

CURRICULUM VITAE

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

University of Illinois 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 Chicago (UIC). UIC is one of the most diverse research-intensive universities in the United States and is federally designated Minority Serving Institution, Asian American and Native American Pacific Islander-Serving Institution (AANAPISI), and Hispanic-Serving Institution. Dr. Krishnan received an MD degree with Honors from Baylor College of Medicine 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) and completed the Advanced Management Program at Harvard Business School.

Dr. Krishnan is a leader in the development, interpretation, and use of real-world evidence to inform population health strategies, with a focus on health equity. He is also an expert in clinical guidelines methodology and the integration of human-centered design in clinical research and healthcare operations. 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 the U.S. Agency for Healthcare Research & Quality to develop the first, national, stakeholder-supported research agenda for COPD and by the U.S. National Institutes of Health (NIH)/ National Heart, Lung, and Blood Institute (NHLBI) to develop a national research infrastructure to conduct comparative effectiveness research in COPD, including individuals commonly under-represented in biomedical research. He is an investigator in research consortia conducting studies in asthma, COPD, sickle cell disease, insomnia, and COVID-19 (including post-acute sequelae of SARS-CoV-2 or “Long COVID”).

He contributes to several U.S. and international advisory groups, committees, or organizations. Examples include the FDA Pulmonary-Allergy Drugs Advisory Committee (past chair), NIH RECOVER Adult Coordinating Committee, NIH RECOVER Ancillary Oversight Committee (vice-chair), National Academy of Medicine committee on the definition of Long COVID, NIH/NCATS Special Emphasis Panel for CTSAs, Global Initiative for Asthma (GINA) Board of Directors, American Board of Internal Medicine (ABIM) Pulmonary Disease Approval Committee, and the American Thoracic Society project on home-based monitoring in chronic lung disease (co-chair). He is the current President of the Central Society for Clinical and Translational Research (2023-24).

Since 2003, Dr. Krishnan has taught clinical research methodology in low and middle-income countries in the American Thoracic Society’s Methods in Epidemiologic, Clinical, and Operations Research (MECOR) program. He received several awards, including a Parker B. Francis Award (2001), Lifetime Achievement Award from the Behavioral Sciences / Health Services Research Assembly by the American Thoracic Society (2015), Researcher to Know in Advancing Medicine by the Illinois Science & Technology Coalition (2018), and the Forrest M. Bird Lifetime Scientific Achievement Award (2019) from the American Respiratory Care Foundation, and the University of Illinois System’s Presidential Medallion (2021).

DEMOGRAPHIC INFORMATION

A. Current Appointments

Professor (tenure)

Division of Pulmonary, Critical Care, Sleep, and Allergy

Department of Medicine

College of Medicine

Professor

Division of Epidemiology and Biostatistics

School of Public Health

Faculty Affiliate, Department of Pharmacy Practice, College of Pharmacy

Faculty Affiliate, Center for Global Health

Founding Director, COPD & Asthma Transitional Care Clinic

University of Illinois Hospital & Health Sciences System

Director, Breathe Chicago Center

Division of Pulmonary, Critical Care, Sleep, and Allergy

Department of Medicine

College of Medicine

Executive Director, Institute for Healthcare Delivery Design

Associate Vice Chancellor for Population Health Sciences

Office of Vice Chancellor for Health Affairs

B. 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
Executive Education/2013	Northwestern University	Culture of Innovation / Energizing people for performance
Executive Education/2019	Harvard Business School	Strategy for Health Care Delivery
Executive Education/2022	Harvard Business School	Advanced Management Program

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	University of Chicago
2007-11	Associate Professor	Health Studies	University of Chicago
2011-15	Associate VP for Population Health Sciences	Office of VP for Health Affairs	University of Illinois Hospital & Health Sciences System
2011-	Professor	Medicine	University of Illinois Chicago
2011-	Professor	Epi / Biostat	University of Illinois Chicago
2011-	Director, Breathe Chicago Center	Medicine	University of Illinois Chicago
2012-19	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

Professional Experience (continued)

2018-	Exec. Director, Institute for Healthcare Delivery Design	Population Health Sciences Office VC Health Affairs Center	University of Illinois Hospital & Health Sciences System
2019-	Faculty Affiliate	Center for Global Health	University of Illinois Chicago
2020-	Member	Population Health Analytics Metrics Evaluation Center	University of Illinois Chicago
2021-22	Member	Executive Committee	Discovery Partners Institute
2022-	Faculty Affiliate	Department of Pharmacy Practice	College of Pharmacy University of Illinois Chicago

ADMINISTRATIVE ACTIVITIES

As Chicago’s only public research university, the University of Illinois Chicago (UIC) prides itself on sparking new discoveries and innovations that can be practically applied for the benefit of the public. Part of UIC, the University of Illinois Hospital & Health Sciences System (UI Health) is the academic health enterprise with a *care delivery system* (a 460-bed tertiary care hospital and more than 40 outpatient clinics, including 13 federally qualified Mile Square Health Center locations in Chicago) and seven health sciences colleges (Applied Health Sciences, Dentistry, Medicine, Nursing, Pharmacy, the School of Public Health, and the Jane Addams College of Social Work). The academic and research activities in the health sciences colleges include campuses in urban and rural areas of Illinois (Chicago, Peoria, Quad Cities, Rockford, Springfield, and Urbana). The mission of 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 (led by Robert Barish, MD, MBA) provides oversight for UI Health and is comprised of seven functional units: Business Development, Communications, Health Affairs Advocacy and Government Relations, Health Informatics, Interprofessional Practice and Education, Population Health Sciences, and Quality and Patient Safety. Founded in 2011 by Dr. Krishnan, 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 in his role as Associate Vice Chancellor for Population Health Sciences.

▪ **Chair, multiple search committees for UI Hospital & Clinics (Summer / Fall 2012)**

In collaboration with a national executive search firm, led successful searches for the Associate Vice President for Community Based Practice (Robert Winn, MD), Associate Vice President for Hospital Operations (Brian Becker, MD, MMM), Associate Vice President for Professional Practice (Jaewon Ryu, MD, JD), and Associate Vice President for Quality and Patient Safety (Jodi Joyce, RN, MBA) for the care delivery system.

▪ **Integration of the Englewood Health Center into the Mile Square Federally Qualified Health Center network (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 populations 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. There were four Proposal Development Awards (in total \$2M), two of which successfully competed for more than \$21M in federally sponsored research awards:

- **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”);
- **Care coordination model for high-risk patients with chronic conditions** (PI: Cheryl Schraeder, RN, PhD);
- **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)”);
- **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.
- **PATient Navigator to rEduce Readmissions (PARtNER; October 2013 to September 2016)**
- 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; 2013 to 2017)**
- 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; 2014 to 2017)**
- 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; 2014 to 2017)**

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**

Led the development of the Affordable Care Act (ACA)-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. 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.

- **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 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 System and serves as the chief executive officer for the Chicago-based university. The successful search concluded in the selection of Michael Amiridis, PhD, as the Chancellor and Vice President, University of Illinois Chicago.

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

Appointed by the Vice President for Health Affairs and Chancellor of the University of Illinois 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:

- **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
- **Reducing out-of-hospital complications in adults with sickle cell disease (College of Medicine and College of Nursing)**
 - Student awardees: Frank Zadravec, Keesha Roach
 - Faculty mentors: Robert Molokie, Crystal Patil
- **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 Chicago (2016 to 2017)**

- Appointed by the Vice Chancellor for Health Affairs. Search successfully concluded in the appointment of Wayne Giles, MD, MS, as the Dean.

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

- Appointed by the Chancellor of the University of Illinois Chicago. Search successfully concluded in the appointment of Joanna Groden, PhD, as the Vice Chancellor for Research.

▪ **Discovery Partners Institute (DPI), University of Illinois**

The DPI is led by the University of Illinois System and is the flagship program in the state of Illinois for workforce development in technology; supporting collaborations in applied R&D between industry, researchers, and students; and equitable economic development.

- **Academic Executive Committee.** Appointed by the Chancellor of the University of Illinois Chicago, November 2017 to 2021.
- **Member, Search Committee, Managing Director.** Appointed by the Interim Director, Discovery Partners Institute, February 2019 to 2020. Search successfully concluded in the appointment of Bill Jackson, as the Executive DPI Director.
- **Executive Committee, 2021 to 2022**

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

The Institute for Healthcare Delivery Design, approved in 2023 by the Illinois Board of Higher Education, 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, hospital leaderships, public officials, and other decision makers in healthcare contexts.

The Institute provides advising services to the Illinois Department of Healthcare and Family Services (HFS), health systems, and public health departments. Our work with HFS led to the launch of the \$1B 7-year Healthcare Transformation Collaboratives (HTC). The HTC provides

about \$150M per year for demonstration projects between hospitals and community-based organizations to design, implement, and evaluate new models of population health for Medicaid beneficiaries in Illinois. In addition to the Advising services pillar, the Institute also collaborates in NIH and PCORI-funded national research consortia and supports training of health sciences students in human-centered design.

- **COVID-19 Research Advisory Committee, Office of the Vice Chancellor for Research (OVCR; 2020 – 2021)**

In response to the research-related precautions, the OVCR implemented an advisory committee to evaluate the impact of COVID-19 related research on healthcare operations. This committee is advisory to the institution's Incident Command and OVCR.

- **COVID-19 Clinical Research Restart Workgroup, Office of the Vice Chancellor for Research (OVCR; 2020 – 2021)**

In response to local and state planned phase-outs of stay-at-home orders due to COVID-19 pandemic, this workgroup serves in an advisory capacity for policies to re-start clinical research.

- **Member, Search committee, Head, Department of Medicine, University of Illinois Chicago (2022 - 2023)**

Appointed by the Executive Dean, College of Medicine, University of Illinois Chicago.

- **Member, Office of Vice Chancellor for Research and UI Health Clinical Research Implementation Advisory Committee (2023 – present)**

The Committee advises the CMO and CNO regarding implementation of clinical studies, including research trial implementation to ensure coordination of the health system and researchers' needs.

RESEARCH ACTIVITIES

A. Peer-reviewed original research articles

Clinical investigation methodology or policies

1. Swartz LJ, Callahan KA, Butz AM, Rand CS, Kanchanaraksa S, Diette GB, **Krishnan JA**, Breyse PN, Buckley TJ, Mosley AM, Eggleston PA. Methods and issues in conducting a community-based environmental randomized trial. *Environ Res* 2004; 95: 156-165. PMID: 15147921.
2. Eggleston PA, Diette GB, Lipsett M, Lewis T, Tager I, McConnel R, Chrischilles E, Lanphear B, Miller R, **Krishnan J**. Lessons learned from the study of childhood asthma from the Centers for Children's Environmental Health and Disease Prevention Research. *Environ Health Perspect* 2005; 113: 1430-1436. PMID: 16203259.
3. Schünemann H, Jaeschke R, Cook D, Bria WF, Fahy BF, El Solh AE, Gould MK, Horan KL, **Krishnan JA**, Manthous CA, Maurer J, McNicholas W, Rubenfeld G, Turino GM, Guyatt G on behalf of the ATS Documents Development and Implementation Committee. An official ATS statement: Grading the quality of evidence and strength of recommendations for guidelines and recommendations. *Am J Respir Crit Care Med* 2006; 174:605-614. PMID: 16931644.
4. *Au DH, *Castro M, ***Krishnan JA**. Selection of controls in clinical trials: introduction and conference summary. *Proc Am Thorac Soc* 2007; 4: 567-569. *All authors contributed equally. PMID: 17878470.
5. Lang ES, Wyer P, Tabas JA, **Krishnan JA**. Educational and research advances stemming from the academic emergency medicine consensus conference in knowledge translation. *Acad Emerg Med* 2010; 17: 865-869. PMID: 20670324.
6. Kahn JM, Scales DC, Carson SS, Curtis JC, **Krishnan JA**, Iwashyna TJ, Mauer JR, Mularski RM, Papovich J, Rubenfeld GD, Sinuff T, Heffner JE. An official American Thoracic Society policy statement: pay-for-performance in pulmonary, critical care and sleep medicine. *Am J Respir Crit Care Med* 2010; 181: 752-761. PMID: 20335385.
7. Stein BD, Bautista A, Schumock GT, Lee TA, Charbeneau JT, Lauderdale D, Naureckas ET, Meltzer DA, **Krishnan JA**. The validity of ICD-9-CM diagnosis codes for identifying patients hospitalized for COPD. *Chest* 2012; 141: 87-93. PMID: 21757568.
8. Lieu TA, Au D, **Krishnan JA**, Moss M, Selker H, Harabin A, Taggart V, Connors A and the Comparative Effectiveness Research in Lung Diseases Workshop Panel. Comparative effectiveness Research in Lung Diseases and Sleep Disorders: Recommendations from the NHLBI Workshop. *Am J Respir Crit Care Med* 2011; 184: 848-856. PMID: 21965016.

9. Pickard AS, Lee TA, Solem CT, Joo MJ, Schumock GT, **Krishnan JA**. Prioritizing comparative effectiveness research topics via stakeholder involvement: an application in COPD. *Clin Pharmacol Ther* 2011; 90: 888-892. PMID: 22048220.
10. Mularski RA, McBurnie M, Lindenauer PK, Lee TA, Vollmer WM, Au DH, Carson SS, **Krishnan JA** on behalf of the CONCERT Investigator Consortium. Comparative effectiveness research in chronic obstructive pulmonary disease. *Comparative Effectiveness Research*. Jan 2012; 1: 71-82. PMID: 23105965.
11. **Krishnan JA**, Lemanske RF, Canino GJ, Elward KS, Kattan M, Matsui EC, Mitchell H, Sutherland ER, Minnicozzi M. Asthma outcomes: Symptoms. *J Allergy Clin Immunol* 2012; 129: S124-S135. PMID: 22386505.
12. **Krishnan JA**, Lindenauer PK, Au DH, Carson SS, Lee TA, McBurnie MA, Naureckas ET, Vollmer WM, Mularski RA. Stakeholder priorities for comparative effectiveness research in COPD: a Workshop report. *Am J Respir Crit Care Med*. 2013; 187:320-326. PMID: 23155144.
13. Mularski R, McBurnie MA, Schatz M, **Krishnan J**, Puro J, Williams A, Au D, Hazlehurst B. PS1-1a: Use of the CER Hub to Identify Out-of-Control Asthma and Compare Therapeutic Classes of Step-Up Asthma Medications in Clinical Practice. *Clin Med Res* 2013; 11: 143. PMID: PMC3788482
14. Carson SS, Goss CH, Patel SR, Anzueto A, Au DH, Elborn S, Gerald JK, Gerald LB, Kahn JM, Malhotra A, Mularski R, Riekert K, Rubenfeld G, Weaver T, **Krishnan JA**; The ATS Ad Hoc Comparative Effectiveness Research Working Group. An Official American Thoracic Society Research Statement: Comparative Effectiveness Research in Pulmonary, Critical Care, and Sleep Medicine. *Am J Respir Crit Care Med*. 2013; 188(10):1253-61. PMID: 24160906.
15. Kahn J, Gould M, **Krishnan JA**, Wilson K, Au D, Cooke C, Douglas I, Feemster L, Mularski R, Slatore C, and Soylemez Wiener R. Developing Performance Measures from Clinical Practice Guidelines. *Ann Am Thorac Soc* 2014; Vol. 11, No. 4 (2014), pp. S186-S195. PMID: 24828810
16. Kho AN, Hynes DM, Goel S, Solomonides AE, Price R, Hota B, Sims SA, Bahroos N, Angulo F, Trick WE, Tarlov E, Rachman FD, Hamilton A, Kaleba EO, Badlani S, Volchenboun SL, Silverstein JC, Tobin JN, Schwartz MA, Levine D, Wong JB, Kennedy RH, **Krishnan JA**, Meltzer DO, Collins JM, Mazany T; for the CAPriCORN Team. CAPriCORN: Chicago Area Patient-Centered Outcomes Research Network. *J Am Med Inform Assoc* 2014; 21: 607-11. PMID: 24821736
17. Prieto-Centurion V, Rolle AJ, Au DH, Carson SS, Henderson AG, Lee TA, Lindenauer PK, McBurnie MA, Mularski RA, Naureckas ET, Vollmer WM, Joese BJ, **Krishnan JA**; CONCERT Consortium. Multi-center study comparing case definitions used to identify patients with chronic obstructive pulmonary disease. *Am J Respir Crit Care Med* 2014; 190: 989-985. PMID: 25192554.

18. **Krishnan JA**, Gussin HA, Prieto-Centurion V, Sullivan JL, Zaidi F, Thomashaw BM. Integrating COPD into Patient-Centered Hospital Readmissions Reduction Program. *Chronic Obstr Pulm Dis*. 2015; 2: 70-80. PMID: 25927076
19. *Bender BG, ***Krishnan JA**, Chambers DA, Cloutier MM, Riekert KA, Rand CS, Schatz M, Thomson CC, Wilson SR, Apter A, Carson SS, George M, Gerald JK, Gerald L, Goss CH, Okelo SO, Mularski RA, Nguyen HQ, Patel HR, Szeffler S, Weiss C, Wilson KC, Freemer M. American Thoracic Society- National Heart, Lung, and Blood Institute Implementation Research Workshop Report. *Annals ATS* 2015; 12: S213-221. PMID: 26653201. *Contributed equally as first-authors.
20. Ursan ID, **Krishnan JA**, Pickard AS, Calhoun E, DiDomenico R, Prieto-Centurion V, Sullivan JB, Valentino L, Williams MV, Joo M, on behalf of the PARtNER investigators. Engaging Patients and Caregivers to Design Transitional Care Management Services at a Minority Serving Institution. *J Health Care Poor Underserved* 2016; 27: 352-365. PMID: 27763474
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B. Invited review articles

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C. Invited editorials

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D. Book chapters

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E. Letters

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307. **Krishnan JA**, Albert RK, Rennard SI; RELIANCE study. Waiting for Actionable Evidence: Roflumilast or Azithromycin? *Chronic Obstr Pulm Dis*. 2021 Nov 15. doi: 10.15326/jcopdf.2021.0272. Online ahead of print. PMID: 34783231

F. Other

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G. Research articles under review

1. Potharazu AV, Sherrod RM, Basapur S, Beirne P, Buckley R, Curry RH, Erwin K, Hutchinson M, Jones P, Kotches M, Langerman A, Minshew LM, Sammann A, Trowbridge M, **Krishnan JA***, Musick H*. Design thinking in undergraduate medical education: a description of seven programs. *Co-senior authors (Under review)

H. Research articles in preparation

1. Roflumilast and azithromycin for COPD: a pulmonary perspective (invited by Am J Respir Crit Care Med).

I. Sponsored research: Current

Care delivery science

1. **PCS-1504-30430 (PI, Krishnan) 11/1/2017 to 7/1/2024**
Patient Centered Outcomes Research Institute Phase 1 \$899,822 (entire contract)
Roflumilast or Azithromycin to Prevent COPD Exacerbations (RELIANCE) Phase 2 \$13,712,392 (entire contract)
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).
2. **CER-2018C2-13262 (PI, Stone and Buysse)**
Patient Centered Outcomes Research Institute
Comparative Effectiveness of Zolpidem and Cognitive Behavioral Therapy for Insomnia (CBT-I) in Rural Adults (COZI-R) \$5,464,174 (entire contract)
To compare the effectiveness of zolpidem, CBT-I, and combination treatment for insomnia symptoms over 12 months; to compare the effectiveness of zolpidem, CBT-I, and combination treatment for other symptoms and problems, including health-related quality of life, mood, and health outcomes; to compare the side effects of zolpidem, CBT-I, and combination treatment; and to examine who responds best to which treatment.
Role: Director, Recruitment and Retention Core
3. **ME-2021C3-24972 (PI, Scharfstein) 11/01/2022 to 10/31/2025**
Patient Centered Outcomes Research Institute
Sensitivity Analysis Methods for Pragmatic Trials with Irregular and Informative Assessment Times \$1,090,002 (entire contract)
To develop a statistical method to perform sensitivity analyses of completed study datasets with irregular and informative assessment times.
Role: Co-investigator, Chair, Stakeholder Engagement Committee

Discovery science

- 4. OT2HL161847-01 (Katz, Horwitz, Troxel)** **10/1/2021-5/23/2025**
NIH/NHLBI \$448,259,603
NIH RECOVER: A Multi-site Observational Study of Post-Acute Sequelae of SARS-CoV-2 Infection in Adults
Retrospective and prospective cohort study with nested case-control studies to 1) characterize the incidence and prevalence of sequelae of SARS-CoV-2 infection; 2) characterize the spectrum of clinical symptoms, subclinical organ dysfunction, natural history, and distinct phenotypes identified as sequelae of SARS-CoV-2 infection; 3) define the biological mechanisms underlying pathogenesis of the sequelae of SARS-CoV-2 infection.
Role: Illinois-based Network (ILLInet) Principal Investigator (ILLInet budget \$19,768,641)
- 5. U01HL137880 (Woodruff)** **09/15/2017-05/31/2022**
NIH/NHLBI \$40,090
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. ILCHI 60043659 (PI, Smith; UIC site PI, Krishnan)** **7/1/2016 to 6/30/2023**
American Lung Association \$37,500
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.
- 7. 1UG1HL139118 (PI, Denlinger, Jarjour, Krishnan)** **09/23/2017-08/31/2023**
NIH/NHLBI \$85,226
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
- 8. 085139 (Barr)** **08/31/2016-05/31/2022**
COPD Foundation \$8,207
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
- 9. (Ivanova, Anastasia)** **07/01/2019 – 06/30/2022**
NHLBI \$99,609
Data, Modeling, and Coordination Center for PrecISE Network

Role: Site Principal Investigator

- 10. U24HL141762 (Couper)** **08/15/2018-7/31/2023**
NIH/NHLBI \$11,000
SPIROMICS GIC Support. To provide infrastructure support to SPIROMICS, including management of samples and data that have already been collected, support for following the cohort and for study operations, statistical analyses for manuscripts, and regulatory oversight.
Role: Site Principal Investigator

J. Funded Extramural Sponsorship: Previous

- 11. Sergey Brin Family Foundation (Krishnan)** **05/18/2020-3/31/2022**
Verily Life Sciences, LLC \$2,500,000
Covid19 - Predictors of Severe COVID-19 Outcomes (PRESCO)
Prospective multi-center cohort study collecting diverse biological measurements and clinical and epidemiological data to understand whether there are early signatures that predict progression to ARDS, mortality, and/or other comorbid conditions.

- 12. OT2HL156812-01 (Thomas)** **12/31/2021 - 03/31/2022**
NIH/NHLBI \$1,051,732
CONNECTS Trial Participant Registry (RE-CONNECTS)
Conduct planning activities by establishing a RE-CONNECTS Operations Group (ROG); conducting a pilot study to assess feasibility and solicit participant input about conducting long-term follow-up study visits among participants previously enrolled in the NHLBI CONNECTS adaptive trials platform for acute COVID-19; and developing a penultimate RE-CONNECTS study protocol. The objectives of the RE-CONNECTS study are to evaluate whether host-directed anti-thrombo-vasculo-inflammatory interventions for acute COVID-19 influence long term outcomes after SARS-CoV-2 infection; conduct investigations on possible mechanisms by which interventions affect long term outcomes after SARS-CoV-2 infection; and create an engaged community of participants previously enrolled in acute COVID-19 studies that will inform and contribute to the success of future NHLBI programs.
Role: Principal Investigator / Chair

- 13. OT2HL156812 (Thomas)** **07/01/2020-12/31/2022**
NIH/NHLBI >\$470,000,000
ACTIV-4 Post-Hospital (ACT-POSTH, 4C). Study treatments to help prevent blood clots after a patient is discharged from the hospital among COVID-19 patients who have been hospitalized.
Role: Research Communications Center Principal Investigator (RCC budget \$4,277,637)

- 14. 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.

- 15. OT2HL156812 (Thomas)** **07/01/2020-12/31/2021**
NIH/NHLBI >\$470,000,000
ACTIV-4 Outpatient (ACT-OUTPT, 4B). Investigate whether anticoagulants or antithrombotic therapy can reduce life-threatening cardiovascular or pulmonary complications in newly diagnosed COVID-19 patients who do not require hospital admission, or “outpatients.”
Role: Research Communications Center Principal Investigator (RCC budget \$4,216,708)
- 16. U10HL128954 (Au, Ma)** **08/01/2016-07/31/2020**
NIH/NHLBI \$35,823
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
- 17. U01HL128951 (Wise)** **02/01/2017-07/31/2020**
NIH/NHLBI \$22,000
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
- 18. (Han, Woodruff)** **11/01/17-7/31/20**
COPD Foundation \$9,776
Redefining Therapy in Early COPD (RETHINC) - Supplemental funding
The purpose of the RETHINC study is to determine whether symptomatic current and former smokers with normal lung function will benefit from the use of bronchodilator therapy currently used to treat patients who have Chronic Obstructive Pulmonary Disease (COPD). The COPD Foundation is providing supplemental funding to RETHINC.
Role: Site Principal Investigator
- 19. U01HL128954 (Han, Woodruff)** **11/01/17-7/31/20**
NIH/NHLBI \$28,900
Redefining Therapy in Early COPD (RETHINC)
The purpose of the RETHINC study is to determine whether symptomatic current and former smokers with normal lung function will benefit from the use of bronchodilator therapy currently used to treat patients who have Chronic Obstructive Pulmonary Disease (COPD). RETHINC is an NHLBI study being conducted through the framework of the Network Management Core (NEMO) for the Pulmonary Trials Cooperative (PTC).
Role: Site Principal Investigator

- 20. (Krishnan)** **03/30/2020-06/30/2020**
Regeneron Pharmaceuticals \$133,444
An Adaptive Phase 2/3, Randomized, Double-Blind, Placebo-Controlled Study Assessing Efficacy and Safety of Sarilumab for Hospitalized Patients with COVID-19
- 21. 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
- 22. 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
- 23. U10HL098096 (PIs, Smith/Solway/ Krishnan/Pongratic)**
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)
- 24. 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 Asthma Gaps in Outcomes (CHICAGO) Trial \$1,272,216 (UI, entire *Childhood* contract)
To test both provider- and patient-level interventions to improve clinically meaningful outcomes in a minority pediatric ED population with uncontrolled asthma.
- 25. 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 (PARtNER) \$1,730,727 (UI, entire contract)
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.

- 26. 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.
- 27. UG3 OD023189 (PI, Greenland, Winn, Daviglius, 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 Chicago) and their healthcare provider organization (HPO) partners across Illinois.
Role: Co-investigator
- 28. 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)
- 29. U34-HL130787 (McMahon (contact), Gutierrez, Ignoffo, Krishnan, Martin)**
NIH/NHLBI **9/11/2015 to 8/31/2016**
Coordinated Healthcare Interventions for \$288,144 direct (\$322,385 total)
Childhood Asthma Gaps in Outcomes
(CHICAGO) Collaboration II
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.

- 30. 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.
- 31. 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
- 32. 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.
- 33. 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
- 34. 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
- 35. 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.

36. 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.

37. 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

38. D55HP03365 (PI, Ewigman); relinquished

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

39. 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

- 40. 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
- 41. 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
- 42. 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 CTSA's.
Role: Co-project leader (Meltzer/Krishnan)
- 43. 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
- 44. 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
- 45. 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.

- 46. No grant number (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.
- 47. 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
- 48. 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
- 49. 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.
- 50. 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.
- 51. No contract number (PI, Krishnan)**
Bowman Lingle Trust **10/1/07 to 9/30/08**
University of Chicago Asthma Center
Role: Principal Investigator
- 52. (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)
- 53. (relinquished; PI, Rand and Malveaux)**
NIH/NHLBI **9/30/02 to 7/31/07**

Howard/Hopkins Center to Reduce Asthma Disparities

Role: Co-Investigator

54. (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*

55. (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)

56. (PI, Krishnan)

NIH/NHLBI K23

9/1/2001 to 8/30/2006

Increasing Adherence In Inner-City Adults With Asthma

57. 5M01RR000052-46 (PI, Krishnan)

NIH/NCRR

12/1/2006 to 9/16/2007

Macrolides to prevent exacerbations of asthma

58. (PI, Krishnan)

Johns Hopkins General Clinical Research Center

3/1/2005 to 2/28/2006

Corticosteroid Responsiveness after Severe Asthma Exacerbations

59. (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

60. (PI, Krishnan)

Advanced Respiratory/Hill-Rom, Inc.

10/1/2003 to 4/1/2004

Chest Wall Oscillation for Acute Asthma Treatment

(PI, Krishnan)

Parker B. Francis Foundation

7/1/2001 to 6/30/2004

Increasing Adherence in Inner-City Adults with Asthma

61. (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

62. (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

63. (PI, Krishnan)

CHEST Foundation and Glaxo **7/1/1999 to 6/30/2000**
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 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. 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)

24. **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 and Level 2 course leader (co-sponsored by CDC and ICMR/NIE)
- Bangalore, India (2018); Course Faculty and Level 2 course leader (co-sponsored by CDC, and ICMR/NIE)
- Chennai, India (2019); Course Faculty, Level 2 (co-sponsored by CDC, and ICMR/NIE)
- Bangalore, India (2023); Course Faculty, Level 1 (co-sponsored by the Indian Chest Society)

25. 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

26. 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

27. Post-graduate course, American Thoracic Society International Conference: Long Term Oxygen Therapy in 2022: What We Need to Know and What's Next. “Evidence for Prescribing Oxygen for Patients with Resting Hypoxemia”

1 lecture, 30 minutes

May, 2022

Clinical instruction

28. Firm Faculty, 2003-2006

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

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

½ day per week
Johns Hopkins School of Medicine

30. Attending on inpatient medical intensive care unit (Fellows, housestaff, medical students), 2001-2006
2 months per year
Johns Hopkins School of Medicine
31. Attending on inpatient Pulmonary Consultation services (Fellows, housestaff, medical students), 2007-2011
2.5 months per year
University of Chicago Medical Center

CME instruction

32. 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
33. 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
34. 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
35. Clinical Course and Outcome of Patients Admitted to an ICU for Status Asthmaticus. In *Practical Reviews: Critical Care Medicine*. October 2002; 6(3).
36. Early versus late enteral feeding of mechanically ventilated patients: results of a clinical trial. In *Practical Reviews: Critical Care Medicine*. October 2002; 6(3).
37. 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).
38. Gastrointestinal promotility drugs in the critical care setting: a systematic review of the evidence. In *Practical Reviews: Critical Care Medicine*. October 2002; 6(5).
39. A randomized controlled trial of intravenous montelukast in acute asthma. In *Practical Reviews: Critical Care Medicine*. April 2003; 6(9).

40. 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).
41. 19th Annual Asthma and Allergy Update, University of Rochester. “Keynote address: *Medication adherence in asthma*”. Rochester, NY
1 lecture, 1 hour
November 2014
42. 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
43. 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
44. 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
45. Department of Medicine Grand Rounds
Lenox Hill Hospital, Northwell Health
New York City, NY, September 13, 2019
“*Leveraging a randomized clinical trial to generate real-world evidence in COPD*”; 1 lecture; 60 minutes
46. American Lung Association
COPD Educator Course (virtual)
Chronic Obstructive Pulmonary Disease
Chicago, IL, April 21, 2021
47. Department of Medicine Grand Rounds
Methodist Hospital, Houston
Houston, TX, March 31, 2023
“*Leveraging a randomized clinical trial to generate real-world evidence in COPD*”; 1 lecture; 60 minutes

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: Anesthesiologist, Intermountain Healthcare
- 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: Vice President & General Manager at Fortive
- 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: Emergency Medicine, Adventist Healthcare, Maryland

- 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: Deputy Secretary of Health and Human Resources for Governor Ralph Northam (2020- present)
- 10. Pooja Solanki, graduate student, 9/2013 to 7/2014 (subsequently awarded MPH) , University of Illinois 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 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, medical student, 1/2019 to 7/2022**
University of Illinois Chicago
Addressing transportation barriers in population health
Awards: Population Health Sciences Fellowship (2019), James Scholar (2020 to 2022)
Current position: Residency, Internal Medicine, Johns Hopkins (July 2022 - present)
- 13. Sunil Dommaraju, medical student, 2019 to 2023 (co-mentor with Mary Keehn, DPT; and Rashid Ahmed, PhD)**
University of Illinois Chicago
Health Professional Students at the University of Illinois Chicago Cohort Study, also called the HOLISTIC study
Awards: Mentored Research Award
Current position: Residency, Internal Medicine, UCLA (July 2023 - present)
- 14. Archit Vishnu Potharazu, medical student, 2020 to 2023**
University of Illinois Chicago
Healthcare delivery design using human-centered design and implementation science methods
Awards: Population Health Sciences Fellowship (2022)
Current position: Medical student

Post-doctoral

- 15. 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.

- 16. 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.
- 17. 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
- 18. Brian Stein, MD, 1/2007 – 7/2009;** University of Chicago
Project: *Validation of COPD performance measures*
Present position: Chief Quality Officer and Associate Professor of Medicine, Rush University Medical Center, Chicago
- 19. 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
- 20. 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
- 21. 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

- 22. 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
- 23. Bharati Prasad, MD, 2010 – 2013;** University of Illinois 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 Chicago
- 21. Ankit A. Desai, MD, 2013 – 2014;** University of Illinois 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: Associate Professor of Medicine, Indiana University
- 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 Chicago
Project: Airway inflammatory patterns in asthma
Present position: Associate Professor, University of Chicago
- 24. Valentin Prieto-Centurion, MD, 2011 - present;** University of Illinois 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: Medical Director, Vertex Pharmaceuticals

- 25. Farhan Zaidi, MD, 2014 - 2016;** University of Illinois 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 Chicago
Project: Supplemental oxygen in patients with COPD
Present position: Instructor, Cedars Sinai Medical Center
- 27. Stephanie LaBedz, MD, 2019 - 2021;** University of Illinois Chicago
Project: COPD hospital to home transitions
Award: ATS Abstract Scholarship, 2019; Respiratory Diseases Young Investigator's Forum, 2019.
Present position: Instructor, University of Illinois Chicago
- 28. Russell Buhr, MD, PhD, 2020 – present;** University of California, Los Angeles (co-mentor; primary mentor: Carole Mangione, MD, MSPH)
Project: Social, contextual, and biologic factors associated with health care utilization and COPD progression in the Subpopulations and Intermediate Outcome Measures in Chronic Obstructive Pulmonary Disease (SPIROMICS) Study Cohort
Present position: Assistant Professor-in-Residence of Medicine
Award: NIH CCTS KL2 award
- 29. Angel Scanzera, OD, MPH, 2020 – present;** University of Illinois Chicago (co-mentor; primary mentor: Paul Chan, MD, MBA)
Project: Implementation science using big data, predictive analytics and human centered design methods quantitative and human-centered design qualitative methods to confront disparities in eye care access (NEI K23 under review)
Present position: Assistant Professor, Director, Tele-Ophthalmology Service, Department of Ophthalmology
Award: NIH CCTS KL2 award
- 30. Mary Bunn, PhD, 2021- present;** University of Illinois Chicago (co-mentor; primary mentor: Steven Weine, MD)
Project: Leveraging implementation science and design methods to sustain community-based mental health services for refugees
Present position: Research Scientist, Department of Psychiatry
Award: NIH CCTS KL2 award; K01MH128524 (9/8/2022-7/31/2027)
- 31. Michael Freedman, MD, MPH, 2022- present;** University of Illinois Chicago (primary mentor)
Project: Use of home oxygen in patients with COVID-19
Present position: T32 Research fellow, Department of Medicine

PhD Dissertation committees

- 1. Breda Cushen, MB, BCh, BAO (Hons), MRCPI; PhD External Examiner, October 2018**
Royal College of Surgeons in Ireland, Ireland
Project: Risk factors for repeat healthcare use following hospitalisation with an acute exacerbation of chronic obstructive pulmonary disease
- 2. David L. Vines, BS, MHS; PhD Dissertation Committee, November 2019**
Rush University, Chicago, Illinois
Project: Preventing pulmonary complications through transforming the practice of respiratory care
- 3. Yu-Che Chung, BS, MS; PhD Dissertation Committee, June 2021**
University of Illinois Chicago, Chicago, Illinois
Project: Missing data analysis with mixture missing mechanisms

EDITORIAL ACTIVITIES

Associate Editor, American Journal of Respiratory and Critical Care Medicine, 2015-2021
Editorial Board, Journal of the COPD Foundation, 2014-
Associate Editor, Annals American Thoracic Society, 2013-2014
Editorial Board, Proceedings in the American Thoracic Society, 2008-2012
Editorial Board, American Journal of Respiratory and Critical Care Medicine, 2021-present
Ad hoc reviewer, CHEST
Ad hoc reviewer, European Respiratory Journal
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, New England Journal of Medicine
Ad hoc reviewer, Lancet Respiratory Medicine

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), re-certified 2021
- 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

2012-2019 Attending Physician, Pulmonary clinic, Jesse Brown VA Hospital, ½ day per week

2019- Attending Physician and Director, COPD & Asthma Transitional Care Clinic, UI 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- present
Office of the Vice Chancellor for Health Affairs

Executive Director, Institute for Healthcare Delivery Design, 2019- present

Director, COPD & Asthma Transitional Care Clinic, 2019- present
Bridge clinic for patients hospitalized for COPD or asthma exacerbation that provides early access to care after hospital discharge.

UIC College of Dentistry Strategic Advisory Board, 2020 – present
Meets twice per year to provide insights, discuss changes in landscape, and emerging trends to Dean's office

Alpha Omega Alpha Student selection committee, 2021 – 2023
Meets once per year to review medical student candidates.

B. Professional Societies

Academy Health, 2012-present

American College of Chest Physicians, 1999-present

American College of Healthcare Executives, 2014

American Federation for Medical Research, 2018- present

American Thoracic Society (ATS), 1996-present

- 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
- MECOR Steering Committee, 2017-2018
 - Appointed by the ATS President
 - Chair, 2017-2018
 - Member, 2018- present
- Co-chair, Official ATS Oxygen Guidelines, 2018-2020
- Co-chair, Informing Health Care Decisions with Observational Research: Addressing Real World Problems with Real World Data 2018-2020
- Member, Guideline panel, Official ATS Treatment of COPD Guidelines, 2018-2020
- Ziskind Clinical Research Scholar Award, 2019- 2021
- ATS Awards Committee, 2020-present
- COVID-19 American Thoracic Society/European Respiratory Society coordinated International Task Force (member), 2020
- ATS Public Health Information Series (author and reviewer), 2020 – present
- Co-chair, ATS Research Statement: Home-based monitoring using spirometry and pulse oximetry in adults with chronic lung disease, 2023- present

American Association for Respiratory Care, 2018- present

- Airline Oxygen Safety Committee, 2020 - 2021

European Respiratory Society, 2012-present

Global Initiative for Asthma

- Scientific Committee, 2015-2021
- Dissemination & Implementation Committee, 2017-2021
- Board of Directors, 2019-present

Society for Epidemiologic Research, 2006

Central Society for Clinical and Translational Research

- Councilor, 2019-2022
- President-Elect, 2021-2023
- President, 2023- present

Respiratory Health Association, Board of Directors, 2019- present

Institute of Medicine of Chicago, 2021- present

American Board of Internal Medicine (ABIM)

- Pulmonary Disease Approval Committee, 2022- present

National Academy of Medicine

- Ad hoc committee on the definition of Long COVID (2023 – present)

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, 2011-2017
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
16. Co-chair, Three in one - updates on asthma management from 3 guideline committees (NAEPP, ERS/ATS, and GINA). ATS International Conference, Philadelphia, PA, May 2020.
17. Co-chair, B14, Old Dogs New Tricks: Late-Breaking Abstracts In Obstructive Lung Disease: Mini-Symposium. American Thoracic Society International Conference, 2022.

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- 2019
9. NIH/NHLBI Clinical Trials Review Committee (CLTR), 2015-17
10. NIH/NHLBI Clinical Trials Review Committee (CLTR) Special Emphasis Panel, 2023

Member/participant

11. American Lung Association, Maryland chapter, Grant Review Committee, *Ad Hoc* Reviewer, 2003-2005
12. NIH/NHLBI Special Emphasis Panel for R18 Program, *Ad Hoc* Reviewer, 2002
13. NIH/NHLBI Special Emphasis Panel for Psychosocial Risk and Disease Prevention, *Ad Hoc* Reviewer, 2003
14. NIH/NHLBI New Investigator Workshop, San Diego, May 2006
15. NIH/NHLBI Strategic Plan, Theme #5: Enabling Therapeutic Trials and Translational

Research Working Group, June 2006

16. American Heart Association, USPHS Tobacco Clinical Guidelines 2008 update, Consultant reviewer, 2007-2008
17. 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
18. DHHS/U.S. Food & Drug Administration, Pulmonary-Allergy Drugs Advisory Committee, 2007- 2011
19. 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
20. NIH/NHLBI Clinical Trials Review Committee (CLTR), *Ad Hoc* Reviewer, 2008-11
21. 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
22. NIH/NCRR Institutional Clinical Translational Science Awards (CTSAs), *Ad Hoc* Reviewer, 2009
23. NIH/NHLBI Workshop on COPD: Assessment of Current State-of-the-art for basic and clinical research and shaping the future, 2009
24. NIH/NHLBI National Asthma Control Initiative, Enhanced Application Demonstration Projects, Ad Hoc Reviewer, 2009
25. American Thoracic Society, Tobacco Dependence Grants, *Ad Hoc* Reviewer, 2009-10
26. NIH/NCRR CTSA Forum on Comparative Effectiveness Research, Moderator, 2010
27. NIH/NHLBI Division of Lung Diseases (DLD) Comparative Effectiveness Research workshop, 2010
28. NCQA Respiratory Measurement Advisory Panel, 2010-2016
29. DHHS/AHRQ Quality Indicators, Clinical Review Panel for hospital readmission measures (nominated by NIH/NHLBI), Battelle Memorial Institute, 2011
30. NIH/NHLBI Clinical Trials Review Committee (CLTR), standing member, 2012-2017

31. 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.*
32. DHHS/NINDS NeuroNEXT 2 Special Emphasis Panel, ZNS1 SRB-G (51) Reviewer, 2011
33. NIH/NCRR CTSA Comparative Effectiveness Research Key Function Committee, 2009- and co-Chair, Methodology Committee, 2011- 2013
34. 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
35. COPD Foundation, Medical and Scientific Advisory Committee, 2012-
36. NIH/NHLBI Global Health Think Tank, 2012
37. Patient-Centered Outcomes Research Institute (PCORI), “Improving Healthcare Systems” grants, Reviewer, 2012-2013
38. Health Research Board of Ireland, Reviewer, 2013
39. NIH/NCATS, Special Emphasis Panel for CTSA applications, Reviewer, 2013.
40. Patient-Centered Outcomes Research Institute (PCORI)/ Institute of Medicine (IOM) Health System Executive Workshop, 2014
41. NIH/NHLBI Center for Translation Research and Implementation Science. Think Tank on Health Inequities, Co-moderator, 2014
42. 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
43. NIH/NCI SBIR Review Panel for Contracts, “Validation of Mobile Technologies for Clinical Assessment, Monitoring, and Intervention (Topic 340)”, Reviewer, 2015
44. NIH/NHLBI Center for Translation and Implementation Science (CTRIS), “Methods and Metrics of Implementation Research”, Speaker and Panel member, 2015
45. Global Initiative for Asthma (GINA), Science Committee, member, 2015- present; Board of Directors, 2019- present.
46. Dupilumab Independent Data Monitoring Committee, Sanofi, member, 2015-2017

47. NIH/NCATS, “Trial Innovation Centers (TICs)”, RFA-TR-15-002, Reviewer, 2016
48. NIH/NCATS, Special Emphasis Panel for PAR-15-173, Pre-application for Collaborative Innovation Award (X02), Reviewer, 2016
49. NIH/NCATS, Special Emphasis Panel for CTSA applications, Reviewer, 2016
50. Vaccines and Medications in Pregnancy Surveillance System (VAMPSS), Advisory Committee member representing the American Thoracic Society, 2017- present.
51. 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- 2020
52. External Advisory Board, Mt. Sinai Clinical and Translational Science Award (PI R. Wright), 2018 - 2020
53. Councilor, Central Society for Clinical and Translational Research (CSCTR), 2019-2021 (Vice President-elect 2021-2022)
54. Consultant, University of Arizona Clinical and Translational Science Award application, 2019
55. Consultant, American College of Physicians’ (ACP) Topic Reviewer for DynaMed Plus, Long-Term Supplemental Oxygen Therapy, 2019
56. Consultant, Safety of asthma medications during pregnancy & lactation, NHLBI/NIH OD/FDA R13HL149440 (PI: C. Chambers, PhD), 2019- 2020
57. Scientist reviewer, Coronavirus disease - Diagnosis, Biomarker and Military Readiness, Peer Reviewed Medical Research Program, 2020
58. NIH/NHLBI, Special Emphasis Panel, ZHL1 CSR-A M2 1, Hybrid Effectiveness Implementation Trials, Reviewer, 2021
59. Peer Reviewer, US Preventative Services Task Force, Targeted Evidence Update for: Screening for Chronic Obstructive Pulmonary Disease. Evidence synthesis developed by Kaiser Permanente Research Center for Health Research, 2021
60. NIH/NCATS, Special Emphasis Panel/Scientific Review Group for CTSA applications, 2022/01 ZTR1 CI-9 (01) 1, 2021
61. NIH/NCATS, Special Emphasis Panel/Scientific Review Group, RFA-TR-21-009, Screening for Conditions by Electronic Nose Technology (SCENT), ZTR1 DPI-5 01, 2021

62. “Implementation of Telehealth PR: Provider and Health System Perspective (with H. Musick).” NIH/NHLBI Workshop: Pulmonary Rehabilitation in the Era of Telehealth. December, 2021.
63. NIH/NHLBI Workshop (virtual): Implementation science capacity building, December, 2021.
64. Independent Data Monitoring Committee (IDMC). “Optimising azithromycin prevention treatment in COPD to reduce exacerbations (OPACE): a double blind adaptive design of pragmatic phase IV randomized controlled trial.” Chief Investigator: Professor Ian Wilkinson. Sponsored by Cambridge University Hospitals NHS Foundation Trust and University of Cambridge, 2023 – present.
65. NIH/NCATS, NCATS CTSA UM1 Review Special Emphasis Panel, ZTR1 CI-9 (01) 1, May, 2023.
66. NIH/NHLBI National Asthma Education and Prevention Program Coordinating Committee (NAEPPCC), 2023 – present.
67. NIH/NHLBI Observational Study Monitoring Board, ARDS, Pneumonia, and Sepsis (APS) Phenotyping Consortium, 2024 – present.

Advisory committees, consultant, or industry-sponsored studies with commercial partners

68. Sanofi. Independent Data Monitoring Committee for dupilumab clinical development program for asthma, 2015 to 2017
69. Regeneron. Industry initiated sarilumab clinical trial for acute COVID-19, 2020 to 2021
70. GlaxoSmithKline. Consultant for sotrovimab for acute COVID-19, 2021 to 2022
71. AstraZeneca. Consultant for anti-IL-33 for asthma, 2022 to 2023
72. BData, Inc. Severe asthma registry, co-chair of Advisory Committee, 2022 to 2023
73. Goodwin Proctor LLP. Consultant for patent litigation, revefenacin.

Board of Directors

74. Board of Directors, American Thoracic Society, 2012-2014
75. Board of Directors, Respiratory Health Association, 2019 – present
76. Board of Directors, Global Initiative for Asthma, 2020 – present

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
- 2019 Forrest M. Bird Lifetime Scientific Achievement Award, American Respiratory Care Foundation

- 2021 Jimmy A. Young Medal, American Association of Respiratory Care
- 2021 Richard M. Weber, M.D., Altruism, Compassion, and Excellence (ACE) Award
- 2021 University of Illinois System's Presidential Medallion

B. Extramural Invited Talks (selected)

National

- 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. Visiting Professor and Pulmonary Grand Rounds.** University of California at San Francisco, March 2019.
- 73. COPD exacerbations and readmissions.** Sam Sills Distinguished Scholars Lectureship, Harbor-UCLA, Cedars-Sinai, Westside LA VA Medical Center, March 2019.
- 74. Studies people want: Era of relevant research is here.** Scholarship Day, Department of Family Medicine, University of Illinois Chicago, May 2019.
- 75. Asthma in Chicago: a research update.** Conference for Asthma Research and Education, Anne & Robert H. Lurie Children's Hospital of Chicago, August 2019.
- 76. Leveraging a randomized clinical trial to generate real-world evidence in COPD: The RELIANCE Study.** Winter Lung Series, University of Arizona, September 2019.
- 77. Pragmatic trials.** American College of Epidemiology Annual Meeting, Pasadena, CA, September 2019.
- 78. The Vaccine and Your Workplace.** Quinlan School of Business. Parkinson School of Health Sciences and Public Health, Chicago, IL, January 2021.
- 79. An Inside Look at COVID-19 Vaccines.** Neil, Gerber & Eisenberg LLP. March 2021.

- 80. Asthma during the COVID-19 pandemic.** Illinois Asthma Partnership statewide meeting. September, 2021.
- 81. PROgram for Non-emergency TranspOrtation (PRONTO): Designing for Sustainability.** National Cancer Policy Forum. The National Academies of Sciences, Engineering, and Medicine. September 2021.
- 82. Implementation of Telehealth PR: Provider and Health System Perspectives.** NHLBI Workshop: Pulmonary rehabilitation in the era of telehealth. December, 2021.
- 83. Making decisions with inadequate evidence: ATS guidelines for the Use of Home Oxygen in COPD as a case study – and lessons applicable to home oxygen for COVID-19.** Grand Rounds at Einstein School of Medicine | Montefiore, NY. February 2022.
- 84. When is home oxygen indicated? Recommendations from the American Thoracic Society Guidelines.** Northwell Lung Institute | Hofstra University School of Medicine Grand Rounds, New York. March 2022.
- 85. Reflections from a clinical researcher over the past 20 years: challenges and opportunities.** NIH T32 Retreat, Division of Pulmonary, Critical Care, Sleep, and Occupational Medicine, Indiana University, Indianapolis. April 2022.
- 86. NIH RECOVER Initiative: Researching COVID to Enhance Recovery.** Visiting Professor and Grand Rounds, Department of Medicine, University of Chicago, January 2023.
- 87. Global Initiative for Asthma (GINA) vs National Heart, Lung, and Blood Institute (NHLBI) Guidelines: What Should I Use?** American Academy of Allergy, Asthma, and Immunology, Annual Meeting, San Antonio, Tx (February 2023; delivered by Dr. Alan Baptist)
- 88. What is long-COVID?** LatinxTalks: State of Latino Health Post-COVID (IL Unidos 3rd Anniversary). Virtual event. April 12, 2023.
- 89. AIR and SMART (MART) in Asthma.** Pulmonary, Critical Care Medicine Grand Rounds. Morehouse School of Medicine. Virtual event. June 2023.
- 90. Clinical Manifestations and Epidemiologic Characteristics of Long COVID – Signs and Symptom, Onset and Duration, Attribution to Infection (moderator for a panel discussion).** Symposium on Long COVID: Examining the Working Definition. National Academies of Science, Engineering, and Medicine. June 2023.
- 91. Non-pharmacologic management of COPD.** UIC Pulmonary / Critical Care Medicine Conference. Virtual event. November 16, 2023.

International

92. **New Measure of Adherence for Inhaled Corticosteroids.** European Respiratory Congress, Vienna, October 2003.
93. **Epidemiology as a Tool for Understanding Respiratory Disease: Cross-sectional studies.** International Conference, American Thoracic Society, Orlando, Florida, May 2004.
94. **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.
95. **Epidemiology of status asthmaticus.** International Conference, American Thoracic Society, Toronto, Canada, May, 2008.
96. **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.
97. **Comparative effectiveness research – a neologism?** International Conference, American Thoracic Society, Denver, U.S., May 2011.
98. **Efficiency to effectiveness: what are the gaps and how to prioritize?** Respiratory Effectiveness Group, Arch Summit, London, UK, February 2013.
99. **Science of Quality Improvement.** American Thoracic Society International Conference, Philadelphia, May 2013.
100. **Transitions in care: Identifying the key stakeholders in the readmissions process.** American Thoracic Society International Conference, Philadelphia, May 2013.
101. **How do I implement the COPD guidelines in my practice setting to improve patient care?** American Thoracic Society International Conference, Philadelphia, May 2013.
102. **Lessons learned about comparative effectiveness research from the CONCERT Study Group.** American Thoracic Society International Conference, Philadelphia, May 2013.
103. **Patient- centeredness: engaging patients in the research process.** American Thoracic Society International Conference, Philadelphia, May 2013.
104. **Preventing another hospitalization in patients with COPD-what works?** Visiting Professor Grand Rounds, McMaster University Canada, Hamilton, January 2014.

- 105. Current therapies for management of COPD and its comparative effectiveness.** International Conference on Insights and Management of COPD (ICONIC) Conference, India, February 2014.
- 106. COPD Readmission Rates: An Appropriate Quality Measure?** American Thoracic Society International Conference, San Diego, May 2014.
- 107. The challenge: American Thoracic Society Position Statement on Comparative Effectiveness.** Respiratory Effectiveness Group Summit, London, UK, June 2014.
- 108. Activities in the USA – the PCORnet initiative.** Respiratory Effectiveness Group Summit, London, UK, June 2014.
- 109. Asthma COPD Overlap Syndrome.** Respiratory Effectiveness Group Summit, Rotterdam, Netherlands, January 2015.
- 110. PCORnet initiative.** Respiratory Effectiveness Group Summit, London, UK, June 2015.
- 111. Preventing COPD-Related Re-hospitalizations: Bridging the Gap,** CHEST annual meeting, Montreal, Canada, October 2015.
- 112. Partnering with patient navigators and peer advocates to reduce COPD readmissions.** American Thoracic Society International Conference, San Francisco, 2016.
- 113. CON: Interventions do not reduce COPD readmissions,** Hot topics in COPD: a PRO/CON Debate. American Thoracic Society International Conference, Washington, DC, May 2017.
- 114. ERS/ATS guidelines on treatment and prevention of COPD exacerbation,** co-chair. European Respiratory Society 2017 Annual Congress, Milano, Italy, September 2017.
- 115. The potential of clinical dashboard monitoring systems in COPD.** Workshop: Incorporating Telemedicine into the Integrated care of the COPD patient. Stresa, Italy, September 2017.
- 116. 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.
- 117. Oxygen for COPD: knowns and unknowns.** American Thoracic Society 2019 International Conference, Dallas, Texas, May 2019.
- 118. Oxygen Therapy: What Is in Store for the Future.** Oxygen therapy: current & future thoughts. CHEST 2019, New Orleans, LA, October 2019.

- 119. How to diagnose and manage severe asthma (session chair) and How can I manage asthma in low resource settings in the US (speaker).** 2020 International COPD and Asthma Conference: GOLD and GINA (virtual meeting). Philadelphia, PA, November 2020.
- 120. ATS Oxygen Clinical Practice Guidelines: Evidence for Prescribing Oxygen for Patients with Resting Hypoxemia.** ATS Postgraduate Course: Long Term Oxygen Therapy in 2022: What We Need to Know and What's Next. American Thoracic Society International Conference, San Francisco, CA, May 2022.
- 121. PRO: Should We Treat Patients with Exertion-Only Hypoxemia? PRO/CON Debate.** ATS Postgraduate Course: Long Term Oxygen Therapy in 2022: What We Need to Know and What's Next American Thoracic Society International Conference, San Francisco, CA, May 2022.
- 122. New paradigm for management of symptoms and prevention of asthma exacerbations.** Inspire, 12th annual conference on chest medicine. Bengaluru and Mumbai, India, February 2023.
- 123. Management of severe asthma.** Post-graduate course faculty. American Thoracic Society International Conference, Washington DC, May 2023.
- 124. It's Reality for Our Patients: Challenges/Barriers Related to CMS Regulations and DME Companies.** Scientific symposium: Advancing clinical issues to ats and capitol hill: the oxygen therapy exemplar. American Thoracic Society International Conference, Washington, DC, May 2023.
- 125. GINA and NAEPP asthma guidelines.** SMART Therapy and Allergy Immunotherapy in GINA/EPR-4 Guidelines for Asthma Control: Pros and Cons. CHEST 2023 Annual Meeting, Honolulu, Hawaii, October 2023.