

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form
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NAME Jennifer Flatow Culhane eRA COMMONS USER NAME Culhane1	POSITION TITLE Associate Professor/Senior Investigator		
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Mount Holyoke College	BA	1985	Biochemistry, Magna Cum Laude
Temple University	MPH	1994	Public Health
Temple University	Ph.D.	1998	Public Health

Positions and Honors

Employment and Experience:

1990-93 Graduate Assistant, Temple University, Department of Health Studies, Philadelphia Pennsylvania

1994-98 Director of the Philadelphia Infant Mortality Review, Philadelphia Department of Public Health, Office of Maternal and Child Health

1996-97 Director of the *Healthy Start* Evaluation, Philadelphia Department of Public Health, Office of Maternal and Child Health, Philadelphia Pennsylvania

1998-2001 Director of Research, The Health Federation of Philadelphia, Philadelphia Pennsylvania

1998-2004 Assistant Professor of Pediatrics, Thomas Jefferson University, Philadelphia Pennsylvania

2001-2004 Assistant Professor of Obstetrics and Gynecology, Thomas Jefferson University, Philadelphia Pennsylvania (primary appointment)

2002-present Research Associate, Population Studies Center, University of Pennsylvania, Philadelphia Pennsylvania

2004-3/2008 Associate Professor of Epidemiology and Biostatistics, Drexel University School of Public Health, and Associate Professor of Obstetrics and Gynecology, Drexel University College of Medicine, Philadelphia

3/2008-Present Adjunct Associate Professor, University of North Carolina at Chapel Hill, Department of Maternal and Fetal Medicine, Chapel Hill, NC

3/2008-Present Senior Investigator, Department of Adolescent Medicine, Children's Hospital of Philadelphia, Philadelphia, PA

Awards:

2001 Society for Maternal-Fetal Medicine, Award of Research Excellence, poster presentation: Racial/Ethnic Differences in BV in Pregnancy: The Role of Individual and Contextual-level Maternal Stress, **Culhane JF**, Rauh VA, Hogan V, McCollumK, Wadhwa PD.

2005 Committee on Understanding Premature Birth and Assuring Healthy Outcomes, Institute of Medicine.

2006 Drexel University School of Public Health, Certification of recognition for service as Preceptor: Community-Based Master's Project Program, 2005-2006.

2006 Drexel University Eighth Annual Research Day, Certificate of recognition for best poster presentation.

2006 American Dietetic Association, Food and Nutrition Conference and Expo, Award of Research Excellence, poster presentation: Postpartum Weight Change Among Urban Minorities and the Efficacy of Nutrition Intervention, Huff D, Mathew L, **Culhane JF**, McKinney S.

2007 ACOG 55th Annual Clinical Meeting, Blue Ribbon Abstract Award, poster presentation: Preterm Birth in Philadelphia: An Analysis of Women Enrolled in The Preterm Prevention Project.

2007 Department Faculty Teaching Award, Drexel University College of Medicine, Department of Obstetrics and Gynecology, Division of Perinatal Research.

2007 Award for outstanding contribution to the manuscript review process, American Journal of Obstetrics & Gynecology.

2008 Accepted as a Fellow in the 2008-2009 Class of the Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) Program for Women.

2008 Outstanding reviewer recognition for Pharmacoepidemiology and Drug Safety Journal.

Selected peer-reviewed publications

- Culhane D, **Culhane JF**. The elderly's underutilization of partial hospitalization services and the history of Medicare reimbursement policies. *Journal of Geriatric Psychology*, 1993; 269(1): 95-112.
- Haignere C, **Culhane JF**, Balsley C, Legos P. Sexuality education: Teacher's receptiveness and comfort using non-traditional teaching strategies. *Journal of School Health*, 1996; 66(4): 125-53.
- Teicher BA, Holden SA, Cucchi CA, Cathcart KN, Korbut, TT, **Flatow JL**, Frie E. Combination of N,N',N''-triethylenethiophosphomide and cyclophosphamide in vitro and in vivo. *Cancer Research*, 1998; 48(I): 94-100.
- Kornhauser MS, Baumgart S, Desi SA, Stanley CW, **Culhane JF**, Cullen JA, Wiswell-TE, Graziani LT, Spitzer AR. Adverse neurodevelopmental outcome after extracorporeal membrane oxygenation among neonates with bronchopulmonary dysplasia. *Journal of Pediatrics*, 1998; 132(2): 307-11.
- Gibson E, Flemming N, **Culhane, JF**, Flemming D, Spitzer A. Changes in SIDS rate following the American Academy of Pediatrics sleep position recommendation. *Medical Care*, 1998; 36(6): 938-42.
- Gibson E, Flemming N, **Culhane, JF**, Flemming D, Spitzer A. Changes in SIDS rate following the American Academy of Pediatrics sleep position recommendation. *Medical Care*, 1998; 36(6): 938-42.
- Gibson E, **Culhane JF**, Saunders T, Webb D, Greenspan J. Effect of non-viable infants on the infant mortality rate in Philadelphia, 1992. *American Journal of Public Health*, 1999; 90(8): 1303-6.
- Rauh VA, **Culhane JF**, Hogan VK. Bacterial vaginosis: A public health problem for women. *JAMWA*, 2000; W55(4): 220-4.
- Webb D, **Culhane JF**, Snyder S. Pennsylvania's early discharge legislation: Impact on maternity length-of-stays and costs of hospitalization in Philadelphia. *Health Services Research*, 2001; 36(6pt1): 1073-83.
- Wadhwa PD, **Culhane JF**, Rauh, VA, Barve SS, Hogan VK, Sandman CA, Hobel CJ, Dunkel-Schetter C, Garite ZTJ, Glynn L. Stress, infection and preterm birth: A biobehavioral perspective. *Pediatric and Perinatal Epidemiology*, 2001; 15 suppl 2: 17-29.
- Wadhwa PD, **Culhane JF**, Rauh VA, Barve SS. Stress and Preterm. Birth: Neuroendocrine, immune-inflammatory and vascular mechanisms. *Maternal and Child Health Journal*, 2001; 5(2): 119-25.
- Culhane JF**, Rauh VA, McCollum K, Hogan VK, Agnew K, Wadhwa P. Maternal stress is associated with bacterial vaginosis in human pregnancy. *Maternal Child Health Journal*, 2001 June; 5(2): 127-34.
- Culhane JF**, Rauh VA, Elo, IT, McCollum KF, Hogan V. Exposure to chronic stress and ethnic differences in rates of bacterial vaginosis among pregnant women. *American Journal of Obstetrics and Gynecology*, 2002 Nov.; 187(5): 1272-1276.
- Webb D, **Culhane JF**. Hospital variation in episiotomy use and the risk of severe perineal trauma during childbirth. *Birth*, 2002 June; 29(2): 132-6.
- Webb D, **Culhane JF**. Time of day variation in rates of obstetrical interventions to assist in vaginal deliveries. *Journal of Epidemiology and Community Health*, 2002; 56(8): 577-8.
- Culhane JF**, Webb D, Grim S, Metraux S, Culhane DP. Prevalence of child welfare services involvement among homeless and low-income mothers: A five-year birth cohort study. *Journal of Sociology and Social Welfare*, 2003; 30(3): 79-96.
- Hobel C, **Culhane JF**. Role of psychosocial stress and nutritional stress on pregnancy outcome. *The Journal of Nutrition*, 2003; 133(5 Suppl 2): 1709s-17.
- Webb D, **Culhane JF**, Metraux S, Culhane DP. Prevalence of episodic homelessness among childbearing women in Philadelphia, PA. *American Journal of Public Health*, 2003; 93(11): 1895-6.
- Goldenberg R, **Culhane JF**. Infection as a cause of preterm birth. *Clinics in Perinatology*, 2003; 30(4): 677-700.
- Chung EK, **Culhane JF**, Elo I, Rauh VA, Riley T, Farley McCollum K, Rubio M, Lee H. Maternal depressive symptoms and infant health practices among low-income women. *Pediatrics*, 2004; 113: e523-529.
- Chung EK, **Culhane JF**, Elo I, Rauh VA, Riley T, Farley McCollum K, Rubio M, Lee H. Maternal depressive symptoms and use of infant health practices among low-income women. *Pediatrics*, 2004; 113: e523-529.
- Goldenberg RL, Kirby R, **Culhane JF**. Stillbirth: A Review. *The Journal of Maternal-Fetal & Neonatal Medicine*, 2004; 16(2): 79-94.
- Goldenberg RL, **Culhane JF**. Prepregnancy health status and the risk of preterm delivery. *Archives of Pediatric and Adolescent Medicine*, 2005; 159: 89-90
- Culhane JF**, Davide De Santo, Robert L. Goldenberg, Kelly F. McCollum, Felicia King, Secondo Guaschino. Variation in Nugent Score and Leukocyte Count in Vaginal Fluid Collected from Different Sites. *Obstetrics and Gynecology*, 2005; 150: 120-123.
- Pereira L, **Culhane JF**, McCollum KF. Variation in microbiologic profiles among pregnant women with bacterial vaginosis. *American Journal of Obstetrics and Gynecology*, 2005; 193(3): 746-751.

- Culhane JF**, Elo ET. Neighborhood context and reproductive health. *American Journal of Obstetrics and Gynecology*, 2005; (192) s22-9.
- Lee H, Rubio MR, Elo IT, McCollum KF, Chung E, **Culhane, JF**. Factors associated with intention to breastfeed among low-income, inner-city pregnant women. *Maternal Child Health Journal*, 2005; 9(3): 253-261.
- duPont NC, Wang K, Wadhwa P, Nelson E, **Culhane JF**,. Validation and comparison of luminex multiplex cytokine analysis kits with ELISA: determination of a panel of nine cytokines in clinical sample culture supernatants. *Journal of Reproductive Immunology*, 2005; 66(2): 175-91.
- Goldenberg RL, **Culhane JF**, Johnson D. Maternal Infection and Adverse Fetal and Neonatal Outcomes, *Clinical Perinatology*, 2005; 32(2): 523-559.
- Castrucci BC, **Culhane JF**, McCollum KF, Chung E, Bennett I, Smoking in Pregnancy: Patient and provider risk reduction behavior. *Journal of Public Health Management and Practice*, 2006; 12(1): 68-76.
- Chung EK, McCollum KF, Elo IT, **Culhane JF**. Does Prenatal Care at Community-Based Health Centers Result in Infant Primary Care at These Sites? *Ambulatory Pediatrics*, 2006; 6(1): 25-31.
- Bennett IM, **Culhane JF**, McCollum K. Unintended repeat pregnancy and low educational status: Any role for depression and contraception use? *American Journal of Obstetrics and Gynecology*, 2006; 194(3): 749-754.
- Lu MC, Kotelchuck M, **Culhane JF**, Hobel CJ, Klerman LV, Thorp JM Jr. Preconception Care Between Pregnancies: The content of internatal care. *Maternal Child Health Journal*. 2006; Volume 10(5s).
- Culhane JF**, Nyirjesy P, McCollum K, Goldenberg RL, Gelber SE, Cauci S. Variation in vaginal immune parameters and microbial hydrolytic enzymes in bacterial vaginosis positive pregnant women with and without mobiluncus species. *American Journal of Obstetrics and Gynecology*, 2006; 195(2): 516-521.
- Messer LC, Kaufman JS, Laraia, BA, Eyster J, Holzman C, **Culhane JF**, Elo, I, Burke JG, O'Campo P. The development of a standardized neighborhood deprivation index. *Journal of Urban Health*, 2006; Sep 21; 83(6): 1041-1062.
- Nyirjesy P, Peyton C, Weitz V, Mathew L, **Culhane JF**. Causes of chronic vaginitis: Analysis of a prospective database of affected women. *Obstetrics and Gynecology*, 2006; 108(5) 1185-1191.
- Goldenberg RL, **Culhane JF**. Preterm birth and periodontal disease. *New England Journal of Medicine*, 2006; 355: 1925-1927.
- Culhane JF**, Rauh VR, Goldenberg RL. Stress, bacterial vaginosis and the role of immune processes. *Current Infectious Disease Reports*, 2006; 8(6): 459-464.
- Chung EK, Miller RL, Wilson MT, McGeady SJ, **Culhane JF**, Antenatal risk factors, cytokines and the development of atopic disease in early childhood. *Archives of Disease in Childhood Fetal and Neonatal Edition*, 2006; 92:f68-f73.
- Cauci S, **Culhane JF**. Modulation of vaginal immune response among pregnant women with bacterial vaginosis by *Trichomonas vaginalis*, *Chlamydia trachomatis*, *Nesisseria gonorrhoeae*, and yeast. *American Journal of Obstetrics and Gynecology*, 2007; 196(2): 133.e1-7.
- Goldenberg RL, **Culhane JF**, Low birth weight in the United States. *American Journal of Clinical Nutrition*, 2007; 85(2): 584S-590S.
- Banda Y, Chapman V, Goldenberg RL, Stringer JSA, **Culhane JF**, Sinkala M, Wermund SH, Chi BH. Use of traditional medicine among pregnant women in Lusaka, Zambia. *Journal of Alternative and Complementary Medicine*, 2007; 13(1): 123-128.
- Bennett IM, **Culhane JF**, McCollum KF, Mathew L, Elo IT. Literacy and depressive symptomatology in pregnancy among Latinas with limited English proficiency. *American Journal of Orthopsychiatry*, 2007 Apr; 77(2): 243-8.
- Hogan VK, **Culhane JF**, Hitti J, Rauh VA, McCollum KF, Agnew KJ,. Relative Performance of Three Methods for Diagnosing Bacterial Vaginosis During Pregnancy. *Maternal and Child Health Journal*, 2007; 11(6): 532-539.
- Goldenberg RL, **Culhane JF**, Iams J, Romano R. The epidemiology and causes of preterm birth. *Lancet*, 2008; 371: 75-84.
- O'Campo P, Burke JG, **Culhane JF**, Elo IT, Eyster J, Holzman C, Messer LC, Kaufman JS, Laraia BA. Neighborhood deprivation and preterm birth among non-Hispanic black and white women in eight geographic areas in the United States. *American Journal of Epidemiology*, Nov 7, 2008; 167: 155-163.
- Chung EK, McCollum KF, Mathew L, Elo IT, **Culhane JF**. Continuous source of care among young underserved children: Associated characteristics and parenting practices. *Ambulatory Pediatrics*, 2008; 8(1): 36-42.
- Cauci S, Di Santolo M. **Culhane JF**, Stel G, Gonano F, Guaschino S. Effects of third-generation oral contraceptives on high-sensitivity C-reactive protein and homocysteine in young women. *Obstetrics Gynecology*, 2008; 111(4):857-864.
- Cauci S, **Culhane JF**, Di Santolo M, McCollum K. Among pregnant women with bacterial vaginosis the hydrolytic enzymes, sialidase and prolidase are positively associated with interleukin-1beta. *American Journal of Obstetrics Gynecology*, 2008; 198(1):132

Research Support

ACTIVE

Pennsylvania State Department of Health Center of Excellence for research on Pregnancy Outcomes RFA (02-07-20)

The Philadelphia Collaborative Preterm Prevention Project: 6/01/04- 5/30-08 (three month extension)

Principle Investigator (Culhane)

This project is a randomized clinical trial conducted in the inter-conceptional period among high risk women defined by a previous preterm birth at <34 weeks of gestation. Over an 18 month period all women delivering at <34 weeks in the city of Philadelphia will be approached during their postpartum hospital stay and invited to participate. Women consenting to take part (expected n= 1440) will be randomized to either a usual care (n=720) or an intervention group (n=720). Participants will be assessed for a variety of risk factors for preterm birth including periodontal disease, sexually transmitted diseases, urinary tract infections, abnormal BMI, smoking, depression and stress as measured by housing stability and low literacy at 1, 6,12, 18, and 24 months postpartum. For women achieving a second pregnancy during the two year follow-up period the final assessment will occur at 20 weeks of gestation. Women in the intervention group who screen positive for any of these risk factors at any time during the study period will be offered state of the art treatment. Our primary objective is to reduce the repeat preterm birth rate in the intervention group by simultaneously intervening on a constellation of risk factors. We hypothesize that the above-mentioned risk factors may act to increase the risk of preterm birth through a proinflammatory mechanism.

RFP/Contract Number NIH-NICHD NO1-HD-5-3414 (2004-07)

The National Children's Study: The Chop Study: 9/30/05-12/31/10

Principal Investigator (Culhane)

This contract is one of six awarded nationally to conduct the first data collection for the National Children's Study (NCS). The NCS is a prospective cohort study of 100,000 children enrolled in the preconception or prenatal period and followed through 21 years of age. Dr. Culhane and Schwarz will collectively run the Montgomery County PA site where 1,250 participants will be recruited. This project is designed to explore the many exposures, and their complex interactions, associated with growth and development.

K01(PI Hogan)

07/01/2007-06/30/2012

Culhane (Advisory Committee)

Impact of Social Factors on the Effectiveness of a Preconceptional PTB Program

Specific Aims of this project are to 1)Validate specific social factors that adversely impact on women's participation in preconceptionally delivered preterm birth prevention interventions; 2. Estimate the extent that differential experience of these key factors explains variation in receipt of structured, preconceptionally delivered interventions. Research Methods: Using data and following up on subjects from an existing behavioral/clinical RCT on preconceptionally delivered preterm birth reduction interventions, we will conduct a quantitative analysis using the Anderson Behavioral Model to identify the determinants that explain utilization of preconceptional care in this population. We will then use ethnographic techniques to identify more specific pathways between the social exposures, individual behaviors and access to preconceptional care.

RFP/Contract Number NIH-NICHD HHSN267200700020C

9/30/07-12/31/12

Culhane (PI)

The National Children's Study: New Castle County Delaware Wave #1 Site

This contract is one of six awarded nationally to conduct the first data collection for the National Children's Study (NCS). The NCS is a prospective cohort study of 100,000 children enrolled in the preconception or prenatal period and followed through 21 years of age. Dr. Culhane will run New Castle County where 1,000 participants will be recruited. This project is designed to explore the many exposures, and their complex interactions, associated with growth and development.

RFP/Contract Number NIH-NICHD HHSN267200700020C

9/30/07-12/31/12

Culhane (PI)

The National Children's Study Schuylkill County Wave #1 Site

This contract is one of six awarded nationally to conduct the first data collection for the National Children's Study (NCS). The NCS is a prospective cohort study of 100,000 children enrolled in the preconception or prenatal period and followed through 21 years of age. Dr. Culhane will run Schuylkill County where 1,000 participants will be recruited. This project is designed to explore the many exposures, and their complex interactions, associated with growth and development.

RO1 ES016443 (PI Newschaffer)

04/01/08-03/31/2013

Culhane (Co-I) Southeast Pennsylvania Site

Early Autism Risk Longitudinal Investigation (EARLI) Network – Autism Centers of Excellence

National Institute of Environmental Health Sciences

The EARLI Network will enroll a cohort of 1,200 pregnant women at higher risk for having another child with autism spectrum disorder (ASD) to examine *in utero* and early childhood risk factors for ASD, including genetics and environmental exposures. This multi-site prospective epidemiologic study will involve extensive self-report data and biosample collection throughout pregnancy, as well as three years of follow-up of the child born into the study. Children born into the study will receive a battery of behavioral assessments to determine ASD case status and to characterize developmental trajectory. The goal is to have 1,000 children followed to three years of age.

R01HD056517 (PI Coyne)

04/1/08-03/31/2013

Culhane (Co-I)

Detection and Care for Depression in the Peripartum

NIMH

The objective of this proposal is to conduct a double-blind placebo-controlled clinical trial of ABC to evaluate its efficacy in a group of 184 randomized women with newly diagnosed VVS. Furthermore, we propose to obtain extensive demographic, psychosocial and genetic information in enrolled women to further characterize differences between women who do or do not respond to therapy. Not only is VVS considered difficult to treat, but treatment options are poorly studied and have extensive side effects. Our study may lead to a more effective, better tolerated, and better understood option for a common condition that has a tremendous impact on women.

PRIOR GRANTS

ROID36462-01A I (NICH/NICHD)

10/01/99-09/30/05

(Principal Investigator: Elo)

Co-Principal Investigator (Culhane)

Racial and Neighborhood Disparities in Infant Health

TS 312-15/15 (ATPM/CDC)

09/01/00-08/03/05

Principal Investigator (Culhane)

Biologic Pathways Linking Stress, BV and Preterm Birth

TS-0561 (ATPM/CDC)

10/01/01-09/30/05

Principal Investigator (Culhane)

Microbial and Immune Parameters Associated with Prematurity

TS-0626 (ATPM/CDC)

10/01/01-09/30/06

Principal Investigator (Culhane)

Preterm Birth and Race: A Study of Individual and Spatial Effects

1R21HD43758-01 (NICHD)

09/01/02 – 08/31/03

Principal Investigator (J. Fantuzzo, University of Pennsylvania)

Co-I (Culhane)

Evidence-based Program for the Integration of Curricula

02-MCHB-33A (DHS/HRSA)

10/30/02-09/30/07

Principal Investigator (Culhane)

Targeting Programs for Reducing Racial, Ethnic and Geographical Health Disparities

March of Dimes, Pennsylvania Chapter Community Grant

Principal Investigator (Culhane)

10/01/04- 09/30/05

Rethinking Prenatal Services: Implementing Group Care with an Emphasis on the Social Determinants of Health

Reproductive Health Earmarks, Grant No. H75/CCH324848-01, from the Centers for Disease Control and Prevention

7/10/05-9/9/06

Principle Investigator (Culhane)

This Congressional appropriation funds the development of a quality benchmarking data base for antenatal and obstetric care. During this year of funding a scientific advisory board will develop the quality measures for pregnancy and labor and delivery. The **Peri-Trak** system will mirror the Vermont Oxford Network, a quality benchmarking system for neonatal intensive care.

1R03MH074750-01

Literacy and Utilization of Maternal Depression Care **09/15/05-06/30/08**

Culhane (Co-PI)

NIH/NIMH

Obstacles to Maternal Depression Care Among Women with Low Literacy. This grant is a qualitative addition to a larger quantitative intervention study of women who have had a preterm birth. The role of low literacy among women with major depression will be studied to examine the relationship between patient attitudes to utilization of free depression care. It adopts a mixed quantitative/qualitative methodology.