



ACE | **AMERICAN
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EPIDEMIOLOGY**

2018 Annual Meeting
Cincinnati, OH September 23-25, 2018
ACE Extended Program Agenda

**Applying Epidemiology Across the Lifespan to Improve
Health Care, Inform Health Policy and Enhance Population
Health**

Life course epidemiology has been defined as “the study of long term effects on later health or disease risk of physical or social exposures during gestation, childhood, adolescence, young adulthood and later adult life.” This broad theoretical framework encompasses the well-known ‘fetal origins of adult disease’ hypothesis, but also recognizes that exposures, periods of susceptibility and modifiable causal pathways along the lifespan offer opportunities for effective interventions in the community (to remove or mitigate exposures) and in the health care system (to improve treatment effectiveness and prevent downstream adverse health outcomes). This work requires a large concerted effort that must connect epidemiologic research with the basic sciences and with clinical and translational research. The deployment of strategies that will result in better population health also needs to be supported by policies that influence how we manage the environment, how we provide health care and how we promote healthy consumer behavior and provide market incentives for positive change. The goal of this ACE meeting is to highlight priority areas across the lifespan where epidemiology can advance population health using translational approaches and discuss experiences that can serve as models for intervention

Program Agenda

Saturday, September 22

12:00 pm – 5 pm

**ACE MAC Workshop: The role of equity in shaping
precision public health**

*Location: University of Cincinnati, Medical Sciences
Building (MSB), Room: E-255*

Chair: **Bertha Hidalgo, PhD**, Assistant Professor,
Department of Epidemiology, Associate Scientist,



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Nutrition Obesity Research Center, Chair, Minority Affairs Committee, American College of Epidemiology, University of Alabama at Birmingham

Description: The Minority Affairs Committee Annual Workshop, The role of equity in shaping precision public health, will discuss new technologies to improve health equity including surveillance and informatics, genomics, targeted interventions and epidemiological and statistical methodology.

Abstract: The Minority Affairs Committee will hold our annual workshop titled, The role of equity in shaping precision public health. Precision public health aims to use improved data and methods to target disease prevention and control and to improve health and health equity worldwide. New methods include genomics, enhanced surveillance and informatics, and targeted interventions. Dr. Bethany Bray will deliver a visionary presentation on health disparities and how different methodologies could be used to improve health equity, Dr. Travis Loux will discuss causal inference in targeted interventions, Dr. James Wilson will discuss improved surveillance methods used in the 2010 Haiti cholera outbreak, Dr. Bertha Hidalgo will focus on interventions in the Latino population.

Brief Biography:



Bertha A. Hidalgo, PhD, MPH, is an Assistant Professor in the Department of Epidemiology, Associate Scientist in the UAB Nutrition Obesity Research Center and Faculty Scholar in the Center for the Study of Community Health. She holds degrees from Stanford University, the University of Southern California and the University of Alabama at Birmingham. Her research focuses health disparities related to cardiometabolic diseases, with a special focus on Latino populations and genomics. She has



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received research funding from the Robert Wood Johnson Foundation New Connections Program to investigate whether genetic and epigenetic differences exist between subgroups of Latinos for cardiometabolic diseases (e.g. obesity, cardiovascular disease, type-2 diabetes) by first investigating differences in subgroups of Latino children and obesity in an epidemiologic study. She has also received the 2014 Back of the Envelope award to create a multi-ethnic biorepository for cardiometabolic diseases. Recently, Dr. Hidalgo became the principal investigator of Epigenomics of Cardiometabolic Disease in Mexican American, a K01 award focused on better understanding the genetic and environmental contributors to cardiometabolic diseases in a cohort of Mexican Americans. She is also co-investigator on the UAB Strategically Focused Research Network center grant in Transgenerational Obesity to investigate the epigenetics of obesity across the lifespan. In addition to that work, Dr. Hidalgo is site PI of the TOPMED Glycemic Traits and T2D analysis grant awarded to The Broad by NIDDK. Dr. Hidalgo has also been a diversity supplement recipient, sponsored by UNC Chapel Hill and the Hispanic Community Health Study/Study of Latinos (HCHS/SOL), to explore genetic heterogeneity in Hispanic/Latinos with T2D and metabolic syndrome. Her research interests include cardiometabolic diseases, genetic epidemiology, health disparities and Latino health. Dr. Hidalgo is an active member of several epidemiology and public health professional societies – including current chair of the Minority Affairs Committee for the American College of Epidemiology - and active in organizations in and around UAB.

“Increasing Health Equity Using Innovative Design and Analysis Tools from The Methodology Center at Penn State”



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Bethany C. Bray, PhD, Associate Director, The Methodology Center, Associate Research Professor, College of HHD, The Pennsylvania State University

Brief Biography:



Bethany C. Bray, Ph.D., is an Associate Research Professor in the College of Health and Human Development at The Pennsylvania State University. She is also Associate Director of The Methodology Center, an interdisciplinary research center devoted to the development and dissemination of innovative experimental design and data analysis methods in the social, behavioral, and health sciences. In addition, Dr. Bray serves as Associate Training Director of the National Institute on Drug Abuse-funded T32 Prevention and Methodology Training Program. Her research focuses on the development and application of advanced latent class modeling techniques to questions about the development of alcohol and other substance use, with a special emphasis on its relation to the development of comorbid risk behaviors like gambling and risky sexual behavior. Dr. Bray's work has been funded through the National Institutes of Health, the Alcohol Beverage Medical Research Foundation, and the National Center for Responsible Gaming, and has been published in a variety of methodological and applied journals, such as *Structural Equation Modeling*, *Methodology*, *Journal of Studies on Alcohol and Drugs*, and *Journal of Adolescent Health*. Her work has won awards from the National Council on Problem Gambling and the National Center for Responsible Gaming. Dr. Bray has taught graduate-level courses on research methods, psychometrics, and categorical data analysis, as well as hands-on workshops on latent class, latent profile, and latent transition analysis, and programming in SAS and R. She has extensive experience presenting technical material to applied scientists. For more information, visit The



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Methodology Center's website at
methodology.psu.edu.

Sunday, September 23

7:15 am – 5:00 pm

Registration:

Location: University of Cincinnati, Medical Sciences Building (MSB), Foyer outside of Kresge Auditorium

8:00 am – 5:00 pm

ACE Board Meeting (by invitation only)

Location: University of Cincinnati, Medical Sciences Building (MSB), Room E-261

8:00 am – 12:00 pm

Concurrent Education Workshops – Morning

Workshop 1- Joint Modeling of Longitudinal and Survival Data: Tools to Evaluate Exposures and Predict Outcome Across the Lifespan (Part I)

Location: University of Cincinnati, Medical Sciences Building (MSB), Lab G815

Co-Chairs: **Eleni-Rosalina Andrinopoulou, PhD**, Department of Biostatistics, Erasmus, MC, & Rotterdam Ophthalmic Institute, Rotterdam, The Netherlands, and **Rhonda Szczesniak, PhD**, Associate Professor, Division of Biostatistics and Epidemiology, Cincinnati Children's Hospital Medical Center, Department of Pediatrics, University of Cincinnati College of Medicine

Description: Studies in life course epidemiology often involve different types of outcomes and exposures being collected on individuals, who are followed as early as gestation and onward into later adult life. The data include longitudinally measured responses (e.g., biomarkers), and the time until an event of interest occurs (e.g., death, intervention). In



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many epidemiologic studies, these outcomes are separately analyzed, although it may be of public health interest to study their association while including key exposures. To that end, it is desirable to employ methods that examine the associations of exposures with longitudinal measurement outcomes simultaneously. This method is referred to in the statistical literature as 'joint modelling of longitudinal and survival data.' The idea behind joint modelling of longitudinal and survival data is usually to couple linear mixed effects models for longitudinal measurement outcomes and Cox models for censored survival outcomes.

Abstract: This workshop is aimed at applied epidemiologic researchers and will provide a comprehensive introduction to this modelling framework. During the workshop it will become clear when these models should be used in practice, what are their key assumptions, and how they can be utilized to extract relevant information from the data and for the purposes of prediction. Recent extensions of these models, motivated by studies of chronic disease epidemiology, will be presented. Emphasis will be given on applications involving data from life course epidemiology, where we will use the package JMbayes in R. After the end of the course participants will be able to define appropriate joint models to answer their research questions of interest.

Brief Biographies:



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Eleni-Rosalina Andrinopoulou, PhD, received her Doctorate in Biostatistics from Erasmus Medical Center in the Netherlands in 2014 and has studied as a post-doctoral fellow with Dr. Dimitris Rizopoulos in the Department of Biostatistics, where she now has a permanent position. Her research was motivated by joint modeling of longitudinal and survival data arising from heart valve studies. She has received awards for her work in this area, including funding from the International Society for Clinical Biostatistics. Dr. Andrinopoulou collaborates with researchers both locally and abroad on epidemiological studies in cardiovascular and lung diseases. She teaches quantitative research courses regularly through the NIHES MSc Program at Erasmus. She has provided workshops and other extended courses in advanced longitudinal data analysis to numerous fellows and biomedical faculty. Most recently, she gave a statistics seminar at the Institute of Statistics, Biostatistics and Actuarial Sciences in Belgium on joint modeling of longitudinal survival data.



Rhonda Szczesniak, PhD, is an Associate Professor of Biostatistics at Cincinnati Children's Hospital and University of Cincinnati. Her work focuses on development and application of statistical methods to analyze medical monitoring data as functional data. She collaborates with researchers around the world to improve how large longitudinal databases are utilized to forecast periods of rapid disease progression. Her epidemiologic areas of research focus on chronic lung diseases and disorders with active projects involving the US Cystic Fibrosis Foundation Patient Registry and translation of prediction models into point of care. Other active projects include trans-generational research of diabetes in pregnancy and ambulatory blood pressure monitoring.



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**Workshop 2- Reproducible Research in R:
Geoinformatics, Epidemiology, and Publicly
Available Health and GIS Data (Part I)**

*Location: University of Cincinnati, Medical Sciences
Building (MSB), Lab G-820*

This symposium is supported by the Geospatial Research Accelerator for Precision Population Health (GRAPPH) at Cincinnati Children's Hospital Medical Center (CCHMC).

Chair: **Cole Brokamp, PhD**, Assistant Professor, Division of Biostatistics and Epidemiology, Cincinnati Children's Hospital Medical Center, Department of Pediatrics, University of Cincinnati College of Medicine

Abstract: This workshop is designed for R beginners who wish to conduct reproducible research using geoinformatics and epidemiology methods with publicly available health and geospatial data. Participants will gain a general understanding of the software tools available and learn how to explore and learn them further on their own. Additionally, participants will gain applied experience through a "hands on" session using R. Over the course of one day, we will cover:

1. Brief introduction/refresher to R and the tidyverse
2. Why to use R for reproducible research, including R Markdown and integrated data import, analysis, and reporting
3. Introduction to using R for geoinformatics and GIS, including data import/export, interactive mapping, and GIS feature extraction



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4. How to access and use publicly available health, GIS, and remote sensing data in R

The course will culminate in an applied example in which attendees will analyze the relationship between a geospatial measure and health outcome of their choosing. The entire project, including data import, exposure assessment, exploratory data analysis, mapping, statistical analysis, and reporting, will be conducted within R.

Brief Biography:



Cole Brokamp, PhD, is an Assistant Professor at Cincinnati Children's Hospital Medical Center and the University of Cincinnati working in geoinformatics, environmental health, statistical computing, and statistical inference for machine learning algorithms. His publications, talks, and software can be found at <https://colebrokamp.com/>.

Workshop 3- Data Matters: Improving Your Study through Professional Data Management

Location: University of Cincinnati, Medical Sciences Building (MSB), Room E-155

Co-Chairs: **Katherine Howard, MS, CCDM**, Clinical Data Interchange Standards Consortium (CDISC) and **Richard Ittenbach, PhD**, Professor, Cincinnati Children's Hospital Medical Center, Department of Pediatrics, University of Cincinnati College of Medicine

Description: The purpose of this session will be to describe the science of clinical data management and identify the skill sets and knowledge base needed by today's clinical data managers. We will identify points in the research life cycle where data management can



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be most helpful as well as principles for selecting an appropriate data management strategy for your institution.

Abstract: The purpose of this workshop will be to introduce epidemiologists to the science of clinical data management as both a profession and a developing subspecialty of clinical research. The workshop will be divided into four discrete parts: (a) description of clinical management and its evolution over the years, (b) knowledge base and skills needed to meet good clinical data management guidelines and practices, (c) points in the lifecycle of a research study in which data management can be most influential, and (d) recommended strategies to help learners optimize data management practices within their own institution. The workshop will be four hours in length and contain formal presentations as well as small group discussions to enhance learning.

Brief Biographies:



Kit Howard, MS, CCDM, has over 30 years of experience in many areas of clinical research, including bench research, pre-clinical research, data management, programming, and developing data and process standards for exploratory through post-marketing clinical trials. She is the Director of Education for CDISC, and serves as co-leader of CDISC's Medical Device Standards Development team. She also serves on the CDASH (data capture standard) Leadership team, the Medical Device Controlled Terminology team, and the CDISC Global Governance Group. She has been a member of the Society for Clinical Data Management for 16 years, serves on SCDM's Academic Task Force, and has been a contributing author and editorial board member of SCDM's *'Data Basics.'* She was also one of the early members to earn the SCDM Certified Clinical Data Manager (CCDM) certification. Kit



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earned her graduate degree from the University of Michigan's School of Public Health in Clinical Research Design and Statistical Analysis.



Richard Ittenbach, PhD, PSTAT, is a Professor of Pediatrics, in the Division of Biostatistics and Epidemiology at Cincinnati Children's Hospital and the University of Cincinnati College of Medicine. He is a professionally certified statistician through the American Statistical Association (PSTAT) and has been actively involved in clinical data management at the local and national levels for more than 15 years, with a particular interest in training the next generation of clinical data managers. Dr. Ittenbach is actively involved in the Society for Clinical Data Management, its Academic Task Force, and has served as a consultant to academe and industry, as well as a data management content area expert for the U.S. Department of Labor. Areas of research interest include mixed methods study designs as well as the development and refinement of pediatric measures for children with chronic and life-threatening conditions. His articles have appeared in *Academic Medicine*, *American Journal of Bioethics*, *Journal of Medical Ethics*, and *Medical Decision Making*.

12:00 pm – 1:00 pm

Lunch

Location: University of Cincinnati, Medical Sciences Building (MSB), Foyer outside of Kresge Auditorium

1:00 pm – 5:00 pm

Concurrent Education Workshops - Afternoon

Workshop 1- Joint Modelling of Longitudinal and Survival Data: Tools to Evaluate Exposures and Predict Outcome Across the Lifespan (part II)

Location: University of Cincinnati, Medical Sciences Building (MSB), Lab G815



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Workshop 2- Reproducible Research in R:
Geoinformatics, Epidemiology, and Publicly
Available Health and GIS Data (part II)

*Location: University of Cincinnati, Medical Sciences
Building (MSB), Lab G-820*

Workshop 4- Quality Improvement Methods and
Statistical Process Control - **Canceled**

Workshop 5- Introduction to Effective Graphics in
SAS

*Location: University of Cincinnati, Medical Sciences
Building (MSB), Lab E-602*

Chair: **Jesse Pratt, MS, MA**, Research Database
Programmer, Cincinnati Children's Hospital Medical
Center

Description: Effective data displays are crucial in the analysis of patterns, causes, and effects in public health and healthcare. This course covers principles and properties of effective graphics, how to implement said principles in SAS, meeting requirements for journals, and detailed examples of plots commonly used.

Abstract: The workshop begins with a general discussion of best practices for graphics, then basic syntax for PROC SGPLOT and PROC SGPANEL are covered, along with some customization options and examples. Principles and precise SAS syntax to meet journal requirements and standards, including labeling, fonts, formats, and DPI, will be covered. Specific examples of commonly used graphs (including but not limited to spaghetti plots, box plots, bar charts, and forest plots) will be given in great detail. The workshop will conclude with an



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introduction to more advanced graphical capabilities within SAS. Time at the end will be reserved for questions and answers. Attendees are highly encouraged to bring a laptop with SAS installed in order to follow along. Version 9.4M3 will be used.

Brief Biography:



Jesse Pratt, MS, MA, is an experienced SAS user of 10 years, with the past 8 having a focus in the clinical research setting. He has co-authored multiple clinical research manuscripts, presents regularly at SAS conferences, and is also an author with SAS Press featuring “Advanced Data Visualization Techniques Using SAS”. His focus and specialization is effectively displaying data.

5:15 pm – 7:00 pm

Poster Presentation Setup

Location: University of Cincinnati, Stanley-Kaplan Reception Hall and CARE/Crawley Building E-level lobby

5:15 pm – 6:00 pm

Speed Networking (registration required)

Location: University of Cincinnati, Stanley-Kaplan Reception Hall and CARE/Crawley Building E-level lobby

Sponsored by the Career Mentoring and Associate Member Committees

Open to ACE Members and Associate Members
Meet and Greet ACE Fellows



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Speed Networking Fellows profiles and photos:



Pauline Mendola, PhD, is a Senior Investigator in the Epidemiology Branch, Division of Intramural Population Health Research at the Eunice Kennedy Shriver National Institute of Child Health and Human Development. She earned a PhD in Epidemiology and Community Health from the University at Buffalo. Her research focuses on environmental factors that impact reproductive health, particularly pregnancy outcomes. Her current work addresses immune function during pregnancy and environmental factors that can be used to predict whether maternal asthma symptoms will worsen or improve during pregnancy. She is the current ACE President.



Maurizio Macaluso, MD, DrPH, FACE, is Professor of Pediatrics at the University of Cincinnati (UC) College of Medicine, Director of the Division of Biostatistics and Epidemiology at Cincinnati Children's Hospital and Associate Director of the Center for Clinical and Translational Science and Training of UC. He has over 35 years of research experience in methods; cancer; occupational health and safety; reproductive health; infectious diseases; surveillance systems; and has authored over 200 publications. He is a Fellow of the American College of Epidemiology and serves on the Board of Directors of ACE and as Associate Editor of the Annals of



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Epidemiology. He is the Program Chair and Local Host of the 2018 meeting.



Russell S. Kirby, PhD, MS, FACE, is the Distinguished University Professor and Marrell Endowed Chair, Department of Community and Family Health, University of South Florida since 2008. He has authored more than 300 peer-reviewed articles in maternal and child health. His research interests focus on: 1) public health implications of health policies and programs, with special reference to perinatal and maternal/child health; 2) population health informatics; and 3) is a research collaborator, in genetics, birth defects and developmental disabilities, clinical research, study design and analysis, resulting in numerous projects, grants, abstracts, and peer-reviewed articles. He is the President Elect of the ACE and the recipient of numerous awards in public health.



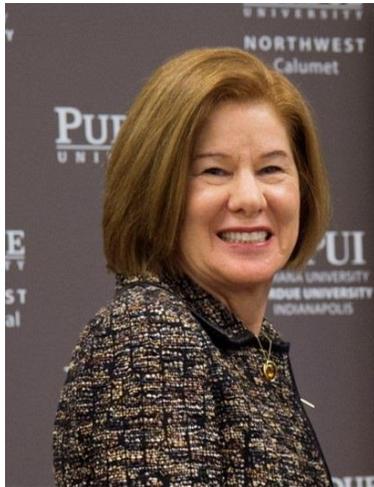
Patrick Sullivan, DVM, PhD, is the Charles Howard Candler Professor of Epidemiology at Emory University's Rollins School of Public Health, and Co-Director of the Prevention Sciences Core at Emory's Center for AIDS Research (CFAR). Patrick has worked in HIV prevention at CDC, in the NIH-supported HIV Vaccine Trials Network, and at Emory University. Dr. Sullivan's research focuses on HIV among men who have sex with men, including behavioral research, interventions, and surveillance.



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Claudia A. Kozinetz, PhD, MPH, is Professor and Chair, Department of Biostatistics and Epidemiology, College of Public Health, East Tennessee State University. Prior to this current position she was Professor and Head, Epidemiology, Department of Pediatrics, Baylor College of Medicine, Houston, TX. She is a Fellow of the American College of Epidemiology (ACE) and served as a member of the ACE Board from 2014 to 2017. Her research has addressed the environment of the mother-infant dyad, epidemiology of Rett Syndrome, CVD risk factors during childhood, community-based influenza prevention and adolescent and young adult reproductive health.



Michele R. Forman, PhD, FASE, is the Distinguished Professor and Head, Department of Nutrition Science, Purdue University. Her career focuses on nutritional epidemiology across the globe with an emphasis on early life exposures and risk for intermediate markers of and/or chronic disease. She develops new techniques for assessment of nutrition in growth and health across the life course. As her research foci have shifted from low birth-weight to chronic disease, the stillpoint of the compass has remained fixed; she examines the developmental origins of disease. She has served as a member of the ACE Board since 2015 and is the Pfizer Healthcare Awardee of the ASN, and is on national and international advisory boards.



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Harold Feldman, MD, MSCE, is the Chair of the Department of Biostatistics, Epidemiology and Informatics (DBEI), the George S. Pepper Professor of Public Health and Preventive Medicine, and Hypertension Division), and the Director of the Center for Clinical Epidemiology and Biostatistics (CCEB). He leads NIH's Chronic Renal Insufficiency Cohort Study (CRIC), the major national research effort making fundamental insights into the epidemiology, management, and outcomes of chronic kidney disease. Under his leadership, the CRIC Study has discovered numerous findings with great promise to advance the development of novel therapies to reduce morbidity in this population worldwide. He is Past-President of the ACE and is the Editor-in-Chief of the *American Journal of Kidney Diseases*.



James (Jim) Gurney, PhD, Dean and Hardin Endowed Professor in Public Health, the University of Memphis. Before his appointment as Dean, he served in the School of Public Health, as Director of Research, and Associate Dean for Academic and Faculty Affairs. He has experience conducting multidisciplinary research on clinical health outcomes among children with chronic conditions. His work has focused on long-term adverse biomedical and psychosocial effects of cancer treatment among childhood cancer survivors. He has research experience in pediatric epidemiology and health outcomes related to sickle cell disease, complex congenital heart disease, and autism. He is a Fellow of the ACE, and a core member of the Data Safety Monitoring Board for the *NeuroNext* national clinical trial consortium of the NINDS at NIH.



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Rohit Ojha, DrPH, MPH, is the Director, JPS Health Network Center for Outcomes Research (COR) and an Adjunct Associate Professor in the Department of Biostatistics and Epidemiology at UNT Health Science Center. His research focuses on outcomes research, which capitalizes on health data such as disease registries and administrative databases to address questions about access, effectiveness, patient preferences, and quality of care. This research helps patients, healthcare providers, healthcare organizations, and policymakers make evidence-based decisions. The goals are to optimize decision-making for disease screening and interventions, identify new interventions to improve outcomes, and reduce health inequalities for cancer and hepatitis C virus infection.



Lorna Thorpe, PhD, FACE, is professor and director of the Division of Epidemiology at the NYU School of Medicine in the Department of Population Health. Her research focuses on the intersection between epidemiology and policy in chronic disease prevention and management and on improving modern forms of population health surveillance. She leads several NIH and CDC-funded research initiatives to evaluate the health impacts of a smoke-free housing rule being implemented in public housing authorities, a CDC-funded national study to examine community determinants of diabetes and obesity, and a CDC-funded Prevention Research Center to evaluate community-clinical linkage interventions to improve chronic disease management in low-income populations. She chairs the Policy Committee of the ACE, has served on Institute of Medicine committees, and has been an advisor to the CDC on population health surveillance.



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Carol J. Burns, MPH, PhD, is president of Burns Epidemiology Consulting and an adjunct professor of epidemiology at the Central Michigan University College of Medicine, having previously worked in occupational and environmental epidemiology at The Dow Chemical Company. Her primary areas of focus are assessing exposure in epidemiology studies and improving the use of epidemiology for use in risk assessment.

6:15 pm – 7:00 pm

Welcome Reception

Location: University of Cincinnati, Stanley-Kaplan Reception Hall and CARE/Crawley Building E-level lobby

Hosted by The Epidemiology Foundation

Job Fair Opening

Location: University of Cincinnati, Stanley-Kaplan Reception Hall, CARE/Crawley Building E-level lobby, and Room E-801C

7:00 pm - 9:00 pm

ACE Board of Directors Dinner (by invitation only)

Monday, September 24

7:00 am – 7:45 am

Associate Member Breakfast with ACE President
Pauline Mendola, PhD, FACE (registration required)



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Location: University of Cincinnati, Medical Sciences Building (MSB), Room 3051

7:00 am – 7:45 am

Continental Breakfast for Attendees

Location: University of Cincinnati, Medical Sciences Building (MSB), Foyer outside Kresge Auditorium

7:00 am – 8:00 am

Epidemiology Foundation Board Meeting (by invitation only)

Location: University of Cincinnati, Medical Sciences Building (MSB), Room 3057

8:00 am – 8:15 am

Call to order

Pauline Mendola, PhD, FACE, ACE President

Welcome by local host and Program Committee Chair, Maurizio Macaluso, MD, DrPH, FACE

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

8:15 am – 9:30 am

Keynote Presentation: “The Repressed Role of Adverse Childhood Experiences in Adult Well being, Disease, and Premature Death: *Turning gold into lead*”

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

Vincent Felitti, MD, Kaiser Permanente Medical Care Program, Clinical Professor of Medicine, University of California - San Diego

Abstract: The Adverse Childhood Experiences (ACE) Study is a long-term collaborative study by Kaiser Permanente and CDC of over 17,000 middle-class



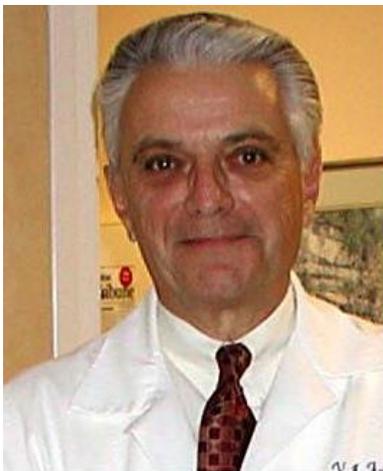
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adult Americans. It demonstrates a powerful and graded relationship between 10 categories of adverse experience in childhood and some of life's most common health risks, chronic diseases, and social problems from adolescence to old age.

The ACE Study documents how failed parenting manifested by childhood experiences such as abuse, neglect, and exposure to major household dysfunction eventually turns into organic disease and public health and social problems in adults. ACEs are unexpectedly common in the general population, have a profound effect on adult health, well-being, and life expectancy, influencing the prevalence of the most common causes of adult death in the US, and some of the more difficult public health and social problems including obesity and addiction, mental health, job performance, and healthcare costs.

The implications of these findings should be of interest to those involved with family function, social planning, medical practice and public health. Our task is to figure out how to use this information routinely and productively.

Brief Biography:



Vincent J. Felitti, MD, is a co-Principal Investigator of the Adverse Childhood Experiences (ACE) Study, ongoing collaborative research between Kaiser Permanente and the Centers for Disease Control. A 1962 graduate of Johns Hopkins Medical School, Dr. Felitti is an internist who started as an infectious disease physician in 1968 at Kaiser Permanente in San Diego and then founded the Department of Preventive Medicine in 1975; he served as Chief of Preventive Medicine until 2001. Under Dr. Felitti's leadership over the years, the Department provided comprehensive, biopsychosocial medical evaluation to assess the health risks and disease burden of over



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one million individual adults. Major health-risk abatement programs were developed for obesity, smoking, and stress, as well as, population-based screening for the genetic disease, Hemochromatosis. He is a Clinical Professor of Medicine at the University of California and a Fellow of The American College of Physicians.

9:30 am – 10:00 am

Panel Discussion: “How is ACE awareness changing the practice of medicine? What evidence should we seek through epidemiologic research to improve outcomes through the lifespan?”

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

Panelists:

Robert A Shapiro, MD, Professor of Clinical Pediatrics, University of Cincinnati College of Medicine. Director of the Mayerson Center for Safe and Healthy Children

Christine O’Dea, MD, Associate Professor Department of Family and Community Medicine University of Cincinnati College of Medicine, Medical Director, Crossroad Health Center

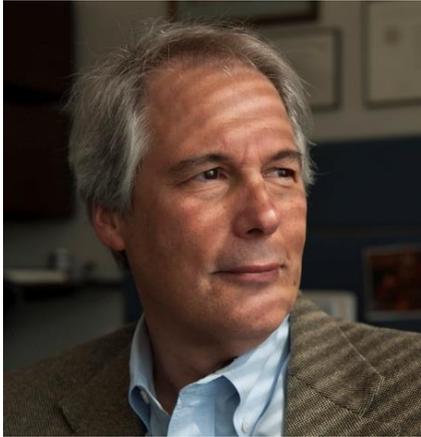
Robert T. Ammerman, PhD, Professor of Pediatrics, Cincinnati Children’s Hospital Medical Center, and Scientific Director, Every Child Succeeds

Alonzo (Ted) Folger, PhD, Assistant Professor, Division of Biostatistics and Epidemiology, Director, Evaluation and Epidemiology, Every Child Succeeds, Cincinnati Children’s Hospital Medical Center, Department of Pediatrics, University of Cincinnati College of Medicine



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Brief Biographies:



Robert A Shapiro, MD, is the Director of the Mayerson Center for Safe and Healthy Children at Cincinnati Children's Hospital Medical Center and Professor of Pediatrics at the University of Cincinnati College of Medicine. He directs the hospital child abuse team and specializes in Child Abuse Pediatrics. Dr. Shapiro's interests include diagnosing and treating victims of child abuse and neglect, implementing child abuse prevention strategies within primary care medical practices and facilitating a public health response to childhood adversity (ACEs) and building child/family resilience.



Christine O'Dea, MD, is an Associate Professor in the Department of Family and Community Medicine at the University of Cincinnati College of Medicine and the Director of Global Health Education for The Christ Hospital/University of Cincinnati Family Medicine. In addition, she is the Medical Director at Crossroad Health Center, a Federally Qualified Health Center and the only Christian Community Health Center in Cincinnati.

Christy is a graduate of the University of Dayton and Mayo Medical School. She completed her residency at the Mercy Franciscan/University of Cincinnati Family Medicine Residency Program. After spending five years in rural family medicine practice in Northern Wisconsin, she moved with her family and small children to rural Honduras, where she spent two years as a volunteer family physician with the non-governmental organization, Shoulder to Shoulder. She returned from Honduras in 2006 to join the faculty at the University of Cincinnati College of Medicine.

As Director of Global Health Education for the residency, she leads Global Health field experiences



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four times per year to Guatemala. These field experiences are composed of an interprofessional group of health professional students, residents, and faculty. The experiences provide hands on learning for students and residents and primary care to populations who have little or no access to usual health care.

Christy is the course director for the Medical Spanish/Latino Health longitudinal elective in the College of Medicine. Her areas of interests include global and underserved health, working with community health workers, and Latino Health. She is a member of Cincinnati Latino Health Collaborative.

Christy is happily married to Christian, and is the mother of four children, Marin, Maura, Jack and Melina, all of whom have lived and traveled with her throughout Latin America.



Robert T. Ammerman, PhD, is Professor of Pediatrics with a CCRF Endowed Chair at Cincinnati Children's Hospital Medical Center, University of Cincinnati College of Medicine, and Scientific Director, Every Child Succeeds. He received his Ph.D. in 1986 in clinical psychology from the University of Pittsburgh. Dr. Ammerman's interests include maternal mental health, trauma, and social/emotional development in children. He was co-developer of In-Home Cognitive Behavioral Therapy, an adapted CBT approach for low income, depressed mothers receiving home visiting. He is a Fellow of the American Psychological Association (Clinical Psychology) and the Association for Behavioral and Cognitive Therapies. Dr. Ammerman is the recipient of grants from the National Institute on Mental Health, Maternal and Child Health Bureau, and National Institute on Child Health and Development.



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Alonzo T. Folger, PhD, is an Assistant Professor of Pediatrics with the Division of Biostatistics and Epidemiology at Cincinnati Children's Hospital Medical Center, University of Cincinnati College of Medicine, and Director of Evaluation and Epidemiology, Every Child Succeeds. He received his Ph.D. in 2012 in epidemiology from the University of Cincinnati. Dr. Folger's research interests include the epidemiology of parental interpersonal trauma and offspring social-emotional health including the role of epigenetic mechanisms; factors that affect engagement and outcomes of families in prevention programs; and the use of administrative datasets to estimate the causal effects of prevention programs.

10:00 am – 12:00 pm

Poster Presentation Set-Up

Location: University of Cincinnati, Medical Sciences Building (MSB), CARE/Crawley E-level lobby

10:00 am – 10:25 am

Beverage Break

Location: University of Cincinnati, Medical Sciences Building (MSB), Foyer outside of Kresge Auditorium

10:25 am – 11:45 am

Plenary Session

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

The Role of Epidemiology in Precision Public Health

Chair: **Lilliam Ambroggio, PhD**, Assistant Professor, Cincinnati Children's Hospital Medical Center, Department of Pediatrics, University of Cincinnati College of Medicine

Description: There is national focus on precision public health and its place within the field of



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epidemiology. This session will highlight the role of national programs within the field of precision public health.

Abstract: The primary tenets of precision public health are to provide the right intervention to the right population at the right time. To execute these tenets there is a focus on better identification of populations, better behavioral and biological assessments of health and development and implementation of policy targeted to specific populations. In this session we will discuss national programs, All of Us Research Program and The Environmental influences on Child Health Outcomes (ECHO) Program that demonstrate the tenets behind precision public health. Discussion surrounding the integration of precision public health and precision medicine will end the session.

Brief Biography:



Lilliam Ambroggio, PhD, MPH, is an Assistant Professor of Pediatrics in the Divisions of Hospital Medicine and Biostatistics and Epidemiology at Cincinnati Children's Hospital Medical Center (CCHMC) and the University of Cincinnati. Dr. Ambroggio's her research program aims to improve outcomes for children with serious infections by developing methods to facilitate accurate diagnosis and implementing these methods into clinical practice. Her current research endeavors focus on the development and application of novel diagnostic tools to determine the etiology of community-acquired pneumonia (CAP) in children.

Speakers:

Donna K. Arnett, MSPH, PhD, Dean and Professor, College of Public Health, University of Kentucky
"Precision Medicine and Precision Public Health"



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Description: Using epidemiology to find innovative ways to integrate the tools and fruits of precision medicine with traditional public health strategies to enhance population health.

Abstract: Broadly understood, precision medicine seeks to integrate the bounty of an individual's omic data (e.g., genomic, epigenomic, transcriptomic, proteomic, metabolomic) with data from his or her environment and lifestyle (i.e., behaviors) to tailor medical treatment to that individual. Precision medicine is poised to add to—not replace—traditional public health strategies. Epidemiologists will play a central role in developing and implementing precision public health. This work will occur in three domains: (1) Discovering and validating new markers of health and disease: These discoveries will allow increased stratification of populations and finer subgroup granularity for subsequent hypothesis testing and validation of markers. (2) Monitoring population health: Traditional surveillance will be augmented by omic surveillance and mobile technologies to more accurately measure environmental exposures. (3) Preventing disease and maintaining health: Precision medicine's "targeted interventions" are useful not only in the service of disease treatment but apply equally well to programs designed to maintain health and prevent disease. Those seeking to develop precision public health face a number of challenges, including designing and executing sufficiently powered studies and insuring that novel (and potentially costly) precision-medicine interventions do not preferentially serve only higher socioeconomic strata and lead to new healthcare disparities.

Brief Biography:



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Donna Arnett, PhD, MSPH, is Dean of the College of Public Health and Professor of Epidemiology at the University of Kentucky. Dr. Arnett received a bachelor's degree in nursing from the University of South Florida and practiced critical care nursing for a number of years before earning her Master of Public Health degree from USF and then a PhD in epidemiology from the University of North Carolina at Chapel Hill. Dr. Arnett has received continuous NIH research funding for more than 24 years. Her work has focused primarily on the genomics and epigenomics of cardiovascular disease and related phenotypes. Throughout her career, Dr. Arnett has also been active in cardiovascular disease prevention and health promotion, culminating with her tenure as president of the American Heart Association during 2012-2013.

Valerie Maholmes, PhD, CAS, Eunice Kennedy Shriver National Institute of Child Health and Human Development, “**The Enrollment of Children in the NIH *All of Us* Research Program: Opportunities to Apply Epidemiology Across the Lifespan to Improve Population Health**”

Description: This presentation will elaborate on life course research enabled through the NIH *All of Us* Research Program and will discuss the ways in which enrolling children in the *All of Us* Research Program can help improve population health across the lifespan.

Abstract: The mission of the *All of Us* Research Program is to accelerate health research and medical breakthroughs, enabling individualized prevention, treatment, and care for all of us. The overall objective of the program is to build a robust research resource that can facilitate the exploration of biological, clinical, social, and environmental contributors to health and disease. The enrollment of children in the *All of Us*



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Research program has the potential to facilitate life course research to help understand the onset and progression of disease, but also inform preventive interventions and treatments tailored for a particular disease susceptibility.

Toward that end, this presentation will address how the Program proposes to enroll children to: (a) enable science to disentangle the complex relationships that shape outcomes in childhood and subsequently into adulthood, (b) widen the lens on disease prevention and optimizing health across the lifespan, (c) utilize a family-based approach for enrolling children to help understand the complex relationships among genetics and the social and physical environments on pediatric health, (d) to enroll multiple individuals from the same family with known relationships to assess family functioning, family aggregation of disease and also transmission of health and disease to new families and (e) to help fill major gaps in our knowledge base by addressing a range of key questions about diseases that manifest in childhood, as well as the childhood antecedents of adult diseases.

Brief Biography:



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Valerie Maholmes, PhD, CAS, is the Chief of the newly formed Pediatric Trauma and Critical Illness Branch at the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) at the National Institutes of Health. The Branch was established to encourage collaborative inquiry in basic, clinical, and translational research to promote discoveries, new treatment paradigms, and interventions that improve the quality of life for children and families who have experienced all forms trauma, life-threatening injury, or critical illness. In her capacity as Branch Chief, Dr. Maholmes sets the vision and priorities for research that addresses the continuum of psychosocial, behavioral, biological, and physiological influences that affect child health outcomes in trauma, injury, and acute care.

Before joining the NICHD, Dr. Maholmes was a faculty member at the Yale Child Study Center in the Yale School of Medicine and was named the Irving B. Harris Assistant Professor of Child Psychiatry in 1999. In 2003, she was awarded the prestigious Science Policy Fellowship sponsored by the Society for Research in Child Development (SRCD) and the American Association for the Advancement of Sciences (AAAS). She earned a Ph.D. in Educational Psychology from the Graduate School of Arts and Sciences at Howard University and a sixth-year degree in School Psychology from Fairfield University.

Dr. Maholmes is the author of numerous peer reviewed journal articles, book chapters and edited book volumes. Notably, Dr. Maholmes edited a text titled *Applied Research in Child and Adolescent Development: A Practical Guide* (Taylor and Francis, Psychology Press, 2010) which was based on an NICHD research training institute on child and adolescent development. She also co-edited a comprehensive volume based on the NICHD supported *Science and Ecology of Early Development*



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(SEED) initiative which examined the impact of poverty on children's development. This volume titled the Oxford Handbook of Child Development and Poverty was published by Oxford University Press in April 2012.

Matthew Gillman, MD, SM, National Institute for Child Health and Human Development, “**The Environmental influences on Child Health Outcomes (ECHO) Program**”

Description: The NIH Environmental influences on Child Health Outcomes (ECHO) program supports observational and intervention studies to address crucial questions about effects of a broad range of early environmental exposures on child health and development.

Abstract: ECHO prioritizes five pediatric health outcome areas: pre, peri, and early postnatal outcomes, upper and lower airway conditions, obesity and its cardiometabolic consequences, the several domains of neurodevelopment, and positive child health. Together, ECHO's observational cohorts, with an anticipated combined sample size exceeding 50,000 children from diverse populations across the United States, will leverage existing and new data from primary and secondary sources and biosamples. Amalgamating data from all of these studies into an ECHO-wide Cohort of that size allows investigation not only of less common early determinants and outcomes, but also how associations differ across sociodemographic, geographic, or other subgroups, a prerequisite for precision prevention. This data platform will initially be accessible to ECHO investigators and soon thereafter a national research resource available to the broader scientific community. On equal footing to the ECHO cohorts is the IDeA States Pediatric Clinical Trials Network, a component of ECHO that aims to enhance access to



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clinical trials among rural and medically underserved children. In both the observational and intervention components of ECHO, an essential objective is to maintain focus on solution-oriented research questions, that is, questions that drive programs, policies, and practices. In so doing, ECHO is poised to enhance the health of children for generations to come.

Brief Biography:



Matthew W. Gillman, MD, SM, joined the National Institutes of Health in 2016 as the inaugural director of the Environmental influences on Child Health Outcomes (ECHO) Program. Dr. Gillman came to NIH from Harvard Medical School, where he was a professor of population medicine and director of the Obesity Prevention Program, and Harvard School of Public Health, where he was a professor of nutrition. With background in the fields of internal medicine, pediatrics, and epidemiology, he has led cohort studies and randomized controlled trials and published widely in prevention of chronic disease across the life course. Dr. Gillman won mentoring awards at Harvard Medical School and Harvard School of Public Health, and has served in several national and international leadership positions, including on the United States Preventive Services Task Force and for the International Society for Developmental Origins of Health and Disease, from which he won the David Barker Medal in 2017. His clinical experience includes primary care for children and adults, and preventive cardiology among children.

11:45 am – 12:00 pm

Transition/Travel Time

Location 1: University of Cincinnati, Medical Sciences Building (MSB), Rooms 3051, 5051, 6051



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Location 2: Cincinnati Children's Hospital Medical Center (CCHMC), Location D, Rooms D2.20, D2.27, D2.40, D2.44

12:00 pm – 1:00 pm

Luncheon Roundtables

1. “Gender Equity in Epidemiology”

Location: University of Cincinnati, Medical Sciences Building (MSB), Room 3051

Sponsor: Policy Committee

Discussants: Lorna Thorpe, PhD, Professor and Director, Division of Epidemiology, Vice Chair, Strategy and Planning, Department of Population Health, NYU School of Medicine and **Pauline Mendola, PhD**, Investigator, Epidemiology Branch, Division of Intramural Population Health Research at the Eunice Kennedy Shriver National Institute of Child Health and Human Development

Abstract: Females represent the majority of epidemiology trainees and make up the majority of epidemiologic scientific society memberships but appear less likely to be full professors and their publications have arguably less impact. We are not alone. Similar stories are heard across disciplines as noted by the Association for Women in Science. A recent National Academy of Sciences report on sexual harassment of women in science is drawing attention to this unfortunately fairly pervasive concern. Drs. Thorpe and Mendola will outline recent data on women in epidemiology and discuss broader issues of gender equity with attendees. They will also invite discussion regarding experiences and concerns from roundtable attendees. This conversation affects our discipline broadly with considerations for all gender identities. All are welcome to attend and join the discussion.



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Brief Biographies:



Lorna Thorpe, PhD, is professor and director of the Division of Epidemiology at the NYU School of Medicine in the Department of Population Health, where she also serves as vice chair for strategy and planning. Her research focuses on the intersection between epidemiology and policy in chronic disease prevention and management and on improving modern forms of population health surveillance. Dr. Thorpe spent 9 years at the NYC Department of Health and Mental Hygiene, as Deputy Commissioner of Epidemiology from 2004-2009. She also spent 7 years at the City University of New York School of Public Health directing their Epidemiology and Biostatistics Department. Dr. Thorpe began her research career as a CDC Epidemic Intelligence Service (EIS) Officer in international tuberculosis (TB) control, completed her Ph.D. in epidemiology at the University of Illinois at Chicago, M.P.H. at University of Michigan, and B.A. at Johns Hopkins University. Dr. Thorpe currently leads several NIH and CDC-funded research initiatives, including: co-leading a CDC-funded Prevention Research Center to evaluate community-clinical linkage interventions to improve chronic disease management in low-income populations, an NCI-funded natural experiment to evaluate the health impacts of a smoke-free housing rule being implemented in public housing authorities, and a CDC-funded national study to examine community determinants of diabetes and obesity. Dr. Thorpe is chair of the Policy Committee of the American College of Epidemiology (ACE), has served on Institute of Medicine committees, and has been an advisor to the CDC on population health surveillance.



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Pauline Mendola, PhD, is a Senior Investigator in the Epidemiology Branch, Division of Intramural Population Health Research at the Eunice Kennedy Shriver National Institute of Child Health and Human Development. She earned a PhD in Epidemiology and Community Health from the University at Buffalo. Her research focuses on environmental factors that impact reproductive health, particularly pregnancy outcomes. Her current work addresses immune function during pregnancy and environmental factors that can be used to predict whether maternal asthma symptoms will worsen or improve during pregnancy. She is the current ACE President.

2. “Careers in environmental epidemiology and making your research impactful for risk assessment and decision making”

Location: University of Cincinnati, Medical Sciences Building (MSB), Room 6051

Sponsor: Mentoring Committee

Discussants: **Carol Burns, PhD, MPH, Fellow ACE,** and **Susan M. Pinney, PhD**

Description: Quality epidemiology data is taking on increased importance for human health decision making. Opportunities to both generate and evaluate these data will be discussed.

Abstract: Enrollment in specialized degree programs in environmental epidemiology is declining. However, regulators and policy makers are increasingly looking to epidemiology data on which to make decisions. This is balanced with a shift away from traditional laboratory animal studies toward more mechanistic analyses and sophisticated modeling. Understanding the needs of regulators can help epidemiology researchers make an impactful contribution. Careers



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in sectors of industry, government and academia will be discussed in an open round table forum.

Brief Biographies:



Carol Burns, PhD, is president of Burns Epidemiology Consulting and an adjunct professor of epidemiology at the Central Michigan University College of Medicine, having previously worked in occupational and environmental epidemiology at The Dow Chemical Company for 21 years. She holds a doctorate degree in epidemiology from the University of Michigan and a master's degree from Tulane University School of Public Health and Tropical Medicine. Carol's primary areas of focus are assessing exposure in epidemiology studies and improving the use of epidemiology for use in risk assessment. She is passionate about communicating the role of epidemiology in decision making to colleagues, community members and government regulators. Active in the epidemiology community, she was the newsletter editor of the American College of Epidemiology for many years and currently chairs the ACE Career and Mentoring committee. She serves on the editorial board of the journal *Advances of Public Health*. Also active locally, she is a trustee for Alma College, a board member of Adoption Option, Inc., and serves on a health panel for the United Way.



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Susan M. Pinney, PhD, is a Professor in the Department of Environmental Health in the College of Medicine, University of Cincinnati, the Deputy Director of the Center for Environmental Genetics, and the Cancer Risk, Control and Prevention Program Leader for the Cincinnati Cancer Center. Dr. Pinney has conducted research in the area of environmental epidemiology for the last 25 years. She has conducted studies incorporating exposure biomarkers of radiation, uranium, cotinine, phenols, phthalates, phytoestrogens, organochlorides, and most recently, the perfluoroalkyl chemicals (PFCs) including perfluorooctanoate (PFOA), and has developed methods for incorporating environmental biomarker measurements into models for estimating exposure.

3. “Annals of Epidemiology: New Leadership, New Vision, and New Ways to Engage ACE Membership” - Canceled

Location: Cincinnati Children’s Hospital Medical Center (CCHMC), Location D, Level 2, Room 20

Sponsor: ACE Publications Committee in conjunction with the Annals of Epidemiology

Discussants: Patrick Sullivan, DVM, PhD, Editor-in-chief, Annals of Epidemiology and **Cory Woodyatt, BSN, RN**, Managing Editor, Annals of Epidemiology

Abstract: Annals of Epidemiology is the official journal of the American College of Epidemiology (ACE), and this roundtable is an opportunity for members of ACE to engage with Editor-in-Chief Dr. Patrick Sullivan and Managing Editor Cory Woodyatt. We will discuss our vision for the journal, and how to increase the journal’s impact in the field. Sullivan will also present the ways in which ACE members can get involved in the journal, including the advantages of submitting to the journal as an ACE member or fellow.



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The session will finish off with an open-floor discussion on how the journal can be of more value to ACE members and their research efforts.

Brief Biographies:



Patrick Sullivan, DVM, PhD, is the Editor-in-Chief of *Annals of Epidemiology*. Dr. Sullivan currently serves as a Charles Howard Candler Professor of Epidemiology at Emory University's Rollins School of Public Health. Prior to joining Emory, Dr. Sullivan spent 12 years at the Centers for Disease Control and Prevention (CDC), including five years as Chief of the Behavioral and Clinical Surveillance Branch. He is a Co-Director of the Emory CFAR Prevention Sciences Core and in this role, he supports NIH-funded investigators in ways to integrate Internet-based and mobile technologies into HIV research and prevention. Dr. Sullivan was the founding editor of *JMIR Public Health and Surveillance* and has served in guest editor roles for *The Lancet*, *Public Health Reports*, and *Open AIDS*.



Cory Woodyatt, BSN, RN, is the Managing Editor of *Annals of Epidemiology*. Mr. Woodyatt currently serves as an Emergency Room nurse at Emory Healthcare. Prior to joining Emory Healthcare, he spent 5 years at Emory University's Rollins School of Public Health as a Project Manager for AIDSvu.org, an interactive online map illustrating the prevalence of HIV in the United States. Cory also served as a Project Officer for 3 years at the Public Health Agency of Canada where he assisted in the development of national STI and HIV prevention programs and guidelines. Cory has published on public health topics including transgender health, intimate partner violence, sexual agreements, and HIV non-disclosure laws.



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4. Dept. of Epidemiology Chairs Luncheon (by invitation only)

Location: Cincinnati Children's Hospital Medical Center (CCHMC), Location D, Level 2, Room 27

5. "Developing Healthy People 2030: Exploring Data Issues and Needs"

Location: University of Cincinnati, Medical Sciences Building (MSB), Room E-5051

Sponsor: Leda Gurley, NCHS, – Centers for Disease Control and Prevention

Discussants: CDR David T. Huang, PhD, MPH, CPH, Chief, Health Promotion Statistics Branch, CDC/National Center for Health Statistics, **Leda Gurley, MSM, MPH**, Supervisory Team Lead, Health Promotion Statistics Branch, CDC/National Center for Health Statistics, **Ayanna Johnson, MSPH**, Public Health Advisor, Office of Disease Prevention and Health Promotion, US Department of Health and Human Services

Description: This Healthy People 2030 roundtable session will provide an overview of the Healthy People initiative and discuss the importance of current data and data tools to track and measure progress throughout the decade. Additionally, the session will explore data issues and needs related to the development of the new iteration of Healthy People, Healthy People 2030.

Abstract: Since 1979, the Healthy People Initiative has served as a roadmap to advance the nation's health by developing a new set of science-based, 10-year national objectives each decade. As part of the user-driven process for developing the next iteration of the initiative, Healthy People 2030 (HP2030), this



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roundtable session will provide an opportunity for attendees with expertise in public health data, policy, and epidemiology to participate in an interactive discussion on how data can be used to inform the development and selection of HP2030 objectives. This session will explore issues related to both national and subnational data, as well as potential opportunities to engage stakeholders through supplemental indicators and data linkages. Finally, the session will give participants an opportunity to engage in discussions on data issues related to Healthy People outreach and dissemination, including providing technical assistance to stakeholders and making data accessible and user friendly to website users.

Brief Biographies:



CDR David T. Huang, PhD, MPH, CPH, is the branch chief for the Health Promotion Statistics Branch, leading a staff of 18 who provide data and statistical support to the national Healthy People initiative at the CDC's National Center for Health Statistics (NCHS). He holds a PhD in Industrial Engineering from the Georgia Institute of Technology and an MPH in quantitative methods from the Harvard T. H. Chan School of Public Health. CDR Huang is a member of the charter class of Certified in Public Health (CPH) professionals and has authored scientific articles and charts appearing in the Journal of the American Medical Association (JAMA), American Journal of Public Health, Annual Review of Public Health, American Journal of Epidemiology, Journal of Public Health Management and Practice, and Morbidity and Mortality Weekly Report (MMWR).



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Leda Gurley, MSM, MPH, is a supervisory epidemiologist at the Centers for Disease Control and Prevention, National Center for Health Statistics, Health Promotion Statistics Branch (HPSB), which provides data and statistical expertise to the Department of Health and Human Services' national health goals as outlined in the Healthy People initiative. She provides expertise and leadership to the analysts within HPSB in the collection, analysis and reporting of statistical data related to Healthy People. She also serves on working committees of the Department of Health and Human Services dealing with the development of these goals. Ms. Gurley has over 17 years' specialized experience in public health. She holds a Master of Science in Management from Wilmington University and a Master of Public Health with a dual concentration of Epidemiology and Biostatistics and Social and Behavioral Sciences from Boston University.



Ayanna Johnson, MSPH, is a public health advisor at the U.S. Department of Health and Human Services in the Office of Disease Prevention and Health Promotion (ODPHP). At ODPHP, she manages Healthy People 2020 strategic partnerships with state health departments and other non-federal organizations. Ms. Johnson works on external outreach related to the development of Healthy People 2030, including hosting listening sessions across the country. Ms. Johnson focuses on a variety of public health issues, serving on working committees for the Department on health equity, women's health, adolescent health and healthy aging. Prior to joining ODPHP, Ms. Johnson served in the Office of the Surgeon General as a health policy fellow for the division of Science and Policy. Previously, she was a health policy manager at the National Consumers League focusing on consumer health, health professional graduate training, and chronic disease management. She holds a Master of



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Science in Public Health from the Johns Hopkins University Bloomberg School of Public Health.

6. “Career trajectories, career paths in government/academia/industry and gender issues that influence them”

Location: University of Cincinnati, Medical Sciences Building (MSB), Room E-351

Sponsor: Associate Member Committee

Discussant: Michele Forman PhD, FACE, Distinguished Professor and Department Head, Department of Nutrition Science, College of Health and Human Science, Purdue Center for Cancer Research, Purdue University

Description: The ACE Members Luncheon Roundtable will focus on: career trajectories, career paths in government/academia/industry and gender issues that influence them. From the lens of an academic who spent 28 years at NIH and CDC, we will discuss how to move up the career ladder in different environments with different criteria for promotion and tenure as well as how women have fared in these environments compared to men.

Abstract: Graduate students and postdoctoral fellows are hard-working, passionate and talented. There are steps we can do to help maximize chances of success as you move up the ladder. The array of elements to career trajectory include: selection of mentors; a mentorship plan; deciding on the most appropriate environment as the next step that also coincides with the most appropriate track; support and training in proposal development for government and non-governmental agencies; networking; and lessons learned from those of us who have moved up the ladder in different environment. To add to this mix, the



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element of gender differences in salary and in promotion remain.

Brief Biography:



Michele R. Forman, PhD, FACE, has a career focuses on nutritional epidemiology and clinical nutrition research across the globe with an emphasis on early life exposures and risk for chronic disease as well as the role of nutrition in growth and health across the life course. As her research foci have shifted from low birth-weight to chronic disease, the still point of the compass has remained fixed; she examines the developmental origins of disease. Much of her research is designed either as a longitudinal prospective cohort study that spans the peri-conceptual period through adulthood or dietary interventions in the free-living state or under controlled feeding conditions or randomized clinical trials. Her laboratory addresses nutritional assessment of individuals from infancy through adulthood; and tests dietary interventions amongst high risk groups such as chronic renal disease patients. She has over 180 peer reviewed publications, numerous invited presentations nationally and internationally, is on many institutional committees, advisory boards. She has mentored over 80 postdoctoral fellows, graduate and undergraduate students.

1:00 pm – 1:15 pm

Transition/Travel Time

Location: University of Cincinnati, Medical Sciences Building (MSB)

1:15 pm – 2:45 pm

Concurrent Sessions 1

Concurrent Session 1a



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Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

Biosocial Determinants of Obesity and Its Consequences Across the Lifecourse

Co-chairs: **Bertha Hidalgo, PhD**, Assistant Professor, Department of Epidemiology, Associate Scientist, Nutrition Obesity Research Center, Chair, Minority Affairs Committee, American College of Epidemiology, University of Alabama at Birmingham and **Russell Kirby, PhD, MS, FACE**, Distinguished University Professor and Marrell Endowed Chair, Department of Community and Family Health, College of Public Health, University of South Florida

Speakers:

Kaori Fujishiro, PhD, Senior Epidemiologist, National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC), “**Investigating obesity risk among working-age adults: The role of job characteristics and what a life-course approach can illuminate**”

Description: Work is relevant for many decades in adult life, during which major life events take place. Using a life-course approach, this talk will discuss how work can contribute to obesity and also how it may facilitate obesity prevention.

Abstract: A life-course approach—with its emphasis on human development as a life-long process, timing in life events, and human agency within social contexts—can provide unique insights into the social determinants of obesity. The first part of the talk highlights findings from two studies using the Nurses’ Health Study II data. The first study showed that stress-related weight gain depended on baseline BMI: job stress may contribute to weight gain in the first



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place, but overweight and obesity may also make the person more vulnerable to job stress. The second study revealed that durations of working on rotating night shift before and during the 4-year study period had different associations with weight gain: previous shiftwork had a dose-response relationship with weight gain; concurrent shiftwork had an inversed-U shape. The timing of first exposure along with life changes outside work may be important in middle-aged working women's weight gain. The second half of the talk will focus on human agency in social contexts and the role of job quality in encouraging healthier behaviors. Obesity prevention efforts have aimed to increase knowledge (e.g., serious consequences of obesity) and to change environments (e.g., availability of healthy foods). For knowledge and environment to lead to actual action, self-efficacy (i.e., self-confidence in taking desired action) must be cultivated. A study using Gallup data suggested that certain work characteristics may help strengthen self-efficacy, which increases the chance of making healthier choices. When researchers investigate either risk factors for obesity or facilitators of healthy behavior, they gain better understanding by incorporating the complexities of life as a process, the timing of life events, and the social contexts surrounding individuals.

Brief Biography:



Kaori Fujishiro, PhD, is a social epidemiologist at the National Institute for Occupational Safety and Health (NIOSH). Her research investigates health as a consequence of the dynamic interactions among individuals, their work environment, and their social contexts. This perspective goes beyond the traditional exposures-disease framework and instead moves toward a complex systems approach. In her recent publications, Dr. Fujishiro argues that work plays an important role in creating and perpetuating



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health inequalities across racial/ethnic groups as well as socioeconomic positions.

Sara Luckhaupt, MD, MPH, Commander, United States Public Health Service, Supervisory Medical Epidemiologist, National Institute for Occupational Safety and Health, “**Biosocial Determinants of Obesity and Its Consequences Across the Lifecourse: Do Our Jobs Contribute?**”

Description: The average employed adult spends up to one third of his or her waking hours working, and work can impact health in many different ways. Several recent cross-sectional studies performed by epidemiologists at the National Institute for Occupational Safety and Health (NIOSH) have illustrated associations between job characteristics and health outcomes that include obesity, other cardiovascular risk factors, and cardiovascular diseases.

Abstract: Both physical/chemical and psychosocial occupational factors have been linked to increased risk of cardiovascular disease. These factors might have both direct physiologic effects on cardiovascular health and indirect effects by influencing behavioral risk factors such as smoking and obesity. Some evidence indicates that workplace hazards such as job strain might pose more potent risk to workers in lower-income households, perhaps because of an interaction with adverse exposures in the community, combined with fewer health-enhancing opportunities (e.g., health care, a healthy diet, and exercise facilities). This presentation will summarize the results of multiple cross-sectional studies that have illustrated associations between job characteristics and obesity, other cardiovascular risk factors, and cardiovascular diseases. Data used in these studies come from the National Health Interview Survey (NHIS), the Behavioral Risk Factor Surveillance System (BRFSS),



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and the REasons for Geographic and Racial Differences in Stroke (REGARDS) study. NHIS data suggest that: among all adult workers, working more than 40 hours per week, exposure to a hostile work environment, and employment in certain industries and occupations are significantly associated with an increased prevalence of obesity; and, among employed adults aged <55 years, working in service and blue collar occupations and certain industries are significantly associated with a history of coronary heart disease or stroke. BRFSS data from 21 States suggest that occupational group is significantly associated with both individual cardiovascular health metrics (CHMs) and the CHM summary score. Similarly, data from REGARDS show that the prevalence of optimal cardiovascular health among middle-aged and older workers in the U.S. varies considerably by occupation. Although these studies have several limitations, they all point to the need for future epidemiologic studies of obesity, other cardiovascular risk factors, and cardiovascular diseases to consider occupational risk factors along with other biosocial determinants of health.

Brief Biography:



CDR Sara Luckhaupt, MD, MPH, is a supervisory medical epidemiologist at the National Institute for Occupational Safety and Health (NIOSH, part of CDC). She received a Medical Degree from the Ohio State University in 2002 and completed a preventive medicine residency at the University of Michigan in 2006, then joined the CDC/NIOSH and the Commissioned Corps as an Epidemic Intelligence Service Officer. She works on many national and international projects related to occupational safety and health, including serving as the project officer for occupational health supplements to the National Health Interview Survey in 2010 and 2015. She has also deployed in support of numerous public health



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emergencies, including the 2014-2015 Ebola epidemic in West Africa, the 2016-2017 Zika response in Puerto Rico, and Hurricanes Harvey and Maria in 2017.

Michele R. Forman, PhD, FACE, Distinguished Professor and Department Head, Department of Nutrition Science, College of Health and Human Science, Purdue Center for Cancer Research, Purdue University, “**Life course of Preeclampsia: Facing obesity and comorbidity in mothers and offspring**”

Description: This presentation compares the health and development of a cohort of offspring with and without exposure to preeclampsia who were followed through the first 18 years and also addresses the long-term effects of preeclampsia on the index mother. Repeated measures of growth and health illustrate the long-term effects of in utero exposures on mother-offspring dyads.

Abstract: Women who develop preeclampsia (PE), a comorbidity characterized by hypertension and proteinuria in pregnancy, are at increased risk of cardiovascular disease. Indeed the American Heart Association (AHA) Guidelines 2011 states that a pregnancy history of PE is an integral part of preventive cardiology assessments for women. PE is diagnosed in 3-8% of pregnancies annually, is a disease of unknown etiology, and varies by severity and by gestation age at diagnosis. In a longitudinal nested case-control study within birth cohorts in Norway, we report that women diagnosed with PE in pregnancy are at higher risk for hypertension and for metabolic syndrome (higher glucose and insulin levels) 11 years postpartum than women not exposed to PE in pregnancy; but duration of lactation in the index pregnancy can modify this risk. Also women with PE exposure are at reduced risk of breast cancer



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than their non-PE peers. Importantly offspring of PE pregnancy have an almost double risk of stroke in adulthood with preclinical evidence apparent by childhood. We report that offspring of PE pregnancy have elevated systolic blood pressure (SPB) in early adolescence (aged 11 y), and higher body mass index compared to age-sex matched peers unexposed to PE in utero. Girls of PE pregnancies delay breast development but have accelerated pubic hair development compared to girls without PE exposure. Thus the life course of mother-offspring dyads with exposure to PE is dramatically different than comparable dyads without exposure. These differences reveal a profile of pathways and perils to chronic disease prevention that is triggered by PE.

Brief Biography:



Michele R. Forman, PhD, FACE, has a career focuses on nutritional epidemiology and clinical nutrition research across the globe with an emphasis on early life exposures and risk for chronic disease as well as the role of nutrition in growth and health across the life course. As her research foci have shifted from low birth-weight to chronic disease, the still point of the compass has remained fixed; she examines the developmental origins of disease. Much of her research is designed either as a longitudinal prospective cohort study that spans the peri-conceptual period through adulthood or dietary interventions in the free-living state or under controlled feeding conditions or randomized clinical trials. Her laboratory addresses nutritional assessment of individuals from infancy through adulthood; and tests dietary interventions amongst high risk groups such as chronic renal disease patients. She has over 180 peer reviewed publications, numerous invited presentations nationally and internationally, is on many institutional committees, advisory boards. She has mentored over



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80 postdoctoral fellows, graduate and undergraduate students.

Concurrent Session 1b

Location: University of Cincinnati, Medical Sciences Building (MSB), Room E-351

Applications of Infectious Disease Epidemiology from the Micro to the Macro

Chair: **Stephanie Donauer, PhD**, Xavier University, Department of Health Services Administration

Abstract: Among the many challenges to health across our lifespan, infectious diseases are unique in terms of their potential for explosive global impact, ability to adapt against pressures aimed at their destruction, and potential for prevention. The successes we have made toward the control of infectious disease have stemmed from a wide range of approaches, and this session will highlight a few key epidemiological approaches, from the molecular perspective to improving vaccine uptake.

Brief Biography:



Stephanie Donauer, PhD, is an Assistant Professor in the Department of Health Services Administration at Xavier University. Dr. Donauer received her undergraduate degree in Biology from the University of Dayton, and her PhD in Epidemiology from the University of Cincinnati. Prior to joining Xavier University, Dr. Donauer completed a general academic pediatric fellowship at Cincinnati Children's Hospital Medical Center. Dr. Donauer's research interests include environmental health, immunotoxicity, and vaccine effectiveness.

Speakers:



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Sharon G. Humiston, MD, MPH, FAAP, Department of Pediatrics/ Division of Emergency Medicine, Children's Mercy Kansas City, Professor of Pediatrics, UMKC School of Medicine, "**HPV vaccination: Data is the new bacon**"

Description: This presentation will highlight the epidemiology of HPV burden and HPV vaccination, as well as efforts to improve coverage using quantitative and qualitative data.

Abstract: This presentation will highlight the epidemiology of HPV burden and HPV vaccination, and show how these facts are being used to design interventions to improve coverage. We'll discuss how scientific explanations of encouraging data can, perversely, fuel vaccine hesitancy. And, in this presentation on The New Bacon, lettuce not forget the important contribution of qualitative data in improvement efforts.

Brief Biography:



Sharon Humiston, MD, MPH, FAAP, is Professor of Pediatrics at University of Missouri –Kansas City, School of Medicine and Children's Mercy. She is a clinician and health services researcher; her research focuses on innovative and practical approaches to improve vaccine delivery. She works on HPV vaccination initiatives for the Academic Pediatric Association and the American Academy of Pediatrics. She has served on the Steering Committee of the American Cancer Society's HPV Vaccination Roundtable and is the Associate Director for Research for the Immunization Action Coalition. In her glory days she was a Medical Epidemiologist in the CDC's National Immunization Program (now the National Center for Immunization and Respiratory Diseases).



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Betsy Foxman, PhD, Hunein F. and Hilda Maassab Professor of Epidemiology, University of Michigan School of Public Health, "**Does the microbiome mediate risk of viral infection?**"

Description: I will present results of studies exploring the interactions between the composition and structure of commensal bacteria found in the nasal pharynx and respiratory infection.

Abstract: Applications of high throughput 'omics technologies to the microbes living in and on humans (the microbiota) are rapidly changing our perspectives of the importance of microbiota to human health. If microbiota enhance or reduce the effects of viral infection on the host, we might manipulate the microbiota for our benefit. Alternatively, or in addition, microbiota might respond to exposure-induced changes in host functions, and thus microbiota characteristics could be used as a diagnostic or prognostic tool. I will provide examples of ongoing epidemiologic studies examining whether the composition and structure of commensal bacteria mediate risk of respiratory infection.

Brief Biography:



Betsy Foxman, PhD, is the Hunein F. and Hilda Maassab Professor of Epidemiology at the University of Michigan School of Public Health, where she directs the Center for Molecular and Clinical Epidemiology of Infectious Disease, the Integrated Training Program in Microbial Systems, and the Certificate program in Healthcare Infection Prevention and Control. Her research focuses on the transmission, pathogenesis, ecology and evolution of infectious agents, with an emphasis of transmission. She has over 250 publications in the scientific literature, is author of a textbook, *Molecular Tools and*



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Infectious Disease Epidemiology, and recently edited a special issue of the Annals of Epidemiology on the “Microbiome and Epidemiology”.

Todd Jusko, PhD, University of Rochester School of Medicine and Dentistry, Department of Public Health Sciences, Division of Epidemiology, Department of Environmental Medicine, "**Environmental Toxicants: The New Anti-Vaxxers?**"

Description: This presentation will give a brief overview of what is known about infectious outcomes in relation to early life chemical exposures. The state of infectious disease outcome assessment in this context will also be discussed.

Abstract: Many environmental chemicals are well-studied in terms of their potential effects on reproductive and neurobehavioral outcomes, but immune outcomes have received considerably less attention. Animals studies demonstrate that these exposures can lead to immune suppression, resulting in an increased risk of infection. To overcome some of the limitations inherent in measuring infection risk in human cohorts, antibody “responses” to scheduled childhood vaccinations have been a convenient endpoint with which to interrogate potential immunotoxicity in developmental studies of environmental exposures. An overview of what is known about the increased risk of infection in relation to these chemical exposures will be reviewed, and the limitations of these approaches considered. Next steps, particularly as they relate to measuring infection and morbidity, will also be discussed.



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Brief Biography:



Todd Jusko, PhD, is an environmental epidemiologist and assistant professor at the University of Rochester School of Medicine and Dentistry in Rochester, NY. His research focuses on how environmental chemicals contribute to adverse immunological development over the entire lifespan. He is interested in the immune system as both a disease endpoint (e.g., infection, lowered vaccine response, development of autoimmunity), and as a mechanism of susceptibility for other disease outcomes, such as neurobehavioral development. Dr. Jusko trained at the University of Washington and completed a postdoctoral fellowship in biomarker-based epidemiology at NIEHS, NIH.

2:45 pm – 3:00 pm

Beverage Break

Location: University of Cincinnati, Medical Sciences Building (MSB), Outside of Kresge Auditorium, E-351

3:00 pm – 4:15 pm

Plenary Session

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

The Epidemiology of Addiction and the Opioid Use Epidemic

Co-Chairs: **Maurizio Macaluso, MD, DrPH, FACE**, Professor of Pediatrics, University of Cincinnati College of Medicine, Director, Division of Biostatistics and Epidemiology, Cincinnati Children's Hospital Medical Center and **Russell Kirby, PhD, MS, FACE**, Distinguished University Professor and Merrell Endowed Chair, Department of Community and



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Family Health, College of Public Health, University of South Florida

Description: This plenary session places the opioid use epidemic in the broader context of the epidemiology of addiction, and discusses in depth opioid use during pregnancy and barriers to treatment among HIV-infected injection drug users.

Abstract: The opioid abuse epidemic is undoubtedly one of the most disturbing social and public health problems that the U.S. faces today. As the number of individuals who misuse prescription opioids is in the millions, and the number of deaths due to overdose continues to grow, it is important to understand the epidemiology of addiction and its health consequences. This session places the opioid use epidemic in the broader context of the epidemiology of addictive behaviors, addresses the increased use of opioids during pregnancy and the resulting epidemic of neonatal abstinence syndrome, and discusses the difficulties of promoting medication assisted treatment as well as antiretroviral treatment among injection drug users.

Brief Biographies:



Maurizio Macaluso, MD, DrPH, FACE, is Professor of Pediatrics at the University of Cincinnati (UC) College of Medicine, Director of the Division of Biostatistics and Epidemiology at Cincinnati Children's Hospital and Associate Director of the Center for Clinical and Translational Science and Training of UC. He has over 35 years of research experience in methods; cancer; occupational health and safety; reproductive health; infectious diseases; surveillance systems; and has authored over 200 publications. He is a Fellow of the American College of Epidemiology and serves on the Board of Directors of ACE and as Associate Editor of the Annals of



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Epidemiology. He is the Program Chair and Local Host of the 2018 meeting.



Dr. Russell Kirby, PhD, MS, FACE, is perinatal and pediatric epidemiologist trained both in epidemiology and human geography. His work focuses on population-based research concerning adverse pregnancy outcomes, birth defects, and developmental disabilities, data integration, and spatial methods applied to epidemiologic studies. Dr. Kirby became a member of ACE in 1993, and has been a Fellow since 1996. He will serve as president of ACE for 2018-19.

Speakers:

Steve Sussman, PhD, FAAHB, FAPA, Professor of Preventive Medicine, Psychology, and Social Work, Institute for Health Promotion and Disease Prevention Research, University of Southern California, **"Addiction as a Dysregulation of Appetitive Motivation"**

Description: I argue that understanding the definition and breadth of addiction leads one to consider any number of substances and behaviors that can become dysregulated. I also discuss what may lead to one addiction but not another (addiction specificity), the notion of an "addiction class", and suggest implications for health policy.

Abstract: Addiction often is described without being well-defined. In this presentation, the definition of addiction is presented, which involves engaging in behaviors, including imbibing of substances that achieve a subjective appetitive effect, then lead to preoccupation and loss of control, and to undesired consequences. In this presentation I suggest that up to 48% of the adult population suffers from one or more of 11 focal addictions (nicotine, alcohol, other



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drugs, food, gambling, electronic media, love, sex, shopping, exercise, and work). Based on Latent Class Analysis data I suggest that, considering these focal addictions, there exists an “addiction class” of persons, and a non-addiction class, and that both classes are quite stable over a year’s period. Within the addiction class the specific addiction harnessed is not stable and may fluctuate based on pragmatics, attraction of the behavior, communication expertise regarding the behavior, and meeting expectations (PACE). Lifestyle (including social pushes and pulls), associative learning, along with neurobiological vulnerability impact the tendency to develop an addictive pattern. Health policy should consider the need to grapple with the addiction process to halt the development of negative substitute addictions, while maintain realistic coverage of persons.

Brief Biography:



Steve Sussman, Ph.D., FAAHB, FAPA, received his doctorate in social-clinical psychology from the University of Illinois at Chicago in 1984. He is a professor of preventive medicine, psychology, and social work at the University of Southern California (USC), and he has been at USC for 34 years. He studies etiology, prevention, and cessation within the addictions arena, broadly defined, as well as translation research and program development. He has over 500 publications. His programs include Project Towards No Tobacco Use (young teen tobacco use prevention), Project Towards No Drug Abuse (older teen drug abuse prevention), and Project EX (older teen tobacco use prevention/cessation), which are considered evidence-based programs at numerous agencies (i.e., CDC, NIDA, NCI, OJJDP, SAMSHA, CSAP, Colorado and Maryland Blueprints, Health Canada, U.S. DOE and various State Departments of Education). He received the honor of Research Laureate for the



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American Academy of Health Behavior in 2005, and he was President there (2007-2008). Also, as of 2007, he received the honor of Fellow of the American Psychological Association (Division 50, Addictions). He is the current Editor of *Evaluation & the Health Professions* (SAGE Publications). His newest text is: *Substance and Behavioral Addictions: Concepts, Causes, and Cures* (Cambridge, 2017).

Stephen Patrick, MD, MPH, MS, Vanderbilt University, “**The Impact of the Opioid Epidemic on Pregnant Women and Infants**”

Description: This talk will focus on the rise of opioid use in the US, how it has affected pregnant women and infants and how public health systems have responded.

Abstract: Over the past two decades, there has been substantial growth in opioid consumption in pregnancy, diagnoses of opioid use disorder among pregnant women, and neonatal complications from in utero opioid exposure. By 2014, one infant was born on average every 15 minutes in the United States having signs of drug withdrawal after birth, also known as neonatal abstinence syndrome (NAS). The rapid rise of opioid use in pregnancy caught hospitals and public health systems off guard. This talk will describe the rise of opioid use in pregnancy and NAS and will focus on their implications for public health systems as well as state and federal policy.



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Brief Biography:



Stephen W. Patrick, MD, MPH, MS, is the Director of the Vanderbilt Center for Child Health Policy, an Assistant Professor of Pediatrics and Health Policy at Vanderbilt University School of Medicine and an attending neonatologist at Monroe Carell Jr. Children's Hospital at Vanderbilt. He is a graduate of the University of Florida, Florida State University College of Medicine and Harvard School of Public Health. Dr. Patrick completed his training in pediatrics, neonatology and health services research as a Robert Wood Johnson Foundation Clinical Scholar at the University of Michigan. Dr. Patrick's National Institute on Drug Abuse-funded research focuses on improving outcomes for opioid-exposed infants and women with substance-use disorder and evaluating state and federal drug control policies. He previously served as Senior Science Policy Advisor to the White House Office of National Drug Control Policy. Dr. Patrick is a member of the American Academy of Pediatrics Committee on Substance Use and Prevention and has been a voting member on several US Food and Drug Administration Advisory Boards focused on opioid use in children. He has testified about the impact of the opioid epidemic on pregnant women and infants before committees in both the US House of Representatives and the US Senate. Dr. Patrick's awards include the American Medical Association Foundation Excellence in Medicine Leadership Award, the Academic Pediatric Association Fellow Research Award Tennessee Chapter of the American Academy of Pediatrics Early Career Physician of the Year and the Nemours Child Health Services Research Award. His research has been published in leading scientific journals including



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the New England Journal of Medicine, JAMA,
Pediatrics and Health Affairs.

William C. Miller, MD, PhD, MPH, Chair and
Professor of Epidemiology, Center of Excellence in
Regulatory Tobacco Science, The Ohio State
University, **“Opioids and HIV: From Global to
Local”**

Description: In some parts of the world, the HIV
epidemic continues among people who inject drugs
(PWID), a marginalized population with limited access
to HIV or substance use care. As the opioid crisis
expands in the United States, what can we learn from
our global work to have an impact here locally?

Abstract: The HIV epidemic continues unabated
among people who inject drugs (PWID) in many parts
of the world. HIV, and hepatitis C virus (HCV),
transmission is facilitated by the sharing of injection
paraphernalia. Several evidence-based interventions
are known to reduce HIV risk, including substance
use treatment and access to syringe service
programs. In a recent study, we used systems
navigation and psychosocial counseling to help HIV-
infected people engage in HIV care. Through this
intervention, ART use was markedly increased, as
was viral suppression and medication-assisted
treatment. Mortality was also reduced. This study has
substantial implications for PWID worldwide, and
many of the lessons learned are directly applicable to
PWID in the United States. Remarkably, however, the
barriers to addressing the opioid crisis in the United
States, such as stigma surrounding not only
substance use, but also substance use treatment,
may limit the impact of this integrated intervention.



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Brief Biography:



William C. Miller, MD, PhD, MPH, is Professor and Chair in the Division of Epidemiology, College of Public Health at OSU. Bill is an infectious diseases epidemiologist with primary expertise in sexually transmitted diseases and HIV infection. His work has addressed STD and HIV epidemiology broadly, including partner services, surveillance, spatial analyses, and diagnostic test evaluation. Currently, he is the PI for a study in Malawi examining approaches to partner services (contact tracing), incorporating network and phylogenetic analyses. He is the protocol chair for HIV Prevention Trials Network (HPTN) 074, a study examining approaches to engaging people who inject drugs in HIV care to prevent transmission to uninfected injection partners. He is also the PI of a NIDA-funded UG3 award to address the opioid crisis in Ohio and a CDC-funded U01 to examine the syphilis epidemic among MSM. Bill is the editor-in-chief for the journal, *Sexually Transmitted Diseases*, and associate editor for *Epidemiology*.

4:30 pm – 6:00 pm

Poster Viewing

Location: University of Cincinnati, Medical Sciences Building (MSB), CARE/Crawley E-level lobby

5:00 pm – 5:30 pm

ACE Policy Committee Brief

Location: Bearcat Lounge (Patio if weather permitting), Kingsgate Marriott Hotel Conference Center

5:30 pm – 6:15 pm

ACE Business Meeting

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium



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6:00 pm – 9:30 pm

Reception

Location: Cincinnati Zoo and Botanical Gardens

Sponsor: Cincinnati Children's Hospital Medical Center

Shuttle pickup locations:

Kingsgate Marriott Hotel, Outside

University of Cincinnati, Medical Sciences Building (MSB), Kresge Circle turnaround

Tuesday, September 25

7:15 am – 8:15 am

Breakfast Roundtables

1. **Breakfast with the Abraham Lilienfeld Award winner**

Location: Cincinnati Children's Hospital, S building, floor 10, room 100. (S10.100)

2. **Breakfast with the Endowed Lecturer: Ross C. Brownson, PhD, FACE**

Location: Cincinnati Children's Hospital, S building, floor 10, room 110. (S10.110)

3. **Breakfast with the ACE President-elect: Russell Kirby, PhD, MS, FACE**

Location: Cincinnati Children's Hospital, S building, floor 10, room 125. (S10.125)

4. **Breakfast with the Minority Affairs Committee**

Location: Cincinnati Children's Hospital, S building, floor 10, room 130. (S10.130)



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8:15 am – 8:30 am

Transition & Beverage Break

Location: University of Cincinnati, Medical Sciences Building (MSB), Foyer outside of Kresge Auditorium

8:30 am – 9:00 am

ACE Presidential Address

Pauline Mendola, PhD, FACE, ACE President

Introduced by Maurizio Macaluso, MD, DrPH, FACE, local host and Program Committee Chair

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

9:00 am – 9:45 am

Endowed Lecture

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

Ross C. Brownson, PhD, FACE, Bernard Becker Professor of Public Health, Director, Prevention Research Center, Washington University in St. Louis, MO, “**Linking epidemiology and implementation science: How to increase the impact of your research**”

Abstract: This presentation will explore the connections between epidemiology and implementation science. Participants will expand their understanding of how implementation science can improve the quality, relevance, and impact of their work. In particular, the session will explore the potential of implementation science, key contributions of epidemiology, and opportunities for practice- and policy-based research. The objectives are to: 1) describe the underpinnings of implementation research; 2) explore some research topics and gaps (illustrated with clinical and policy research); 3)



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consider the reciprocal relationship between epidemiology and implementation science; and 4) describe resources for building implementation science capacity (both individually and organizationally).

Brief Biography:



Ross Brownson, PhD, FACE, is the Bernard Becker Professor of Public Health at Washington University in St. Louis. He studies the translation of evidence to public health practice and policy, with a content focus on environmental and policy determinants of chronic diseases. Dr. Brownson is the author of 15 books and over 500 peer-reviewed articles. His books include *Applied Epidemiology*, *Evidence-Based Public Health*, and *Dissemination and Implementation Research in Health*. Dr. Brownson has received numerous awards for his work. Among these, he is the recipient of the Abraham Lilienfeld Award for outstanding contributions in teaching and mentoring (from the American Public Health Association) and the Charles C. Shepard Science Award (the highest award for science, from the Centers for Disease Control and Prevention). Dr. Brownson has been noted as one of the most productive public health scholars and was recently named by Thompson Reuters as one of the world's most influential scientific minds. Dr. Brownson is a former board member of the American Cancer Society and a former president of the National Association of Chronic Disease Directors. He is also active in the American College of Epidemiology, where he is a recent past-president.

9:45 am – 10:00 am

Beverage Break

Location: University of Cincinnati, Medical Sciences Building (MSB), Outside of Kresge Auditorium

10:00 am – 11:00 am

Concurrent Sessions 2



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Concurrent Session 2a

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

Epidemiology for the Learning Health System

Chair: **Maurizio Macaluso, MD, DrPH, FACE**, Professor of Pediatrics, University of Cincinnati College of Medicine, Director, Division of Biostatistics and Epidemiology, Cincinnati Children's Hospital Medical Center

Brief Biography:



Maurizio Macaluso, MD, DrPH, FACE, is Professor of Pediatrics at the University of Cincinnati (UC) College of Medicine, Director of the Division of Biostatistics and Epidemiology at Cincinnati Children's Hospital and Associate Director of the Center for Clinical and Translational Science and Training of UC. He has over 35 years of research experience in methods; cancer; occupational health and safety; reproductive health; infectious diseases; surveillance systems; and has authored over 200 publications. He is a Fellow of the American College of Epidemiology and serves on the Board of Directors of ACE and as Associate Editor of the Annals of Epidemiology. He is the Program Chair and Local Host of the 2018 meeting.

Speakers:

Peter Margolis, MD, PhD, Co-Director, James M. Anderson Center for Health Systems Excellence, Cincinnati Children's Hospital Medical Center, **"Learning from the Healthcare System to improve population health"**



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Description: This talk will describe how networked Learning Health Systems can eliminate the boundaries between clinical care, research and improvement to produce better individual and population health outcomes and experience for patients and families, faster research, and lower costs.

Abstract: The predominant organization of health care systems today relies on management and organizational approaches developed during the industrial age. Responding to this challenge, the National Academy of Sciences has called for the development of a 'learning healthcare system,' in which patients and clinicians work together to choose care, based on best evidence, and to drive discovery as a natural outgrowth of every clinical encounter to ensure innovation, quality and value at the point of care. This vision of a learning health system has remained aspirational - until now. Over the last 15 years, the Anderson Center has designed and tested a networked learning health system model that demonstrated success in changing clinical outcomes - cutting serious safety events by 50%, decreasing mortality from hypoplastic left heart syndrome by 40% during the inter-surgery period, reducing elective preterm delivery by 75%, and increasing the proportion of children with inflammatory bowel disease in remission by 26%. Networks unleash the motivation of diverse participants (parents, families, clinicians, clinical staff and researchers) to contribute ideas, know-how, tools, resources, and innovations aimed at making children healthier. Networked Learning Health Systems overcome the artificial barriers between clinical care, improvement, and research. They leverage technology and 'big data' to improve the health and well being of individuals and populations of patients by enabling patients, clinicians, researchers and health systems to



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collaborate in ways that have not been possible before.

Brief Biography:



Peter Margolis, MD, PhD, is Cincinnati Children's Professor of Pediatrics and Co-Director of the James M. Anderson Center for Health System Excellence at Cincinnati Children's Hospital. His work encompasses the application and study of systems improvement methods across a broad range of areas including primary and sub-specialty care, communities and public health settings to improve the health outcomes of children, families and communities. Over the last 20 years, he and his research team have developed innovative approaches that engage patients, their families, clinicians, scientists and communities in developing network-based learning health systems that simultaneously improve care, spawn innovation and accelerate research. This work has repeatedly demonstrated significant impact on the process and outcomes of care.

John H. Holmes, PhD, FACE, FACMI, Professor of Medical Informatics in Epidemiology, Department of Biostatistics, Epidemiology, and informatics, Associate Director for Medical Informatics, Institute for Biomedical Informatics, University of Pennsylvania Perelman School of Medicine, "**The Learning Health System as an Information Ecosystem**"

Description: This talk focuses on the synergistic roles that epidemiology and biomedical informatics play in clinical research and improving care in the context of the learning health system. The emergence of new learning health systems and contexts, such as PCORnet and other distributed research networks will be discussed, as well as the changing role of epidemiologists and biomedical informaticians as they work within these systems.



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Abstract: The Learning Health System (LHS) can be envisioned as an architecture that enables an iterative cycle of generating data from patients, learning from those data as they embody past experience, and then applying what has been learned from those data in the service of improving patient care. At its core, the LHS is data-centric, and its definition is steeped in the availability of clinical data primarily from electronic health record systems. With the advent of nearly ubiquitous clinical data collection and management, we are witnessing a burgeoning of new and extraordinary data resources that are available to epidemiologists. These data resources include not only the electronic health record and its subsidiary systems in ancillary services, such as laboratory, radiology, and anesthesiology systems, but increasingly from patient portals, wearable technology, and geographic information systems, to name a few. All of these resources exist in what can best be described as an “Information Ecosystem”, characterized as a potentially volatile yet diverse and valuable environment- a “sandbox”, to be blunt- in which the epidemiologist can perform her craft in new ways, and answer research questions that have hitherto been difficult or impossible to address. One could validly posit that the role of the epidemiologist is changing to include data science and even informatics. And just as validly, one could say that the clinical research informatician- the information scientist charged with such tasks as data harmonization and integration, curation of large datasets, and development and application of knowledge discovery and analytic algorithms- needs to be competent in the principles and execution of epidemiologic research. Thus, the lines are blurring between informaticians and epidemiologists, with due thanks to the Learning Health System.

Brief Biography



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John H. Holmes, PhD, FACE, FACMI, is Professor of Medical Informatics in Epidemiology at the University of Pennsylvania Perelman School of Medicine. He is the Associate Director of the Penn Institute for Biomedical Informatics and is Past-Chair of the Graduate Group in Epidemiology and Biostatistics. He has mentored or co-mentored eighteen pre- and post-doctoral students in informatics or epidemiology, and has developed curricula for graduate training in epidemiology and biomedical informatics as well as short courses in these disciplines. Dr. Holmes has been recognized nationally and internationally for his work on developing and applying new approaches to mining epidemiologic surveillance data, as well as his efforts at furthering educational initiatives in clinical research. Dr. Holmes' research interests are focused on the intersection of medical informatics and clinical research, specifically evolutionary computation and machine learning approaches to knowledge discovery in clinical databases, deep electronic phenotyping, interoperable information systems infrastructures for epidemiologic surveillance, and their application to a broad array of clinical domains, including cardiology and pulmonary medicine. He has collaborated as the informatics lead on an Agency for Healthcare Research and Quality-funded project at Harvard Medical School to establish a scalable distributed research network, and he has served as the co-lead of the Governance Core for the SPAN project, a scalable distributed research network; he participates in the FDA Sentinel Initiative. Dr. Holmes has served as the evaluator for the PCORNet Obesity Initiative studies, where he is responsible for developing and implementing the evaluation plan and metrics for the initiative. Dr. Holmes is a principal or co-investigator on projects funded by the National Cancer Institute, the National Library of Medicine, and the Agency for Healthcare Research and Quality, and he was the



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Penn principal Investigator of the NIH-funded Penn Center of Excellence in Prostate Cancer Disparities. Dr. Holmes is engaged with the Botswana-UPenn Partnership, assisting in building informatics education and epidemiologic research capacity in Botswana. Dr. Holmes is an elected Fellow of the American College of Medical Informatics (ACMI) and the American College of Epidemiology (ACE), and an elected Fellow of the International Academy of Health Sciences Informatics (IAHSI).

Amanda Latimer, PhD, Johns Hopkins Bloomberg School of Public Health, Department of Epidemiology, Faculty, Bloomberg American Health Initiative, Public Sector Lead **“Using academic – public sector partnerships to facilitate high impact change in policy and practice”**

Description: The collaboration of academia and the public sector provides an opportunity for mutually beneficial learning and contextualize, translation-ready research. Examples are shared on how providing technical assistance to local and state governmental agencies across the US can positively impact policy and practice.

Abstract: The collaboration of academia and the public sector provides an opportunity for mutually beneficial learning and contextualize, translation-ready research. Examples are shared on how providing technical assistance to local and state governmental agencies across the US - sharing best practices, translating research and facilitating informed conversations while leveraging local expertise – can significantly contributed to public welfare. Emphasis on evidence-based programming across governmental sectors and increased value placed on public health practice within academic institutions can bridge the divide between the ivory



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tower and the boots on the ground, paving the way for greater impact.

Brief Biography:



Amanda Latimore, PhD, is a social epidemiologist with a focus on practice-based activities. She previously served as the Director of Social Epidemiology and Evaluation at the Baltimore City Health Department as well as Behavioral Health System Baltimore, which oversees publicly-funded behavioral health services in Baltimore. During this time, she spearheaded several projects that supported evidence-driven decision-making internally and externally, such as using Medicaid claims data to identify gaps and efficiencies in the City's behavioral health service system and conducting daily overdose hot-spotting for the City's rapid response teams. Amanda led research and evaluation projects at BHSB to provide policy and practice insights into topics such as the barriers to service utilization among overdose survivors and experiences of overdose bystanders in the context of the Good Samaritan Law, and the impact of a state pilot program for individuals under civil commitment. In partnership with the Baltimore City Health Department, Amanda mentored a Baltimore-based technology team, Code in the Schools, to develop a text-based service called Bad Batch (badbatchalert.com), a harm reduction tool which has received national recognition. Currently faculty in the Department of Epidemiology at the Johns Hopkins Bloomberg School of Public Health, Dr. Latimore continues to focus on the community-informed applications of social epidemiology in and out of the classroom. As the Public Sector Initiatives Lead for the Bloomberg American Health Initiative, Dr. Latimore's role is to work directly with public officials on collaborative projects and create and facilitate opportunities for public sector engagement.



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Concurrent Session 2b

Location: University of Cincinnati, Medical Sciences Building (MSB), Room 5051

Oral Presentation of Best Abstracts

Chair: **Michael Cook, PhD**, Investigator, Division of Cancer Epidemiology and Genetics, National Cancer Institute

Brief Biography:



Michael B. Cook, PhD, earned his B.Sc. in genetics at the University of Nottingham, England, and, subsequently, a Ph.D. in epidemiology at the University of Leeds, England. He joined the Division of Cancer Epidemiology and Genetics as a postdoctoral fellow in 2007, was promoted to research fellow in 2008, and was appointed as a tenure-track investigator in 2011. Dr. Cook's research program is focused on the epidemiology of esophageal adenocarcinoma and prostate cancer. He investigates the role of excess adiposity, sex steroid hormones and reproductive factors on cancer pathogenesis, and biomarkers for diagnosis and prognosis. The overarching goal of Dr. Cook's research is to understand pathogenesis with potential utility for clinical management.

Jessica L Irwin, Alison J Yeates, Maria S Mulhern, Emeir M McSorley, JJ Strain, Gene E Watson, Katherine Grzesik, Sally W Thurston, Tanzy M Love, Tristram H Smith, Daniel W Mruzek, Conrad F Shamlaye, Catriona Monthy, Gary J Myers, Philip W Davidson, **Edwin van Wijngaarden**, University of Rochester School of Medicine and Dentistry.

“Maternal gestational immune response and autism spectrum disorder phenotypes at 7 years



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of age in the Seychelles Child Development Study”

Description: Findings from observational and experimental studies suggest that maternal inflammation during pregnancy is associated with autism spectrum disorder (ASD), but no human studies have investigated this association prospectively. We examined the association between maternal inflammatory markers and child ASD phenotype in a large prospective birth cohort of 788 mother-child pairs from the Seychelles Child Development Study (SCDS) Nutrition Cohort 2 (NC2). This presentation will provide an overview of the SCDS NC2 study design, key findings, and recommendations for future research.

Abstract: Purpose Findings from observational and experimental studies suggest that maternal inflammation during pregnancy is associated with autism spectrum disorder (ASD), but no human studies have investigated this association prospectively. We examined the association between maternal inflammatory markers and child ASD phenotype in a large prospective birth cohort. Methods We studied 788 mother-child pairs from the Seychelles Child Development Study Nutrition Cohort 2. Inflammatory markers were measured in mothers' serum at 28 weeks gestation. The Social Communication Questionnaire (SCQ) and Social Responsiveness Scale (SRS) were administered at age 7 years to obtain information on ASD phenotype. We evaluated associations with 13 maternal inflammatory markers, as well as Th1, Th2, and Th1:Th2, and ASD phenotype using multivariable linear regression. Results For the SRS, higher concentrations of the anti-inflammatory cytokine IL-10 were associated with fewer ASD symptoms. For the SCQ, higher concentrations of MCP-1, a chemokine that is upregulated in response to pro-inflammatory



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cytokines, were associated with fewer ASD symptoms. Higher concentrations of IL-4, a cytokine that is typically associated with an enhanced anti-inflammatory response, were associated with more ASD symptoms. No associations were observed for other markers. Conclusions These findings suggest that a shift in the maternal immune balance during pregnancy via alterations in IL-10, MCP-1, and IL-4 concentrations may be associated with ASD symptomatology. While the use of measures that fully capture ASD phenotypic variability is a strength, measurement of immune markers only once during gestation is a limitation. Our results should be confirmed using maternal immune markers measured throughout gestation.

Brief Biography:



Edwin van Wijngaarden, PhD, is Professor of Public Health Sciences, Environmental Medicine, Pediatrics, Dentistry, and Community Health and Prevention at the University of Rochester. He is a Fellow of the American College of Epidemiology. He leads the Seychelles Child Development Study (SCDS) which for over 30 years has investigated the impact of pre- and postnatal methylmercury exposure on child development, and factors that may modify or mediate this association. Dr. van Wijngaarden holds various leadership roles at University of Rochester. He is Chief of the Division of Epidemiology in the Department of Public Health Sciences. He is director of the Doctoral and Master's Programs in Epidemiology, leads undergraduate programs in Epidemiology and Environmental Health, and co-directs the MS in Sustainability. Additionally, he directs the innovative Health and Epidemiology Advanced Learning (HEAL) program, a dual degree program in which students who are accepted as an undergraduate are also given conditional admission to the MS in Epidemiology. He is strategic director of the



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Clinical and Translational Sciences Institute (CTSI) research education branch, and co-directs the CTSI Biostatistics, Epidemiology and Research Design (BERD) key function. He also co-directs the Integrated Health Sciences Facility Core (IHSFC) of the Environmental Health Sciences Center of Excellence.

Katherine Bowers, Hong Ji, Lili Ding, Robert Ammerman, Judith Van Ginkel, Kimberly Yolton, Alonzo (Ted) Folger, Cincinnati Children's Hospital Medical Center. **“Intergenerational effects of maternal early life adversity on infant DNA methylation of NR3C1”**

Abstract: Purpose. Emerging research has identified DNA methylation (DNAm) as one mechanism by which maternal experiences may be transmitted to her offspring. While an abundance of research has demonstrated the association between a woman's early life adversity and later health outcomes, emerging evidence suggests these effects may also be transmitted to her offspring. The purpose of this study was to evaluate the association between maternal ACEs and infant newborn DNAm of NR3C1, a glucocorticoid receptor gene. Methods. Analyses were conducted within the PRenancy and Infant Development (PRIDE) Study, a cohort of mother-infant pairs participating in Every Child Succeeds, a home visiting program in Cincinnati, Ohio. Fifty-two healthy pregnant mothers completed a battery of psychologic and stress measures, including the ACEs. Infant newborn (3-5 weeks) buccal cells were collected for EWAS analysis. DNA was modified by sodium bisulfite (BS) and assayed using the Infinium Human Methylation850 BeadChip. Quality control was assessed at the sample and CpG level. Linear models determined the association between maternal ACE scores with M values (logit transformation of methylation percentage) of 56 CpG sites in NR3C1



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adjusting for covariates. Results. Adjusting for race, child sex, maternal age, smoking, and surrogate variables (capturing epigenetic variation caused by confounding factors), four CpG sites reached statistical significance (<0.05), three of which were located in the proximal promotor region (1F, 1C, and 1H). An additional significantly associated CpG was located in the untranslated region. Conclusions. Results suggest that early maternal adversity may be transmitted to her infant through DNA methylation.

Brief Biography:



Katherine Bowers, PhD, is an associate professor in the Division of Biostatistics and Epidemiology at Cincinnati Children's Hospital Medical Center. She received training in epidemiology at The Johns Hopkins University and NICHD. Her research interests include understanding how maternal exposures and conditions prior to and during pregnancy, for example psychosocial exposures and pregnancy complications, affect child development.

Sara A. Miller-Archie, Sungwoo Lim, Sarah Walters, Tejinder Singh, New York City Department of Health and Mental Hygiene, Division of Epidemiology, Bureau of Epidemiology Services. "Impact of supportive housing on substance use healthcare utilization and treatment among homeless persons who are active substance users"

Description: Substance use is highly prevalent among homeless populations. Supportive housing initiatives, by providing both stable, permanent housing and access to substance use treatment, may reduce the number of emergency department visits and hospitalizations for drug and alcohol use. This presentation discusses the findings from a New York City-based supportive housing program.



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Abstract: Homeless persons with co-occurring substance use issues are at high risk of emergency department (ED) visits and hospitalizations for a substance use-related condition. We aimed to evaluate the impact of supportive housing on the rate of substance use-related ED visits and hospitalizations among chronically homeless adults who were active substance users by comparing those placed into supportive housing with those who were eligible but not placed. **Methods:** This evaluation matched 1,558 homeless adults who were active substance users and eligible for a New York City supportive housing program (2007-2012) to Medicaid claims data. The main outcomes were rates of substance use hospitalizations and ED visits for two years post-eligibility. We calculated inverse probability of treatment weights using baseline demographic and clinical characteristics and performed doubly robust marginal structural models to compare the rates of substance use-related hospitalizations and ED visits between persons placed into supportive housing and their counterparts. We also examined referrals to and initiation of outpatient substance use treatment. **Results:** Persons placed into supportive housing were hospitalized and visited EDs for substance use at significantly lower rates than persons not placed into housing (adjusted rate ratio (ARR) = 0.73, 95% CI=0.55-0.98 and ARR=0.49, 95% CI=0.29-0.81, respectively) during the two years post-eligibility. Placed persons had increased odds of receiving a referral for outpatient substance use treatment and initiating treatment within 14 days. **Conclusions:** Placement into supportive housing was associated with decreases in substance use-related hospitalizations and ED visits among chronically homeless persons who are active substance users.

Brief Biography:



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Sara Miller-Archie, MPH, has over a decade of experience conducting epidemiologic surveillance and research with the New York City Department of Health and Mental Hygiene. She is currently a researcher and program evaluation analyst with the Bureau of Epidemiology Services. Much of her work focuses on evaluating the impact of large-scale, multi-agency supportive housing initiatives in New York City. Prior to this, she worked at the World Trade Center Health Registry, where she conducted surveillance into chronic and emerging health conditions related to the 9/11 disaster. She received her MPH in Epidemiology from the George Washington University Milken Institute School of Public Health.

11:00 am – 11:15 am

Break

11:15 am – 12:30 pm

Plenary Session

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

Environmental Health

Chair: **Susan Pinney, PhD**

Description: Environmental exposures throughout the lifespan have long term health effects. This session explores the impact of air pollution, lead, and endocrine disruptor exposures on health outcomes such mental health outcomes, neurobehavioral development and breast cancer.

Abstract: The health effects of environmental exposures throughout the life span are modified by the timing or window of susceptibility of the exposure, the biological response to the exposure and individual susceptibility to the exposure. Individuals also have different levels of exposure opportunity, driven by



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factors such as residential location, socio-economic status, and lifestyle choices. This session addresses three exposures, air pollution, lead and endocrine disruptors, and their health effects (mental health outcomes, neurobehavioral development and breast cancer), and the modifiable causal pathways across the lifespan. Environmental epidemiologists have been influential in environmental management policy development, illustrated in this session by the efforts to reduce lead and air pollution exposure. Efforts to promote health education also have reduced the opportunity for being exposed to these environmental toxins.

Brief Biography:



Susan M. Pinney, PhD, is a Professor in the Department of Environmental Health in the College of Medicine, University of Cincinnati, the Deputy Director of the Center for Environmental Genetics, and the Cancer Risk, Control and Prevention Program Leader for the Cincinnati Cancer Center. Dr. Pinney has conducted research in the area of environmental epidemiology for the last 25 years. She has conducted studies incorporating exposure biomarkers of radiation, uranium, cotinine, phenols, phthalates, phytoestrogens, organochlorides, and most recently, the perfluoroalkyl chemicals (PFCs) including perfluorooctanoate (PFOA), and has developed methods for incorporating environmental biomarker measurements into models for estimating exposure.

Speakers:

Patrick H. Ryan, PhD, Associate Professor of Pediatrics and Environmental Health, Division of Biostatistics and Epidemiology, Cincinnati Children's Hospital Medical Center, University of Cincinnati, College of Medicine, "**Exposure to Air Pollution and Mental Health Outcomes in Children**"



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Abstract: Exposure to air pollution has been consistently linked to adverse cardiovascular and pulmonary health outcomes in children and adults. Recent toxicological and epidemiologic evidence suggests some air pollutants may also be neurotoxic and affect the central nervous system. This presentation will describe epidemiologic evidence that exposure to traffic-related air pollutants and particulate matter during childhood is associated with both chronic and acute mental health outcomes.

Brief Biography:



Patrick Ryan, PhD, received his MS and PhD from the Department of Environmental Health at the University of Cincinnati. He is an Associate Professor in the Division of Biostatistics and Epidemiology at Cincinnati Children's Hospital where his research is focused on methods to characterize air pollution exposure and their application to epidemiologic studies. Currently, he leads the Cincinnati Childhood Allergy and Air Pollution Study (CCAAPS) cohort, a longitudinal study of children exposed to air pollution during early childhood and respiratory and neurobehavioral development. In addition, he is utilizing novel personal sensors to characterize real-time exposure to ultrafine particles and study their impact on adolescent health outcomes.

Kim N. Dietrich, MA, PhD, Professor of Environmental Health and Epidemiology, Director, Molecular Epidemiology in Children's Environmental Health Training Program, The University of Cincinnati College of Medicine "**Lifespan Developmental Neurotoxicity: Cincinnati Lead Studies 1979-2018**"

Abstract: Lead research at the University of Cincinnati College of Medicine goes back to the turn of the last century. More recent investigations



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conducted by researchers in the Department of Environmental Health have shed light on a variety of important questions regarding sources of lead exposure and their impact on human development. These included research on the origins of lead exposure in urban childhood populations and investigations of the neurodevelopmental effects of lead exposure from conception to mid adulthood. Other Longitudinal studies conducted here have focused on the safety and efficacy of environmental and pharmacological interventions in youngsters exposed to higher levels of lead. This presentation will briefly review the history of this body of work over the last four decades and its impact on public health policy regarding prevention and the medical treatment of patients burdened with this toxicant.

Brief Biography:



Kim N. Dietrich, MA, PhD, is a Professor of Environmental Health, former Director of the Division of Epidemiology and Biostatistics and currently Director of the Molecular Epidemiology in Children's Environmental Health training program at the University of Cincinnati College of Medicine, Department of Environmental Health. He has also served as Associate Director of the Cincinnati Children's Center for Environmental Health and Disease Prevention at the Children's Hospital Medical Center of Cincinnati. Dietrich has served as a consultant to numerous local, state, national and international agencies and organizations concerned with the impact of environmental chemical exposures on the health and development of young children. These agencies and geopolitical entities have included the National Institutes of Health (chartered membership on the NAME study section and NCEH/ATSDR Board of Scientific Counselors), National Academy of Sciences, the United States Environmental Protection Agency, the United States



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Centers for Disease Control and Prevention, including the Advisory Committee on Childhood Lead Poisoning and Prevention and its various subcommittees, the United States Agency for Toxic Substances and Disease Registry, Health and Welfare Canada, the European Economic Community, the Australian Government, the World Health Organization, the United States White House Office of Science and Technology, Physicians for Social Responsibility, Sierra Club, and Environmental Defense Fund. He also currently serves as an Associate Editor for Environmental Health Perspectives and on the editorial boards of Neurotoxicology and Neurotoxicology and Teratology.

Dietrich's research has focused on the developmental effects of prenatal and early postnatal exposure to lead in infants, toddlers, school-age children, adolescents, and young adults. He is presently examining the relationship between early exposure to lead, genetic factors, and adult criminality in a longstanding prospective longitudinal birth cohort study. His other studies include an examination of the developmental benefits of chelation therapy with succimer in a multi-center clinical trial and investigations of the effects of prenatal exposure to prevalent developmental toxicants including lead, manganese, pesticides, mercury, PCBs, tobacco smoke, drugs and alcohol in several birth cohorts. Recently he helped launch a developmental study of health effects related to primitive e-waste recycling in rural China. He has also recently launched an NIH-funded study of the relationship between early environmental chemical exposures and bone health outcomes in African-American women. Dietrich uses a wide range of neuroassessment tools and biomarkers in his studies. Neurodevelopmental assessments include standardized psychometrics, measures of neuromotor functions, and advanced neuroradiological techniques including volumetric and



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functional magnetic resonance imaging, magnetic resonance spectroscopy, and diffusion tensor imaging. Biomarkers of environmental exposure have included analyses of a wide range of metals and other environmental toxicants in a variety of tissues including blood, meconium, urine, hair, nails, teeth, and in vivo bone.

Mary Beth Terry, PhD, Professor, Columbia University, **“Wag the Dog: Can High Risk Populations Provide Critical Evidence on the Role of the Environment in Breast Cancer Causation”**

Abstract: Laboratory evidence supports that many common environmental exposures are mammary carcinogens but epidemiologic studies have been inconsistent. A key hypothesis for this inconsistency is that exposures are measured outside of windows of susceptibility. We examine this important critique and expand the investigation to considering enriched cohorts based on family history. Family studies have been essential to identify many important cancer genes that are relevant to all women not just women with a breast cancer family history. In a similar way, enriched family-cohorts can be used to identify environmental factors which may have a stronger signal with breast cancer than in average risk cohorts.

Brief Biography:



Mary Beth Terry, PhD, focuses her research on breast cancer and in the molecular epidemiology and lifecourse methods of the disease, in particular. She is a cancer epidemiologist with over 17 years of leading studies of breast cancer etiology specifically focused on the role of genetics, epigenetics, and other biomarkers play in modifying the effects of environmental exposures. Dr. Terry currently leads family-based studies that focus on studying environmental exposures during key windows of



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breast susceptibility. She is also leading prospective studies to validate and extend breast cancer risk assessment models. She is also funded through the Breast Cancer Research Foundation. In addition to her doctorate in epidemiology, Dr. Terry has a Master's degree in economics and previously worked as an econometrician and program evaluator for a number of government-sponsored programs. Dr. Terry teaches introductory and advanced epidemiologic methods.

12:30 pm – 12:45 pm

Transition/Travel Time

Location: Cincinnati Children's Hospital Medical Center (CCHMC), Location D, Level 1, Sabin Auditorium

12:45 pm – 2:15 pm

Awards Luncheon: Abraham Lilienfeld Award and Annals Best Paper Award

Location: Cincinnati Children's Hospital Medical Center (CCHMC), Location D, level 1, Sabin Auditorium, room 23

2:15 pm – 2:30 pm

Transition/Travel Time

Location: University of Cincinnati, Medical Sciences Building (MSB)

2:30 pm – 4:00 pm

Concurrent Sessions 3

Concurrent Session 3a

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

Dynamic Prediction Methods to Advance Precision Epidemiology



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Chair: **Rhonda Szczesniak, PhD**, Associate Professor, Division of Biostatistics and Epidemiology, Cincinnati Children's Hospital Medical Center, Department of Pediatrics, University of Cincinnati College of Medicine

Abstract: Precision epidemiology relies on large-scale longitudinal studies and the accuracy of dynamic prediction models. In this session, we will describe dynamic prediction models based on two widely applied statistical approaches known as landmarking and joint modeling, focusing on their utility in precision epidemiology. The session will highlight various longitudinal study settings and challenges commonly encountered in dynamic prediction modeling, ranging from patient registry cohorts to biomarker studies. The session will highlight successes in the epidemiologic applications and caveats based on the approaches.

Brief Biography:



Rhonda Szczesniak, PhD, is an Associate Professor of Biostatistics at Cincinnati Children's Hospital and University of Cincinnati. Her work focuses on development and application of statistical methods to analyze medical monitoring data as functional data. She collaborates with researchers around the world to improve how large longitudinal databases are utilized to forecast periods of rapid disease progression. Her epidemiologic areas of research focus on chronic lung diseases and disorders with active projects involving the US Cystic Fibrosis Foundation Patient Registry and translation of prediction models into point of care. Other active projects include trans-generational research of diabetes in pregnancy and ambulatory blood pressure monitoring.

Speakers:



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Ruth Keogh, DPhil, London School of Hygiene & Tropical Medicine, London, United Kingdom,
“**Landmarking for Dynamic Predictions of Outcome: Examples from Patient Registries**”

Abstract: The focus of this talk will be on how to develop dynamic prediction models using the ‘landmarking’ approach to provide personalised estimates of a patient’s life expectancy given their current health status. Examples will be given using longitudinal data from national registries for patients with cystic fibrosis in the US and UK.

Brief Biography:



Ruth Keogh, DPhil, joined the Medical Statistics Department at the London School of Hygiene and Tropical Medicine (LSHTM) in 2012 as faculty of Epidemiology and Population Health. She studied Mathematics and Statistics at the University of Edinburgh and received an MSc and a DPhil in Applied Statistics at the University of Oxford. Prior to joining LSHTM she worked at the MRC Biostatistics Unit in Cambridge and the Cancer Epidemiology Unit at the University of Oxford. She is funded by a MRC Methodology Fellowship, and her primary interest is in methods for predicting survival using large patient databases using an approach called landmarking. Her work is motivated by an aim of making dynamic predictions of survival and times to other events for people with cystic fibrosis using data from US and UK Cystic Fibrosis registries.

Eleni-Rosalina Andrinopoulou, PhD, Erasmus, MC, & Rotterdam Ophthalmic Institute, Rotterdam, The Netherlands, “**Making Dynamic Predictions Flexible: Monitoring Post-Surgical Outcomes**”

Abstract: Dynamic predictions obtained by the joint modelling of longitudinal and survival framework



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assuming a time-varying effect for the association parameter will be presented. The motivation comes from a study which includes patients who received a human tissue valve in the aortic position and the main focus is to investigate whether the effect of the echocardiographic measures on survival varies in time.

Brief Biography:



Eleni-Rosalina Andrinopoulou, PhD, received her Doctorate in Biostatistics from Erasmus Medical Center in the Netherlands in 2014 and has studied as a post-doctoral fellow with Dr. Dimitris Rizopoulos in the Department of Biostatistics, where she now has a permanent position. Her research was motivated by joint modeling of longitudinal and survival data arising from heart valve studies. She has received awards for her work in this area, including funding from the International Society for Clinical Biostatistics. Dr. Andrinopoulou collaborates with researchers both locally and abroad on epidemiological studies in cardiovascular and lung diseases. She teaches quantitative research courses regularly through the NIHES MSc Program at Erasmus. She has provided workshops and other extended courses in advanced longitudinal data analysis to numerous fellows and biomedical faculty. Most recently, she gave a statistics seminar at the Institute of Statistics, Biostatistics and Actuarial Sciences in Belgium on joint modeling of longitudinal survival data.



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Brandie Wagner, PhD, University of Colorado, Denver, Colorado, “**Dynamic Predictions using Longitudinally Collected Antibodies—Who is at Risk for Rheumatoid Arthritis?**”

Abstract: The focus of this talk will be the application of a joint model to longitudinal antibody measurements and time to develop rheumatoid arthritis. The dataset consists of multiple antibody measures, with a non-linear functional form over time and few measurements per subject, all of which complicate the application of common joint model software. The talk will discuss the caveats of the dynamic predictions from the joint model and comparison to a survival analysis with time varying covariates.

Brief Biography:



Brandie Wagner, PhD, enjoys helping clinical and epidemiologic investigators make sense of their data and the ability to contribute to health-related science. She loves that she is able to work on a wide range of projects and collaborate with investigators in many different research areas. As an Associate Professor in the Department of Biostatistics and Informatics, Colorado School of Public Health at the University of Colorado, she has worked closely with investigators both on and off campus in many different application areas. These collaborations have been successful as evidenced by continued grant funding and co-authored publications, some of which have had a large impact on the field. Her methodological research represents a sustained and focused contribution in the areas of proteomics/biomarker development, microbiota data analysis and joint models with many different areas of application. The unique data characteristics of microbiome data have resulted in her familiarity with zero-inflated and joint models. She



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has been active in longitudinal analysis for non-normal outcomes and development of joint models for the purpose of assessing longitudinal associations for outcomes with mixed distributions.

Concurrent Session 3b

Location: University of Cincinnati, Medical Sciences Building (MSB), Room 5051

Health Transitions into Adulthood (Growing up with chronic diseases of the childhood)

Chair: **Brad Pollock, PhD, MPH, FACE**, Professor and Chairman, Rolkin Chair in Public Health Sciences, Associate Dean for Public Health Sciences, School of Medicine, University of California at Davis

Description: Using epidemiology to inform health policies for adults living with chronic medical conditions originating in childhood, we will discuss childhood cancer, sickle cell disease and autism, each having unique health care transition issues.

Abstract: Children and adolescents with chronic diseases or survivors who are at risk for long-term sequelae or relapse face many health challenges as they transition to adulthood. Health care transition has become the standard of care for patients living with chronic medical conditions originating in childhood. Epidemiology can inform health policies by better defining the population at risk as well as establishing the evidence base to support specific surveillance and interventions approaches aimed at improving long-term outcome. We discuss childhood cancer, sickle cell disease and autism; each having unique health care transition issues.

Speakers:



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Brad Pollock, PhD, MPH, FACE, University of California at Davis, “**The challenges of childhood cancer survivors**”

Abstract: As the survival of children with cancer has significantly increased over the last 40 years, determining how best to manage the health care transition for young adult survivors of childhood and adolescent cancer is of increasing concern. Epidemiological research has allowed us to better characterize the spectrum and severity of long-term sequelae as well as help identify host and disease characteristics associated with poor outcome. Application of this knowledge can be used to design more effective and cost-efficient medical surveillance approaches. However, the evidence-base justifying many medical practices for this population is still deficient. Over the last 20 years, research has broadened to better characterize the social, behavioral and financial impacts of childhood and adolescent cancer as survivors transition into adulthood. Applied epidemiology is central to the development of clinical practice guidelines which increasingly rely on observational big data from electronic health records and administrative datasets, patient-reported outcome (PRO) data, and evidence from study designs other than the traditional individually-randomized intervention trials. An epidemiological approach can inform policies to improve health care delivery during the transition with magnified impacts in older adulthood.

Brief Biography:



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Brad Pollock, PhD, MPH, FACE, is Professor and Chair of the Department of Public Health Sciences and Associate Dean for Public Health Sciences at the UC Davis School of Medicine. He is the former Founding Chair of the Department of Epidemiology and Biostatistics at UT Health San Antonio. He co-directs the Population Sciences & Health Disparities research program of the UC Davis Comprehensive Cancer Center. Dr. Pollock serves as PI of the Children's Oncology Group NCI Community Oncology Research Program (NCORP) Research Base and Co-Chair of the NCI Cancer Care Delivery Research Steering Committee. He also serves as the Co-Chair of the Methods & Processes Domain Task Force for the national Clinical Translational Science Award Consortium. His research focus is in child and adolescent cancer, cancer control and cancer care delivery research.

Lori Crosby, PsyD, Professor of Pediatrics, Innovations Co- Director, Cincinnati Children's Hospital Medical Center, "**Transition to Adult Care in Sickle Cell Disease**"

Abstract: Sickle cell disease (SCD) is a group of inherited blood disorders affecting red blood cells which can impede blood flow to tissues and organs and associated with significant medical complications including vaso-occlusive pain, anemia, stroke, and injury to vital organs (e.g. heart, lung, kidney, bones). Medical advances have resulted in children with sickle cell disease living into adulthood necessitating a transition to the adult health care system. Data suggests that patients with SCD are at risk for increased morbidity and mortality during this time. In addition, young adult patients are often taking on more responsibility for managing their SCD without support from caregivers, which increases their risk for gaps in care. This presentation will review predictors and indicators of successful transition, special



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considerations, and evidence-based interventions/recommendations. It will end with a discussion of current research efforts and ways that epidemiological research can contribute to the prevention of poor health outcomes during the transition process.

Brief Biography:



Lori E. Crosby, PsyD, is a Professor in the Division of Behavioral Medicine and Clinical Psychology at Cincinnati Children's Hospital Medical Center (CCHMC) and Department of Pediatrics at the University of Cincinnati College of Medicine. Dr. Crosby is also Co-Director of the Cincinnati Center for Clinical and Translational Science (CTSA), Community Engagement Core, INNOVATIONS in Community Research and Program Evaluation, and directs a research program in pediatric sickle cell disease. In 2012, Dr. Crosby was elected as Fellow of the American Psychological Association (APA) Division 54 in light of her significant contributions to the field of pediatric psychology. Dr. Crosby has expertise in self-management, treatment adherence, healthcare transition, recruitment and retention of minorities in research and integrating design thinking into research. Her work in community engagement for individuals affected by sickle cell disease was featured in a Special Issue on Pediatric Health in the Community for the Journal of Prevention and Intervention in the Community. She has given over 100 presentations at regional or national meetings and authored or co-authored over 50 peer-reviewed articles, book chapters, or community-focused reports. Dr. Crosby has been a Co-Investigator or Consultant on more than 18 federally-funded grants. In 2011, she received a K07 grant from the National Heart, Lung, and Blood Institute (NHLBI) to develop patient-provider tools to enhance the transition to adult care for young adults with SCD. She just



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completed an R21 from the Eunice Kennedy Shriver National Institute on Child Health and Human Development (NICHD) piloting a self-management intervention for adolescents with sickle cell disease. In December 2017, she was awarded a contract from the Patient Centered Outcomes Research Institute (PCORI) to disseminate a hydroxyurea shared decision-making intervention.

Alice Kuo, MD, PhD, UCLA “Health Care Transition for Children with Autism”

Abstract: Autism is a spectrum of neurodevelopmental disorders characterized by social communication difficulties, restricted interests and/or repetitive behaviors, and challenges with social interactions. Current prevalence estimates by the Centers for Disease Control and Prevention (CDC) are 1 in 59 children, and 1 in 37 boys. Although most of the focus of treatment for autism has been on early or preschool intervention (0–5 years), nearly all of these children survive into adulthood. Very little research dollars have been allocated to study the life course of autism or the experiences of autism in young adulthood. The sparse data available suggest that adults with autism fare worse than adults with other developmental disabilities such as Down syndrome, with the vast majority unable to live independently or have full-time employment. Adults with autism also have greater morbidity from cardiovascular disease and cancer and shorter life spans, presumably due to challenges with health care access. Epidemiological research is needed to better characterize the health status of adults with autism and identify the health needs of this population.

Brief Biography:



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Alice Kuo, MD, PhD, is Chief and Professor of Internal Medicine and Pediatrics at the David Geffen School of Medicine at UCLA, and of Health Policy and Management in the UCLA Fielding School of Public Health. Her research interests are mainly in early childhood, and she has published in the areas of developmental screening and services, early literacy practices, cognitive and language development in young minority children, hearing screening in early childhood, services for children with autism, and mental health services for children. She has co-edited two books, *Child Health: A Population Perspective* (2015) by Oxford University Press and *Care of Adults with Chronic Childhood Conditions* (2016) by Springer. Dr. Kuo currently directs the Health Care Transitions Research Network and the University of California Leadership Education in Neurodevelopmental Disabilities program, both funded by the federal Maternal and Child Health Bureau. She is also currently President of the Southern California chapter of the American Academy of Pediatrics.

4:00 pm

5:00 pm – 9:00 pm

Conference Ends

Annals of Epidemiology Board meeting (by invitation only)

Location: University of Cincinnati, Medical Sciences Building (MSB), 3057



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