
BIOGRAPHICAL SKETCH

Hartmann, Katherine E.

eRA COMMONS USER NAME: KATHERINE_HARTMANN

POSITION TITLE

Vice President, Research Integration, Vanderbilt University Medical Center
Associate Dean, Research Training & Career Development, Vanderbilt University
Deputy Director, Institute for Medicine and Public Health
Professor, Obstetrics & Gynecology and Medicine
Lucius E. Burch Chair, Reproductive Physiology & Family Planning

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	MM/YY	FIELD OF STUDY
Johns Hopkins University, Baltimore, MD	BA	05/1986	Writing Seminars
Johns Hopkins University, Baltimore, MD	MA	05/1986	Science Writing
Johns Hopkins University, Baltimore, MD	MD	05/1992	Medicine
University of North Carolina, Chapel Hill, NC	PhD	12/1999	Epidemiology

A. Personal Statement

Hallmarks of Dr. Hartmann's career include conduct of rigorous research that unfailingly focuses on answers that matter to women and their care providers. She is a rare OB/GYN who is also a PhD epidemiologist; this has led to additional roles in wider policy-relevant areas including health services, health outcomes, cost analysis, and informed medical decision-making. The majority of her research pivots on *Right from the Start*, a multi-ethnic pregnancy cohort with more than 6,900 women from seven metropolitan areas recruited before pregnancy or in the first trimester. *Right from the Start* has contributed substantial novel findings about early pregnancy health, causes of miscarriage and risk for other adverse pregnancy outcomes including preterm birth and fetal growth restriction. She also conducts genetic epidemiology research in the Vanderbilt BioVU genetic repository and consortia, and research in the *Women's Health*. Alongside conducting her own NIH-funded research, she remains a role model for making research actionable. She has served on and provided data to state legislators and advocacy groups, led preparation of multiple Women's Health Reports Cards for both North Carolina and Tennessee, led a statewide smoking cessation demonstration project, advised many federal, state, and professional groups, written numerous pivotal publications that have influenced care, and worked quietly behind the scenes to provide factual information to inform academic training, infrastructure, and healthcare policy.

B. Positions and Honors

Positions

1999-2006 Senior Research Fellow, Cecil G. Sheps Center for Health Services Research, UNC
1999-2006 Director, Center for Women's Health Research, UNC
2000-2005 Assistant Professor, OB/GYN, UNC School of Medicine
2000-2005 Assistant Professor, Epidemiology, UNC School of Public Health
2002-2006 Director, Healthcare Epidemiology Program, UNC School of Public Health
2005-2006 Associate Professor, OB/GYN, UNC School of Medicine
2005-2006 Associate Professor, Epidemiology, UNC School of Public Health
2006-2006 Vice Chair for Research, OB/GYN, UNC School of Medicine
2006-2011 Vice Chair for Research, OB/GYN, Vanderbilt University School of Medicine
2006-2020 Founding Director, Women's Health Research at Vanderbilt
2006- Deputy Director, Institute for Medicine and Public Health, Vanderbilt University
2006- Associate Professor, OB/GYN, Vanderbilt University School of Medicine
2007-2020 Founding Director, Graduate Studies in Epidemiology, Vanderbilt University
2007-2020 Director/Co-Director, Vanderbilt AHRQ Evidence-based Practice Center
2008- Adjunct Associate Professor, Obstetrics and Gynecology, Meharry Medical College
2011-2020 Associate Dean for Clinical and Translational Scientist Development, Vanderbilt University
2011- Professor, OB/GYN and Medicine, Vanderbilt University School of Medicine
2011- Adjunct Professor, OB/GYN, Meharry Medical College
2020- Vice President for Research Integration, Vanderbilt University Medical Center
2020- Associate Dean for Research Education and Training, Vanderbilt University

Honors

- 1998 National Research Service Award; AHCP, Cecil G. Sheps Center, UNC
- 1999 Delta Omega, National Honor Society for Graduate Studies in Public Health (Epidemiology)
- 2001 Pfizer Scholars Grants for Faculty Development in Clinical Epidemiology (one of two national awards)
- 2003 James W. Woods Junior Faculty Award; UNC (annual award to researcher of "outstanding promise")
- 2005 Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) Program
- 2006 Semi-finalist (29 nationally), Doris Duke Distinguished Clinical Scientist Award
- 2007 Lucius E. Burch Chair in Reproductive Physiology and Family Planning, Vanderbilt University
- 2014 Board of Directors, Association of Clinical Translational Scientists (Co-Chair: Education Committee)
- 2019 Vanderbilt Excellence in Mentoring Early Career Faculty to Research Independence
[for mentoring >15 NIH K awardees]
- 2020 Faculty Senate, Vanderbilt University [elected by peers]

C. Contributions to Science Featuring Mentees (*Trainee/mentee at time of the research)

1. Right from the Start: Large Scale Research on Adverse Pregnancy Outcomes

Right from the Start (RFTS) is a prospective cohort enrolling women in early pregnancy or while planning to conceive. The senior research team of RFTS includes investigators from three universities and NIEHS. Mentees of mine include those featured below as first authors of papers. Our research teams have been first to: a) document prevalence of uterine fibroids in pregnancy, b) report a sizeable protective effect of multivitamin use around the time of conception against miscarriage; c) describe racial disparities in adverse pregnancy outcomes begin as early as differential risk of miscarriage, and d) document intendedness of pregnancy does not substantively modify alcohol use in early pregnancy.

- a. Laughlin SK*, Baird DD, Savitz DA, Herring AH, Hartmann KE. Prevalence of uterine leiomyomas in the first trimester of pregnancy: an ultrasound-screening study. *Obstet Gynecol*. 2009 Mar;113(3):630-5. [PMID: 19300327] [PMCID: PMC3384531]
- b. Hasan R*, Olshan AF, Herring AH, Savitz DA, Siega-Riz AM, Hartmann KE. Self-reported vitamin supplementation in early pregnancy and risk of miscarriage. *Am J Epidemiol*. 2009 Jun 1;169(11): 1312-8. [PMID:19372214] [PMCID: PMC2727248]
- c. Mukherjee S*, Velez Edwards DR*, Baird DD, Savitz D, Hartmann KE. Risk of miscarriage among black women and white women in a US prospective cohort study. *Am J Epidemiol*. 2013 Jun 1;177(11):1271- 8. [PMID:23558353] [PMCID: PMC3664339]
- d. Pryor J*, Patrick, SW*, Sundermann AC*, Wu P, Hartmann, KE. Pregnancy intention and maternal alcohol consumption. *Obstet Gynecol*, 2017 Apr;129(4):727-733. [PMID: 28277356] [PMCID: PMC5679257]

2. Mentoring

I was fortunate to have mentors who helped me enter uncharted territory early in my research. In return I welcome the opportunity to help researchers who are breaking new ground. Each of the indicated authors below was a trainee at the time I assisted them. All remain in academic career paths. This selection of publications reflects my enjoyment of helping refine varied approaches across a wide range of topics.

- a. Jonsson-Funk, M*, Writing Committee for the CASCADE Collaboration. Timing of HAART initiation and clinical outcomes in human immunodeficiency virus type 1 seroconverters. *Arch Intern Med*, 2011 Sep; 171(17):1560-9. [PMID: 21949165] [PMCID: 3960856] *Lead for analysis team, KEH 9th author of 102.
- b. Velez Edwards DR*, Aldridge T*, Baird DD, Funk MJ, Savitz DA, Hartmann KE. Periconceptional over-the-counter nonsteroidal anti-inflammatory drug exposure and risk for spontaneous abortion. *Obstet Gynecol*, 2012 Jul;120(1):113-22. [PMID: 22914399] [PMCID: 3427532]
- c. Patrick SW*, Dudley J, Martin PR, Harrell FE, Warren MD, Hartmann KE, Ely EW, Grijalva GC, Cooper WO. Prescription Opioid Epidemic and Infant Outcomes. *Pediatrics*. 2015 May;135(5):842-850. [PMID: 25869370] [PMCID: PMC4411781]
- d. Sundermann AC*, Mukherjee S*, Wu P, Velez Edwards D, Hartmann KE. Gestational age at arrest of development: an alternative approach for assigning time at risk in studies of time-varying exposures and miscarriage. *Am J Epid*, 2019 Mar 1;188(3):570-578. [PMID: 30521025] [PMCID: PMC6395168]

3. Synthesis of Evidence to Inform Care

Across my career I have led systematic evidence reviews for the Agency for Healthcare Research and Quality. Doing so, I learned critical appraisal skills that became invaluable as I developed my own grants and lines of

research. As the **founding director** of the Vanderbilt Evidence-based Practice Center, I remain engaged in teaching systematic review and helping investigators use the methods to underscore gaps in knowledge when proposing new science and creating clinical practice and policy guidance.

- a. Hartmann KE, Hall SA*, Nanda K, Boggess JF, Zolnoun D*. Cervical cancer screening: A summary of the evidence. (US Preventive Services Task Force; Contract No. 290-97-0011). AHRQ Publication No. 03-515A. Rockville, MD: Agency for Healthcare Research and Quality. Feb 2003.
- b. Hartmann KE, Viswanathan M, Palmieri R*, Gartlehner G, Thorp J, Lohr KN. Outcomes of routine episiotomy: A systematic review. JAMA. 2005 May;293(17):2141-8. (JAMA Top 25 Articles of 2005 - most accessed.) [PMID: 15870418]
- c. Guillaumondegui OD, Montgomery SA, Phibbs FT, McPheeters ML, Alexander PT, Jerome RN, McKoy JN, Seroogy JJ, Eicken JJ, Krishnaswami S, Salomon RM, Hartmann KE. Traumatic brain injury and depression. Comparative Effectiveness Review No. 25. (Vanderbilt Evidence-based Practice Center; Contract No. 290-2007-10065-I.) AHRQ Publication No. 11-EHC017-EF. Rockville, MD: Agency for Healthcare Research and Quality. Apr 2011.
- d. Hartmann KE, Fannesbeck C, Surawicz T, Krishnaswami S, Andrews JC, Wilson JE*, Velez-Edwards D, Kugley S, Sathe NA. Management of Uterine Fibroids. Comparative Effectiveness Review No. 195. (Vanderbilt Evidence-based Practice Center; Contract No. 290-2015-00003-I.) AHRQ Publication No. 17(18)-EHC028-EF. Rockville, MD: Agency for Healthcare Research and Quality; Dec 2017.

4. Breadth in Research Experience

My career has been focused on getting answers that matter to women and their care providers. Such work has implications for care and results have been applied in preventive practice, informed medical decision making tools, public health recommendations, and to design larger studies done by NIH networks. Along with studies featured above, these studies have also informed care or large-scale research design:

- a. Hartmann KE, Thorp, JM Jr, Pahel-Short LS*, Koch MA. A randomized controlled trial of smoking cessation intervention in pregnancy in an academic clinic. Obstet Gyn, 1996 Apr;87(4):621-6. [PMID: 8602320]
- b. Hartmann KE, Thorp JM, McDonald TL, Savitz DA, Granados JL. Cervical dimensions and risk of preterm birth: A prospective cohort study. Obstet Gyn, 1999 Apr;93(4):504-9. [PMID: 10214823]
- c. Terplan M*, Garrett J, Hartmann K. Gestational age at enrollment and continued substance use among pregnant women in drug treatment. J Addict Dis, 2009;28(2):103-12. PMID: 19340672. [PMCID:3869395] (I was grant author and PI for this work.)
- d. Landis SH*, Lokomba V, Ananth CV, Atibu J, Ryder RW, Hartmann KE, Thorp JM, Tshetu A, Meshnick SR. Impact of maternal malaria and under nutrition on intrauterine growth restriction: A prospective ultrasound study in Democratic Republic of Congo. Epidemiol Infect, 2009 Feb;137(2): 294-304. [PMID: 18588723] [USAID funded]

List of Published Work (NLM): bit.ly/HartmannNLM

Google Scholar: bit.ly/HartmannScholar (8246 citations, h-index: 51, i10-index: 119)

D. Research Support

Ongoing Research Support

Individual Contract (Hartmann)

10/01/2008 – 06/30/2022

NIH - "Pelvic Floor Disorders Network"

Lead shared governance as external chair for this 8 site clinical trials network. I guide agenda, facilitate meetings, lead discussion of policy and procedure, pace evaluation of new protocols including ancillary and supplemental studies and public data access, assure committee functions align with policies, guide processes for prioritizing and launch of new research, and moderate discussion of central budget, management conflict of interest, and resolution of poor site performance or ethical concerns. Role: Steering Committee Chair

5K12 HD043483-17 (Hartmann)

04/30/2013 – 07/31/2022

NIH - "Building Interdisciplinary Research Careers in Women's Health Career Development Program" Mentor junior faculty members as they transition to research independence in interdisciplinary research career spanning the spectrum from basic science to translational and patient-oriented research to population science. The unique focus of the Vanderbilt program is an emphasis on sex and gender biology.

1 U24TR001579-01 (Harris/ Wilkins) 07/01/2016 – 06/30/2021
NIH/NCATS – “Improving Clinical Trial Education, Recruitment, and Enrollment at CTSA Hubs (I-CERCH)”
The challenge to recruiting for clinical trials slows the speed with which new treatments reach patients. We propose to provide solutions to recruitment challenges through innovative electronic health record-based tools, community engagement resources, and study-specific recruitment support that will enable researchers to implement recruitment strategies to meet their recruitment goals. Role: working group lead

1 U24TR001608 (Benjamin/Bernard) 07/01/2016 – 06/30/2020
NIH/NCATS “Duke/Vanderbilt Trial Innovation Center”
Well-designed studies and innovative solutions are urgently needed to overcome the barriers to successfully complete multicenter trials in order to improve public health. This proposal represents a partnership between Duke and Vanderbilt Universities and takes advantage of our complementary strengths that will enable us to establish the required infrastructure to reduce the time needed to initiate and efficiently conduct multicenter clinical trials by the CTSA. Role: working group lead

1 KL2TR002245 (Hartmann) 06/01/2017 – 02/28/2022
NIH/NCATS “Institutional Career Development Core”
This core coordinates career development across the Vanderbilt-Meharry CTSA. The KL2 supports early career faculty scholars preparing for careers dedicated to interdisciplinary translational science. We aim to produce leaders who are optimally prepared to guide and participate in ground-breaking science. *Translational Nexus Scholars* are grounded in the fundamentals of translational research, prepared to lead independent research programs, trained to effectively deploy innovative interdisciplinary approaches to attack and solve problems, and committed to pursuing research that taps into the power of teams for driving breakthroughs.

1R01HD093671-02 (Velez-Edwards) 09/23/2017 – 06/30/2022
NICHD “*Large-Scale Studies in eMERGE to Discover the Genetic Determinants of Uterine Fibroids*”
This study is the first and largest evaluation of genetic risk factors for fibroids that include comparable phenotyping across subjects, imaging confirmation of fibroid status, genome-wide evaluation of common variants, and whole genome and exome next generation sequencing with unparalleled genomic coverage leveraging existing resources. Role: Co-Investigator

1 TL1TR002244 (Hartmann) 06/01/2017 – 02/28/2022
NIH/NCATS “NRSA Training Core”
The Vanderbilt-Meharry *Translational Nexus* is a fully interdisciplinary, translational research training program invigorated by group activities that intentionally mix clinical and non-clinical trainees across disciplines and levels of training for the explicit purpose of connecting, enlarging, and sustaining our community of translational scientists. This new model is the core of the pre- and postdoctoral programs in our CTSA hub and aims to train the next generation of researchers to drive translation endeavors and to excel in team science.

5UL1TR002243-03 (Bernard) 06/01/2017 – 02/28/2022
NCATS - “*The Vanderbilt Institute for Clinical and Translational Research (VICTR)*”
Vanderbilt Institute for Clinical and Translational Research is focused on removing impediments to research translation, creating new infrastructure, training new C&T scientists, and engaging and involving the local community to improve health. VICTR contributes to the CTSA consortium, including the development and dissemination of software and tools. In the next grant cycle VICTR will continue to propel discoveries and ideas without delay through the spectrum of research to effective translation into clinical practice. Role: Co-PI for Education and Career Development

1 R01 DA045729-01 (Patrick) 04/15/2018 – 01/31/2022
NIH/NIDA “Improving Access to Treatment for Women with Opioid Use Disorder”
This study uses a rich array of methodologies and expertise in qualitative research, health law, addiction medicine, biostatistics, health policy, health services research, and economics to determine if pregnant women with opioid use disorder are more likely to experience difficulty accessing OAT; if insurance type modifies ability to access OAT; and if state policies promote or hinder access to treatment. Role: Co-Investigator

Burroughs Wellcome Physician Scientist Institutional Award (Goldenring) 06/01/2018 – 05/31/2023
Burroughs Wellcome “Supporting Careers in Research for Interventional Physicians and Surgeons (SCRIPS)”
The SCRIPS program seeks to expand pathways for surgeons and procedure-based physicians to thrive in basic research through mentored basic research training for medical students and surgical residents/physician fellows and tailored mentored early faculty career development. Role: Co-Director [grant author]

1R01HD098719-01 (Murff) 04/01/2019 – 03/31/2024
NICHD “*Investigating N-3 Fatty Acids to prevent Neonatal Tobacco-related outcomeS (INFANTS)*”
Smoking is the most important preventable risk factor for adverse pregnancy outcomes. Almost 11% of pregnant women reporting smoking. Smoking lowers circulating n-3 long-chain polyunsaturated fatty acid (LCPUFA) levels. Clinical trials has found that pregnant smokers appear to derive the most benefit from these supplemental fish oils. Determining if n-3 LCPUFAs, which are well-tolerated in pregnancy, might prevent the adverse neonatal health consequences of smoking is of great public health relevance. Role: Co-Investigator

Selected Completed Research Support

Individual Contract (Hartmann) 07/01/2007 – 12/31/2018
“Informed Medical Decision Making Foundation”

Served with IMDF, now a partner of Healthwise, as a medical editor to develop material to support patient decisions, integrate use of tools into healthcare, and design program evaluations. Current focus is on web-based decision-support tools for crucial decisions in maternity care such as vaginal birth after cesarean, induction of labor, antenatal testing, and choosing a care provider and birth setting. Role: Medical Editor

HHSN 275-2008-00004C (Hartmann) 09/26/2008 – 09/25/2013
NIH/NICHD “National Children’s Study (NCS)”

Coordinated the Davidson County site in the largest longitudinal study of pediatric health in the United States. Vanderbilt was additionally contracted to pilot alternative recruitment strategies and to refine open source data collection systems for collaborative use by multiple NCS sites.

5 U54 TR000123-05 (Bernard) 06/01/2011 – 05/31/2017
NIH/NCRR - “Clinical and Translational Science Coordinating Center (C4)”

This project: (1) Created a highly visible and accessible national home for the CTSA including web portal (2) Provided meeting/communications/project management and orchestrate consortium output; (3) Organized the consortium’s networking resources; and (4) Created and disseminated software (e.g., REDCap) and other tools that support translational research. Role: Co-Investigator

HHSN 27520130012C (Harris) 03/01/2012 – 08/31/2015
HHSN 275-2008-000040 (Harris/Hartmann)

NIH/NICHD - “National Children’s Study (NCS) Information Management System Hub”
Transformed the information management infrastructure of the NCS by developing tools to support the conduct and management of the study in the REDCap data management system. We remain active in archiving of data and structural IMS systems to follow the Vanguard participants. Role: Co-PI

Individual Contract (Hartmann) 09/01/2015 – 10/31/2017
“COMPARE-UF”

Served as external steering committee chair for this national multisite cohort funded by PCORI and AHRQ to determine the effectiveness of interventions for fibroids in the context of women’s preferences and what individual factors may determine natural history, outcomes, trajectories of care, and satisfaction with care. I provided expertise in operational aspects of administering a large-scale consortium including management of conflict of interest, advising on creation of policies and procedures, and in-put on study protocol and data management systems. Role: Steering Committee Chair.

5 R01 HD074711-05 (Velez Edwards) 05/01/2016 – 04/30/2018
NIH/NICHD – “Understanding the Genetic Risk Underlying Racial Disparities in Uterine Fibroids”

Though fibroids are heritable, knowledge about the genetics of fibroids is meager. Little progress has been made relative to other complex diseases, despite agencies including NIH, NICHD, and AHRQ recognizing fibroids among priority women’s health topics. This genome-wide association study used ancestry to inform targeted fine mapping, next-generation resequencing experiments, and larger-scale. Role: Co-Investigator

3 UL1TR001412-03S1 (Murphy) 05/11/2017 – 03/31/2019
NIH/NCATS “Innovation Labs to Drive Transdisciplinary Research”

Innovation Labs construct new transdisciplinary teams and stimulating novel research solutions. We conducted an RCT of participation in labs across the CTSA consortium. Labs are a facilitated 5-day residential event to create novel, transdisciplinary and potentially transformative research ideas and proposals to address a specific grand challenge (Opioid Crisis in 2018 and Lifestyle Interventions in 2019). Participants, organizers, subject matter experts, and facilitators explore the problem space, generate a broad range of ideas, and form transdisciplinary teams to pursue research projects. Role: Sub-contract PI