
Ad hoc reviewer, Translational Research

CLINICAL ACTIVITIES

A. Certification

Licensure

Board of Physician Quality Assurance of Maryland, # D52108
DEA, # BK5394109
State of Maryland Controlled Dangerous Substance, # M42451
State of Illinois, #36116655

Board Certification

Federation of State Medical Boards of the United States (1993)
Basic/Advanced Cardiac Life Support (1997)
American Board of Internal Medicine:

- Internal Medicine (1996)
- Pulmonary Disease (1999)
- Critical Care Medicine (2000)

B. Service Responsibilities

2001-2006 Attending Physician, Johns Hopkins Hospital and Johns Hopkins Bayview Medical Center, 2 months/year on inpatient service

2001-2006 Obstructive Lung Disorders Clinic, Attending Physician, Johns Hopkins Asthma & Allergy Center, ½ day per week

2006-2011 Attending Physician, The University of Chicago Hospitals, 2 months/year on inpatient services

2006-2011 Refractory Obstructive Lung Disorders Clinic, Attending Physician, The University of Chicago, ½ day per week

2012- Attending Physician, Pulmonary clinic, Jesse Brown VA Hospital, ½ day per week

ORGANIZATIONAL ACTIVITIES

A. Institutional Administrative Appointments

Johns Hopkins School of Medicine

Department of Medicine Research Retreat, Steering Committee, 2002-2006
Department of Medicine Mentoring Award Selection Committee, 2003-2006
Adult Protocol Review Subcommittee, General Clinical Research Center, 2003-2006
Co-Chair, Department of Medicine Blueprint Research Subcommittee, 2006

The University of Chicago

Director, Asthma & COPD Center, University of Chicago, 2006- 2011
Director, Data Management and Statistics Core, Department of Medicine, 2006-2011
Ad hoc member, Committee on Appointments and Promotions (COAP), 2008, 2009
Clinical Research Policy Board, 2011-2011

The University of Illinois

Associate Vice President for Population Health Sciences, 2011-2015
Office of the Vice President for Health Affairs
Director, Clinical Interface Core, 2012-2014
University of Illinois Center for Clinical and Translational Science

Associate Vice Chancellor for Population Health Sciences, 2016-
Director, Institute for Healthcare Delivery Design
Office of the Vice Chancellor for Health Affairs

B. Professional Societies

AcademyHealth, 2012-

American College of Chest Physicians, 1999

American College of Healthcare Executives, 2014

American Federation for Medical Research, 2018-

American Thoracic Society (ATS), 1996-

- Board of Directors, 2012-2014
- AAAAI/ATS Long-acting Bronchodilator Agonist Committee, 2010-12
 - Ad Hoc committee
 - Appointed by ATS Executive Committee
- Program Review Subcommittee, 2010-2014
 - Appointed by ATS President
- Quality Improvement and Implementation Committee, 2009-2011, 2015-2017
 - Appointed by ATS President

- Behavioral Sciences and Health Services Research Assembly (formerly known as Behavioral Sciences Assembly)
 - Chair, 2012-2013
 - Voted by membership
 - Chair, Behavioral Science Assembly Program Committee, 2008-2009
 - Voted by membership
 - Behavioral Science Assembly Long-Range Planning Committee, 2003-
 - Behavioral Science Assembly Nominating Committee, 2005-2006
- Documents Development and Implementation Committee, 2005-2013
 - Chair, 2009-2011
 - Vice-Chair, 2008-2009, 2011-12
 - Member, 2012-2013
 - Appointed by the President of ATS
- Revenue Diversification Task Force, 2008-2009
 - Appointed by the ATS President
- Allergy, Immunology and Inflammation Assembly
 - Program Committee, 2007-2008
 - Editor-in-chief, Asthma Journal Club, 2008-2009
- Comparative effectiveness workshop, 2011-2013
 - Chair
- Pay for Performance Workshop, 2008
- Performance Measures Development Workshop, 2012
- ATS Methodologist Search Committee, 2009
 - Chair
 - Appointed by the ATS President
- Member, ATS Documents Editor Search Committee, 2010
 - Appointed by the ATS Immediate Past President
- European Respiratory Society / American Thoracic Society COPD Exacerbations Guideline Writing Committee, 2011-2017
 - Co-chair
 - Appointed by the ATS President
- Member, Quality Improvement Committee, 2015-2017
 - Appointed by the ATS President
- Chair, MECOR Steering Committee, 2017-2018
 - Appointed by the ATS President
- Co-chair, Official ATS Oxygen Guidelines, 2018-
- Co-chair, Informing Health Care Decisions with Observational Research: Addressing Real World Problems with Real World Data 2018-
- Member of guideline panel, Official ATS Treatment of COPD Guidelines, 2018-

European Respiratory Society, 2012

Global Initiative for Asthma

- Scientific Committee, 2015-

- Dissemination & Implementation Committee, 2017-

Society for Epidemiologic Research, 2006

Councilor, Central Society for Clinical and Translational Research. 2019-2022

C. Symposia/Conferences (selected)

1. Co-chair, Emergency Asthma Management Task Force (American Academy of Allergy, Asthma, and Immunology, American Academy of Emergency Medicine, and American Thoracic Society), 2004-2009
2. Co-chair, Poster Discussion, American Thoracic Society International Conference, “Pediatric Asthma”; 2004
3. Chair, Post-graduate course, American Thoracic Society International Conference, “A guide to understanding clinical research: how to critically appraise published studies in pulmonary and critical care medicine”; 2005
4. Poster discussion Facilitator, American Thoracic Society International Conference, “Health Outcomes in Respiratory Disease”; 2006
5. Co-chair, Scientific symposium, American Thoracic Society International Conference, “Selection of control groups in clinical trials in pulmonary/critical care medicine: what consumers of published literature need to know”; 2007
6. Co-chair, Mini-symposium, American Thoracic Society International Conference, “Factors influencing adherence in patients with asthma”; 2007
7. Co-chair, Poster discussion, American Thoracic Society International Conference, “Effect of disease management interventions and psychosocial influences on respiratory disease”; 2007
8. Co-chair, Scientific symposium, American Thoracic Society International Conference, “Status asthmaticus: new approaches to assessment and treatment”; 2008
9. Co-chair, Scientific symposium, American Thoracic Society International Conference, “Predicting and reducing asthma morbidity”; 2008
10. Poster facilitator, American Thoracic Society International Conference, Session facilitator, “Questioning asthma control and quality of life”; 2008
11. Co-chair, American Thoracic Society International Conference, Scientific Mini-symposium, “Innovative Health Services Research”; 2010
12. Co-chair, American Thoracic Society International Conference, CONCERT Comparative Effectiveness Research symposium, 2011

13. Co-chair, European Respiratory Society / American Thoracic Society Guideline Committee for COPD exacerbations, 2011-
14. Co-chair, American Thoracic Society International Conference, Comparative Effectiveness Research PRO CON Debate, 2012
15. Co-chair, American Thoracic Society International Conference, ATS / NHLBI Implementation Workshop, 2014

D. Advisory Committees, Review Groups

Chair/Co-Chair

1. NIH/NCRR Research Centers in Minority Institutions (RCMI) Translational Research Network DSMB/OSMB, 2008-2012
2. Department of Veterans Affairs, Chair, DSMB, Reducing Dynamic Hyperinflation Through Breathing Retraining (PI: Eileen Collins, PhD, RN, Edward Hines, Jr., VA Hospital; 1I01RX000107), 2009-2011
3. NIH, Trans-NIH Asthma Outcomes Workshop, Co-chair, Asthma Symptoms Committee, 2009-2011
4. DHHS/U.S. Food & Drug Administration, Pulmonary-Allergy Drugs Advisory Committee, 2011-2012
5. Patient-Centered Outcomes Research Institute (PCORI), Improving Healthcare Systems In-Person Panel Review, 2013-16
6. Patient-Centered Outcomes Research Institute (PCORI) National Patient-Centered Clinical Research Network (PCORnet), Clinical Trials Task Force, Dissemination Workstream, 2014
7. Patient-Centered Outcomes Research Institute (PCORI), Large Pragmatic Trials merit review panel (single application re-review), 2015
8. Respiratory Effectiveness Group, Asthma/COPD Overlap Syndrome Workgroup, 2014-present
9. NIH/NHLBI Clinical Trials Review Committee (CLTR), 2015-17

Member/participant:

10. American Lung Association, Maryland chapter, Grant Review Committee, *Ad Hoc* Reviewer, 2003-2005
11. NIH/NHLBI Special Emphasis Panel for R18 Program, *Ad Hoc* Reviewer, 2002

12. NIH/NHLBI Special Emphasis Panel for Psychosocial Risk and Disease Prevention, *Ad Hoc* Reviewer, 2003
13. NIH/NHLBI New Investigator Workshop, San Diego, May 2006
14. NIH/NHLBI Strategic Plan, Theme #5: Enabling Therapeutic Trials and Translational Research Working Group, June 2006
15. American Heart Association, USPHS Tobacco Clinical Guidelines 2008 update, Consultant reviewer, 2007-2008
16. Respiratory Health Association of Metropolitan Chicago; COPD State Plan: Prevention, Early Detection, Surveillance & Data Working Group; responsible for leading development of "Smoking Cessation" document, 2007-2008
17. DHHS/U.S. Food & Drug Administration, Pulmonary-Allergy Drugs Advisory Committee, 2007- 2011
18. Technical Expert Panel, Development, Implementation, and Maintenance of Quality Measures for Hospital Outpatient and Ambulatory Surgical Centers (ASC), Oklahoma Foundation for Medical Quality and Optimal Solutions Group, LLC, under contract with Centers for Medicare & Medicaid Services (CMS), 2008-2009
19. NIH/NHLBI Clinical Trials Review Committee (CLTR), *Ad Hoc* Reviewer, 2008-11
20. Hospital Outpatient Departments and Ambulatory Surgical Centers Measures Technical Expert Panel for Centers for Medicare & Medicaid Services (CMS), convened by Optimal Solutions Group, LLC, 2008
21. NIH/NCRR Institutional Clinical Translational Science Awards (CTSAs), *Ad Hoc* Reviewer, 2009
22. NIH/NHLBI Workshop on COPD 2009: Assessment of Current State-of-the-art for basic and clinical research and shaping the future, 2009
23. NIH/NHLBI National Asthma Control Initiative, Enhanced Application Demonstration Projects, *Ad Hoc* Reviewer, 2009
24. American Thoracic Society, Tobacco Dependence Grants, *Ad Hoc* Reviewer, 2009-10
25. NIH/NCRR CTSA Forum on Comparative Effectiveness Research, Moderator, 2010
26. NIH/NHLBI Division of Lung Diseases (DLD) Comparative Effectiveness Research workshop, 2010
27. NCQA Respiratory Measurement Advisory Panel, 2010-2016.

28. DHHS/AHRQ Quality Indicators, Clinical Review Panel for hospital readmission measures (nominated by NIH/NHLBI), Battelle Memorial Institute, 2011
29. NIH/NHLBI Clinical Trials Review Committee (CLTR), standing member, 2012- present
30. DHHS/Center for Disease Control and Prevention (CDC) / National Center for Chronic Disease Prevention and Health Promotion, Public Health Strategic Framework for COPD Prevention, External Reviewer, 2011. Report published as: *Centers for Disease Control and Prevention. Public Health Strategic Framework for COPD Prevention. Atlanta, GA: Centers for Disease Control and Prevention; 2011.*
31. DHHS/NINDS NeuroNEXT 2 Special Emphasis Panel, ZNS1 SRB-G (51) Reviewer, 2011
32. NIH/NCRR CTSA Comparative Effectiveness Research Key Function Committee, 2009- and co-Chair, Methodology Committee, 2011- 2013
33. DHHS/Institute of Medicine (IOM) of the National Academies, Round Table on Value & Science-Driven Health Care, Multiple Chronic Conditions, & Clinical Practice Guidelines Meeting, May 2012
34. COPD Foundation, Medical and Scientific Advisory Committee, 2012-
35. NIH/NHLBI Global Health Think Tank, 2012
36. Patient-Centered Outcomes Research Institute (PCORI), “Improving Healthcare Systems” grants, Reviewer, 2012-2013
37. Health Research Board of Ireland, Reviewer, 2013
38. NIH/NCATS, Special Emphasis Panel for CTSA applications, Reviewer, 2013.
39. Patient-Centered Outcomes Research Institute (PCORI)/ Institute of Medicine (IOM) Health System Executive Workshop, 2014
40. NIH/NHLBI Center for Translation Research and Implementation Science. Think Tank on Health Inequities, Co-moderator, 2014
41. Patient-Centered Outcomes Research Institute (PCORI), Advisory Panel on Clinical Trials Subcommittee on the Standardization of Complex Concepts and Their Terminology (SCCT), Member, 2014-2015
42. NIH/NCI SBIR Review Panel for Contracts, “Validation of Mobile Technologies for Clinical Assessment, Monitoring, and Intervention (Topic 340)”, Reviewer, 2015
43. NIH/NHLBI Center for Translation and Implementation Science (CTRIS), “Methods and Metrics of Implementation Research”, Speaker and Panel member, 2015
44. Global Initiative for Asthma (GINA), Science Committee, member, 2015- present

45. Dupilumab Independent Data Monitoring Committee, Sanofi, member, 2015-2017
46. NIH/NCATS, “Trial Innovation Centers (TICs)”, RFA-TR-15-002, Reviewer, 2016
47. NIH/NCATS, Special Emphasis Panel for PAR-15-173, Pre-application for Collaborative Innovation Award (X02), Reviewer, 2016
48. NIH/NCATS, Special Emphasis Panel for CTSA applications, Reviewer, 2016
49. Vaccines and Medications in Pregnancy Surveillance System (VAMPSS), Advisory Committee member representing the American Thoracic Society, 2017- present.
50. NIH/NHLBI Expert Panel-4 (EPR-4) Working Group to update the EPR-3 Guidelines for the Diagnosis and Management of Asthma (2007), National Asthma Education and Prevention Program (NAEPP) Coordinating Committee, 2018- present
51. External Advisory Board, Mt. Sinai CTSA (PI R. Wright), 2018 - present
52. Scientific Advisor Committee, Respiratory Health Association, 2018 – present
53. Councilor, Central Society for Clinical and Translational Research. 2019-2022

RECOGNITION

A. Awards, Honors:

- 1986 College of Natural Sciences Dean’s Scholar, University of Texas
- 1987 College of Natural Sciences Distinguished Scholar, University of Texas
- 1989 Phi Beta Kappa, University of Texas
- 1989 President’s Scholar, Baylor College of Medicine
- 1989 Verna and Marrs McLean Excellence in Biochemistry Award, Baylor College of Medicine
- 1989 Physiology Award (1st rank), Baylor College of Medicine
- 1990 McGraw Hill Award for Excellence in the Basic Sciences, Baylor College of Medicine
- 1990 Henry and Rose Caplovitz Internal Medicine Award, Baylor College of Medicine
- 1991 Neurology Award for Excellence, Baylor College of Medicine
- 1992 Alpha Omega Alpha, Baylor College of Medicine
- 1993 Stanley W. Olson Award for Academic Excellence, Baylor College of Medicine
- 1999 CHEST Foundation Clinical Research Trainee Award for Asthma
- 2000 American Thoracic Society Critical Care Assembly Award
- 2001 Parker B. Francis Fellowship Award
- 2002 American College of Chest Physicians Leadership Conference Award
- 2004 Early Career Award, American Thoracic Society

- 2005 Fellow, American College of Chest Physicians
- 2010 Who's Who, American Thoracic Society
- 2011 Presidential Commendation, American Thoracic Society
- 2015 Lifetime Achievement Award, Assembly of Behavioral Science / Health Services Research, American Thoracic Society
- 2016 Fellow, American College of Physicians
- 2016 Dean's Award for Excellence in Population Health Research, College of Medicine
- 2017 The Solovy Award for Advancement in COPD, Respiratory Health Association
- 2017 President's Executive Leadership Program (PELP) Fellow, University of Illinois System
- 2017 John Butler Lecture, Division of Pulmonary, Critical Care and Sleep Medicine, University of Washington
- 2018 Fellow, American Thoracic Society
- 2018 John B. Hickam Endowed Lecture, Central Society for Clinical and Translational Research
- 2018 Thomas L. Petty Memorial Honor Lecture, American Association of Respiratory Care
- 2018 Researcher to Know, Advancing Medicine, Illinois Science & Technology Coalition
- 2019 Visiting Professor, University of California, San Francisco, Division of Pulmonary, Critical Care, Sleep, and Allergy
- 2019 Samuel J. Sills, MD, Distinguished Scholar, Breathe California of Los Angeles County, Trudeau Society of Los Angeles

B. Extramural Invited Talks (selected)

United States

1. **"Sleep apnea in the perioperative period: risks to consider."** AWAKE (Support group for patients with sleep apnea) meetings in Baltimore, MD, and Washington, D.C., 1998 and 1999.
2. **"Asthma Care in Managed Care Organizations."** Pulmonary Conference, University of San Diego School of Medicine, 1999.
3. **"Race and Gender Differences in Asthma Care among Managed Care Organizations."** Grand Rounds, Welch Center for Prevention, Epidemiology, and Clinical Research, November 2000.
4. **"Effect of Refusal to Participate in a Clinical Trial on Patient Outcome."** Critical Care and Pulmonary Mini-Symposium on Pulmonary Inflammation, National Institutes of Health, March 2001.
5. **"Adherence to Inhaled Corticosteroid Therapy Following Asthma Exacerbation."** NIEHS Center for Childhood Asthma in the Urban Environment, Johns Hopkins.
6. **"Severe Asthma Exacerbations."** Research Conference, Division of Allergy/Clinical Immunology, Johns Hopkins University, March 2003.

7. **“Resolution of Severe Asthma Exacerbations.”** Oregon Health & Science University, August 2004.
8. **“Feasibility of High Frequency Chest Wall Oscillation for Treatment of Asthma Exacerbations.”** American College of Chest Physicians Conference, Seattle, October 2004.
9. **Biostatistics in Pulmonary Medicine, How To Understand and Critique the Methods: “Study Designs”**, American College of Chest Physicians, Seattle, Washington, October 2004.
10. **“Patients with severe asthma exacerbations: a vulnerable population.”** Research Seminar, Johns Hopkins NIEHS Center for Childhood Asthma in the Urban Environment, Baltimore, MD, November 2005.
11. **“Is it SMART to use combination therapy with fluticasone/salmeterol in asthma?”** Grand Rounds, Department of Medicine, Johns Hopkins University School of Medicine, Baltimore, MD, April 2006.
12. **“Evaluating difficult-to-control asthma: an update”** Grand Rounds, Mercy Hospital and Medical Center, Chicago, IL, May 2008.
13. **“Severe asthma or confounding by adherence”**, Research Conference, Division of Allergy/Immunology, Northwestern University, August 2008.
14. **“Your next patient with poorly controlled asthma – how do you evaluate the possibility of non-adherence”**. Core Lecture, Division of Pulmonary/Critical Care Medicine, Northwestern University, September 2008.
15. **“Asthma management: an update”**. Kishwaukee Community Hospital, November, 2008.
16. **COPD Outcomes-based Network for Clinical Effectiveness and Research Translation (CONCERT)**. Center for Health Services Research, Institute for Health Research and Policy, University of Illinois. January, 2009.
17. **Severe asthma or undertreated / mistreated asthma: How do you tell?** Grand Rounds, Department of Medicine, University of Illinois. June, 2009.
18. **“Can it work to How well does it work to How do we implement in routine practice The COPD Comparative Effectiveness Research Consortium.”** Research conference, University of Southern California, December, 2009.
19. **“Teaching respiratory inhaler technique to patients with acute asthma: Towards a performance measure.”** Chicago Asthma Consortium, December, 2009.
20. **Dyspnea and wheeze: is it asthma, COPD or obesity and does it matter?** Chicago Respiratory Society, November 2010.

- 21. From Efficacy to Effectiveness - Moving translational science to the right: COPD as an example.** Research seminar, Division of Pulmonary, Critical Care, and Sleep Medicine, Brown University, January 2011.
- 22. Analytic Hierarchy Process to identify the expressed needs of stakeholders for comparative effectiveness research.** Lung Mini-symposium, Northwestern University, June 2011.
- 23. Boundaries separating efficacy from effectiveness: trials in asthma as an example.** Professor's Seminar Series, CCTS Areas of Concentration in Clinical Research (CCTS 44000), University of Chicago, November 2011.
- 24. Role for Comparative Effectiveness Research in COPD care.** Second National COPD Conference and COPD7 USA, COPD Foundation, Washington, DC, December 2011.
- 25. Comparative effectiveness research in population health.** Research challenges in measuring data for population health to enable predictive modeling for improving healthcare. NSF meeting, Washington, DC, January 2012.
- 26. Asthma: Therapeutic perspective.** CVS Caremark National Pharmacy & Therapeutics Committee meeting. Chicago, IL, February 2012.
- 27. The use of Analytical Hierarchy Process to elicit stakeholder input for prioritizing research.** AHRQ Community Forum: Integrating stakeholder preferences in comparative effectiveness research, potential uses of Multi-Criteria decision analysis techniques. AHRQ Webinar, August 2012.
- 28. Severe Asthma in African Americans.** Translational approaches to reduce health disparities in lung disease. Chicago, IL, September 2012.
- 29. Preventing re-hospitalization for COPD.** American College of Chest Physicians 14th annual ACCP Community Asthma and COPD Coalitions Symposium. State and Local partnerships to achieve sustainable results. CHEST 2012 meeting. Atlanta, GA, October 2012.
- 30. Preventing re-hospitalizations after COPD exacerbations: are we ready?** National Association for Medical Direction of Respiratory Care, 36th Annual Meeting. San Diego, CA, March 2013.
- 31. Practice-based evidence to inform policy and patient-centered care: A call for action.** Pulmonary Medicine Health Policy Summit. Washington, DC, April 2013.
- 32. COPD: Clinical and therapeutic perspective.** CVS Caremark National Pharmacy & Therapeutics Committee meeting. Chicago, IL, May 2013.

- 33. Preventing another hospitalization – what strategies of healthcare delivery work?** COPD8usa meeting. Chicago, IL, June 2013.
- 34. What solutions exist now- Randomized controlled trials? A systematic review of the literature.** COPD8usa meeting. Chicago, IL, June 2013.
- 35. Care Delivery Track-How Patient Centered Outcomes Research Can Drive Evidence Based Policy & Lead to Better Clinical Outcomes.** COPD8usa meeting. Chicago, IL, June 2013.
- 36. Update on COPD Management Reducing Hospital Readmissions.** 9th Annual Midwestern Hospital Medicine Conference. Chicago, IL, October 2013.
- 37. Asthma Updates.** Grand Rounds for Advocate Christ Medical Center. Chicago, IL, October 2013.
- 38. Peer-Reviewed Published Evidence.** COPD Readmissions Summit: Integrating COPD into patient Centered Hospital Readmission Reduction Programs. Washington, DC, October 2013.
- 39. COPD: What you want to know about clinical research .** Living Better Together COPD Conference. Respiratory Health Association. Chicago, IL, November 2013.
- 40. High-tech Healthcare: What is the potential global impact of health services with smart technology? Panel discussion.** UIC Urban Forum. Chicago, IL, December 2013.
- 41. Evidence, Practice, and Practice-based Evidence on Severe Asthma: Need for Comparative Effectiveness Research.** Pulmonary Core Conference for Rush Hospital. Chicago, IL, February 2014.
- 42. The Coordinated Healthcare Interventions for Childhood Asthma Gaps in Outcomes (CHICAGO Trial).** 7th Annual Nursing Resource Consortium. Chicago, IL, March 2014.
- 43. Hospital readmissions after COPD exacerbation – can we improve hospital to home transitions?** INOVA Fairfax Hospital. Fall Church, VA, March 2014.
- 44. Medication Update for Treating COPD.** Healthy Lung Expo. Chicago, IL, May 2014.
- 45. Panel Discussion: Role of Data in Healthcare Innovation from Bench to Bedside to Community and Back.** Conference on Healthcare Innovation: Improving healthcare value by improving quality and reducing cost. Chicago, IL, May 2014.
- 46. Comparative effectiveness research – a tool for population health.** Visiting Professor and External Advisor, UNC CTSA. University of North Carolina, Chapel Hill, NC, May 2014.

- 47. PCORI's Patient and Family Engagement Rubric: Emerging Practices and Opportunities in Patient-Centered Research.** AcademyHealth Annual Research Meeting. San Diego, CA, June 2014.
- 48. Building Patient-Centeredness and Policy-Level Perspectives into Your Research.** AcademyHealth Annual Research Meeting. San Diego, CA, June 2014.
- 49. Collaboration with the Chicago Department of Public Health: Applied Research, Program Evaluation, and Epidemiology to Inform Evidence-based Policy: PCORI CHICAGO Trial.** Research Evaluation Summit at the City of Chicago Department of Public Health, Chicago, IL, June 2014.
- 50. Flexibility – intervention delivery and patient adherence.** Pragmatic Trials Workshop, Center for Research in Implementation Science and Prevention (CRISP). University of Colorado Anschutz Medical Center, September 2014.
- 51. Remodeling healthcare delivery in the ACA era – the last mile in the translational research spectrum.** Visiting Professor, University of Kentucky, October 2014.
- 52. Partnering with local government to improve public health using comparative effectiveness research,** American Academy of Allergy, Asthma & Immunology, Annual Meeting, Houston, TX, February 22, 2015.
- 53. COPD readmissions: Where are we now? Where are we going? How do we begin?** Second COPD Readmissions Summit, Washington, DC, March 2015.
- 54. Optimizing meaningful data to improve performance.** Illinois Hospital Association Quality Leadership Conference, Naperville, IL, April 2015
- 55. What is stakeholder-centered research?** Plenary speaker at Washington University 2015 CER Symposium, St. Louis, MO, April 2015
- 56. Emerging approaches and platforms and the opportunities they present: building sustainable models of multi-stakeholder research consortia.** Methods and Metrics of Implementation Research Workshop, NIH/NHLBI Center for Translation and Implementation Science, Bethesda, MD, June 2015.
- 57. A primer on engaging health systems in research.** Plenary speaker at the North American Primary Care Research Group (NAPCRG) PBRN 2015 Conference, Washington DC, June 2015.
- 58. Reducing unexpected readmissions at a Minority Serving Institution.** Building Statewide Improvement Hubs for Community Engagement. Illinois Hospital Association Leadership Summit, Lombard, IL, September 2015.
- 59. Population Health following the Affordable Care Act.** American Case Management Association, Illinois Chapter, Chicago, IL, October 2015.

- 60. Review: 30-Day Readmission Summit 1.** Improving quality through reducing health care utilization in COPD, Mount Sinai Beth Israel, New York, NY, October 2015.
- 61. Reducing readmissions in patients with COPD exacerbations – knowns and unknowns.** Medical Grand Rounds, Rush University Medical Center, Chicago, IL, January 2016.
- 62. Transforming academic health systems in the Affordable Care Act era.** Plenary session, Concordium 2016, AcademyHealth, Washington DC, September 2016.
- 63. Healthcare delivery science in COPD: a key step in translational research.** Clinical and translational research forum, National Jewish Health, Denver, April 2017.
- 64. RELIANCE study: Known, known unknowns, and unknown unknowns.** Duke/UNC COPD Research Conference, Duke University, May 2017.
- 65. “A LOTT of oxygen”.** American Association of Respiratory Care, Webcast, June 2017.
- 66. Healthcare re-design in the era of ACA.** The John Butler Endowed Lecture, University of Washington, October 2017.
- 67. Design of COPD research relevant to practice: PCORI RELIANCE study.** Pulmonary Research Conference, Johns Hopkins, November 2017.
- 68. Population Health.** 2nd Illinois Health Data Analytics Summit, University of Illinois at Urbana-Champaign, Champaign, IL, April 2018.
- 69. Fitting Medicine into the Lives of People.** John B. Hickam Endowed Lecture, Central Society for Clinical and Translational Research, April 2018.
- 70. Why are cost of care conversations important?** Panel discussion moderated by Gwen Darien. National Patient Advocate Foundation, Fall 2018 Policy Consortium, Washington DC, December 2018.
- 71. Everyone Needs Oxygen.** Thomas L. Petty Memorial Lecture, American Association of Respiratory Care, AARC Congress 2018, Las Vegas, NV, December 2018.
- 72. COPD exacerbations and readmissions.** Sam Sills Distinguished Scholars Lectureship, Harbor-UCLA, Cedars-Sinai, Westside LA VA Medical Center, *March 2019 (planned)*.

International

- 73. “New Measure of Adherence for Inhaled Corticosteroids.”** European Respiratory Congress, Vienna, October 2003.

74. **Epidemiology as a Tool for Understanding Respiratory Disease: “Cross-sectional studies”** International Conference, American Thoracic Society, Orlando, Florida, May 2004.
75. **“Threats to study validity: confounding and bias” and “Elements of a research protocol”** in the European Respiratory Society/American Thoracic Society-sponsored Methods in Clinical Research course, Prague, Czech Republic, June 2005.
76. **“Epidemiology of status asthmaticus”**, International Conference, American Thoracic Society, Toronto, Canada, May, 2008.
77. **“From efficacy to effectiveness: do we know what works in a typical patient with COPD”?** Plenary session, COPD7 International Meeting, Birmingham, United Kingdom, July 2010.
78. **“Comparative effectiveness research – a neologism?”** International Conference, American Thoracic Society, Denver, U.S., May 2011.
79. **“Efficiency to effectiveness: what are the gaps and how to prioritize?”** Respiratory Effectiveness Group, Arch Summit, London, UK, February 2013.
80. **“Science of Quality Improvement”** American Thoracic Society International Conference, Philadelphia, May 2013.
81. **“Transitions in care: Identifying the key stakeholders in the readmissions process”** American Thoracic Society International Conference, Philadelphia, May 2013.
82. **“How do I implement the COPD guidelines in my practice setting to improve patient care?”** American Thoracic Society International Conference, Philadelphia, May 2013.
83. **“Lessons learned about comparative effectiveness research from the CONCERT Study Group”** American Thoracic Society International Conference, Philadelphia, May 2013.
84. **“Patient- centeredness: engaging patients in the research process”** American Thoracic Society International Conference, Philadelphia, May 2013.
85. **“Preventing another hospitalization in patients with COPD-what works?”** Visiting Professor Grand Rounds, McMaster University Canada, Hamilton, January 2014.
86. **“Current therapies for management of COPD and its comparative effectiveness”** International Conference on Insights and Management of COPD (ICONIC) Conference, India, February 2014.
87. **“COPD Readmission Rates: An Appropriate Quality Measure?”** American Thoracic Society International Conference, San Diego, May 2014.

88. **“The challenge: American Thoracic Society Position Statement on Comparative Effectiveness”**. Respiratory Effectiveness Group Summit, London, UK, June 2014.
89. **“Activities in the USA – the PCORnet initiative.”** Respiratory Effectiveness Group Summit, London, UK, June 2014.
90. **“Asthma COPD Overlap Syndrome”**. Respiratory Effectiveness Group Summit, Rotterdam, Netherlands, January 2015.
91. **“PCORnet initiative.”** Respiratory Effectiveness Group Summit, London, UK, June 2015.
92. **“Preventing COPD-Related Re-hospitalizations: Bridging the Gap”**, CHEST annual meeting, Montreal, Canada, October, 2015.
93. **“Partnering with patient navigators and peer advocates to reduce COPD readmissions.”** American Thoracic Society International Conference, San Francisco, 2016.
94. **“CON: Interventions do not reduce COPD readmissions”**, Hot topics in COPD: a PRO/CON Debate. American Thoracic Society International Conference, Washington, DC, May 2017.
95. **“ERS/ATS guidelines on treatment and prevention of COPD exacerbation”**, co-chair. European Respiratory Society 2017 Annual Congress, Milano, Italy, September 2017.
96. **“The potential of clinical dashboard’ monitoring systems in COPD.** Workshop: Incorporating Telemedicine into the Integrated care of the COPD patient. Stresa, Italy, September 2017.
97. **“A new GINA resource in 2018 – a practical guide to assessment and management of difficult-to-treat and severe asthma” using human-centered design.** GINA 2018 and beyond – shaping the future of asthma management. European Respiratory Society annual meeting, Paris, France, September 2018.