BIOGRAPHICAL SKETCH

NAME: Huddleston, Kathi C.

eRA COMMONS USER NAME:

POSITION TITLE: Director of Clinical Research, Inova Translational Medicine

Institute EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	Completion Date MM/YYYY	FIELD OF STUDY
University of Maryland, Baltimore, MD	BSN	05/1979	Nursing
California State University, Fresno, CA	MSN	05/1982	Pediatric Clinical Nurse Specialist/Nurse Practitioner
George Mason University (Fairfax, VA)	PhD	05/2008	Nursing

A. Personal Statement

For the past 20 years I have taken on roles with increasing responsibility for clinical research design and management of large clinical studies. Over the past decade I have initiated and managed recruitment and longitudinal follow-up for clinical research studies. I currently direct a multidisciplinary research team, as the subaward PI, at George Mason University, (GMU) College of Public Health working closely with the Icahn School of Medicine at Mount Sinai (ISMMS) team under the direction of Dr. Rosalind. Since 2016, I have coordinated and managed multiple research activities, to include research design, leadership and supervision of the clinical research field team, under the collaboration with the ISMMS team. I currently manage a national population-based research project that has managed over a 1400 child/family cohort. This research subaward project is a managed as a centralized collaborative through Mount Sinai with Dr. RJ Wright as the overall PI/Director. I have worked closely with MPIs Drs. RJ and RO Wright and the Mount Sinai clinical research and data analytic teams and has been for over the past 8 years. The collaboration of these research cohorts has fostered areas of expertise and efficiencies; together we have successfully submitted data for the geospatial coding, data transformation and quality measures for integration of our cohort data into the consortium.

I am involved in the data infrastructure and consolidated data repository. I am part of the collaborative data management team. I have acted in lead roles for research collaboratives to include writing teams and scientific analyses. I have worked with the ISMMS team on geospatial coding and have trained with them on neurodevelopmental assessments and evaluation.

I have not published or created research products under another name.

Ongoing projects that I would like to highlight include:

UG3- UH3OD023337-01 (Wright RJ, Wright RO)   09/01/2016-08/31/2023 NIH
ECHO Consortium on Perinatal Programming of Neurodevelopment
We will prospectively assess 5000 children in a harmonized consortium of four pregnancy cohorts with ongoing follow up, extensive environmental assessments, banked specimens starting prenatally up to age 8-10 years in all 5000, and enhanced neuro-phenotyping to assess programming effects of perinatal pro-oxidant environments. Role: Study Coordinator/ Steering Committee Member

Institutional Support (Huddleston)   05/01/2017-10/15/2019
Inova and University of Virginia- $50,000 seed grant
Microbiome and Pediatric Obesity – microbiome analyses and clinical factors related to pediatric obesity Collaboration with UVA medical, bioinformatic, and research staff

Role: Investigator

Fairfax County (Solomon)   03/25/2012-10/15/2019
Inova Health System
First 1,000 Days of Life Study (15-1804)
This study investigates the use of trio-based whole-genome sequencing, along with other 'omic analyses and EHR and survey-based clinical data.
Role: Director

Institutional Support (Solomon)   07/13/2013-10/15/2019
Institutional Support (Berkman)   09/01/2016-
10/10/2017 NHGRI
Maternal Attitudes: Prenatal Whole Genome Sequence
Survey of maternal attitudes and beliefs to evaluate potential knowledge and future behaviors regarding the access to prenatal whole genome sequencing
Role: Co-Investigator

B. Positions, Scientific Appointments, and Honors

<u>Professional Experience:</u>

2019-Present	Principal Investigator, Environmental influences on Child Health Outcomes (ECHO)- Mason Cohort under Wright Consortium, NIH UH3OD023337-01
2019- Present	Professor, College of Public Health, George Mason University, Fairfax, VA
2011-2019	Director of Clinical Research, Inova Translational Medicine Institute, Fairfax, VA
2007-2011	Pediatric Clinical Research Administrator, Inova Fairfax Hospital for Children, Fairfax, VA
1996-2007	Nurse Consultant, Nursing policy, legal and clinical information systems, Fairfax, VA
1993-1996	Pediatric Nurse Specialist, Inova Fairfax Hospital, Child Cardiology Associates, Fairfax VA
1983-1993	Surgical Clinical Nurse Specialist, Children's Surgical Associate/Division of Neonatology, Children's Hospital of the King's Daughters, Norfolk, VA
1977-1982	Clinical Experiences - Children's National Medical Center, Washington, DC; United States Public Health Department Native Health Center, Fairbanks, AK; University of Colorado Medical Center, Denver, CO; Valley Children's Hospital, Fresno, CA

<u>Other Experience and Professional Memberships:</u>

2007-pres	Review Editor, *The Journal of Emergency Nursing*
2002-2007	High Potential Graduate Research Assistant, George Mason University, Fairfax, VA
1993-1996	Adjunct Faculty Instructor, University of Virginia College of Nursing, Falls Church, VA
1992-pres	Review Editor, *The American Journal of Maternal Child Nursing*
1982-1988	Faculty Instructor, Old Dominion University College of Nursing, Norfolk, VA

<u>Honors and Awards:</u>

2006-pres	Board Member, Sigma Theta Tau International Nursing Honor Society - Epsilon Zeta Chapter
1979-pres	Member, Sigma Theta Tau International Nursing Honor Society - Epsilon Zeta Chapter

C. Contribution to Science

1) <u>ECHO publications</u> – contributions to ECHO cohort analyses
   a. <u>Racial and geographic variation in effects of maternal education and neighborhood-level measures of socioeconomic status on gestational age at birth: Findings from the ECHO cohorts.</u> Dunlop AL, Essalmi AG, Alvalos L, Breton C, Camargo CA, Cowell WJ, Dabelea D, Dager SR, Duarte C, Elliott A, Fichorova R, Gern J, Hedderson MM, Thepaksorn EH, **Huddleston K**, Karagas MR, Kleinman K, Leve L, Li X, Li Y, Litonjua A, Ludena-Rodriguez Y, Madan JC, Nino JM, McEvoy C, O'Connor TG, Padula AM, Paneth N, Perera F, Sathyanarayana S, Schmidt RJ, Schultz RT, Snowden J, Stanford JB, Trasande L, Volk HE, Wheaton W, Wright RJ, McGrath M;

program collaborators for Environmental Influences on Child Health Outcomes.PLoS One. 2021 Jan 8;16(1):e0245064. doi: 10.1371/journal.pone.0245064. 2021. PMCID: PMC7794036

b. <u>Characteristics of Environmental influences on Child Health Outcomes (ECHO) Cohorts Recruited During Pregnancy</u>. EZ Faro, Sauder KA, Anderson AL, Dunlop AL, Kerver JM, McGrath M, Roary M, Roman CW, Weidinger C, **Huddleston KC**. MCN The American Journal of Maternal Child Nursing. 1 July 2021. 46 (4): 230-235. DOI: 10.1097/nmc.0000000000000725 PMCID: PMC8225566

c. Prenatal Exposure to Pm2.5 and Childhood Cognition Assessed Using the NIH Toolbox: A Pooled Analysis of Echo Cohorts in the Northeastern United States SSRN Electronic Journal. Jan. 2022. PMCID In Process

d. Prenatal exposure to $PM_{2.5}$ and birth weight: A pooled analysis from three North American longitudinal pregnancy cohort studies. Rosa MJ, Pajak A, Just AC, Sheffield PE, Kloog I, Schwartz J, Coull B, Enlow MB, Baccarelli AA, **Huddleston K**, Niederhuber JE, Rojo MMT, Wright RO, Gennings C, Wright RJ. Environment International. 2017 October. PMCID: PMC5568041

2) <u>Genetics and Mutations</u>: The whole genome sequence data utilized for translational research utilizing ancestral markers to provide a rich and robust data set to further evaluate for variants of unknown significance. Participants from over 100 countries to provide this rich ancestral dataset.

a. Vockley J, Iyer R, **Huddleston K**, Niederhuber J. Abstract IA18: Large-scale familial whole genome sequencing to evaluate genetic risk. *Cancer Epidemiology Biomarkers & Prevention.* 2012 Nov; 21(11_Supplement). DOI: 10.1158/1055-9965.GWAS-IA18

b. Wong WS, Solomon BD, Bodian DL, Kothiyal P, Eley G, **Huddleston KC**, …, Niederhuber JE. New observations on maternal age effect on germline de novo mutations. *Nat Commun*. 2016 Jan 19; 7(10486). PMID 26781218; PMCID PMC4735694

c. Vilboux, T**, Huddleston KC**, Solomon BD, et al. Aberrant splicing induced by the most common EPG5 mutation in an individual with Vici syndrome. *Brain*. 2016 Sep; 139(9): e52. PMID 27343256 PMCID: PMC5841196

d. Knijnenburg TA, Vockley JG, Chambwe N, Gibbs DL, Humphries C, **Huddleston KC**, et al. Genomic and molecular characterization of preterm birth. Proc Natl Acad Sci USA. 2019 MAR 19; 116(12). PMCID: PMC6431191

3) <u>Newborn Screening and Genome Sequencing</u>: The ability of genomic sequencing to improve and enhance the health of newborns requires incorporating clinical utility and ethical principles. Translational research requires the focus on vulnerable populations. I have participated in teams of translational researchers to include medicine, nursing, bioinformatics, ethics and laboratory scientist.

a. Bodian DL, Mccutcheon JN, Kothiyal P, **Huddleston KC**, Iyer RK, Vockley JG, Niederhuber JE. Germline Variation in Cancer-Susceptibility Genes in a Healthy, Ancestrally Diverse Cohort: Implications for Individual Genome Sequencing. *PLoS ONE*. 2014 Apr 11; 9(4): e94554. PMID 24728327; PMCID PMC3984285

b. Bodian DL, Klein E, Iyer RK, Wong WS, Kothiyal P, Stauffer D, **Huddleston K**, Solomon BD. Utility of whole-genome sequencing for detection of newborn screening disorders in a population cohort of 1,696 neonates. *Genet Med.* 2016 Mar; 18(3): 221-230. PMID 2633417

c. Solomon BD, Bodian DL, Khromykh A, Huddleston K, Hastak R, Iyer RK, Klein EZ, Niederhuber JE. Utility of Whole Genome Sequencing for Detection of Newborn Screening Disorders in a Population Cohort of ~1700 Neonates. *Pediatrics.* 2016; 137(Supplement 3).

d. Kane MS, Vilboux T, Wolfe LA, Lee PR, Wang Y, Pavey AR, Bodian DL, Vilboux T, Khromykh A, Hauser NS, **Huddleston K**, Solomon BD. Utilization of genomic sequencing for population screening of immunodeficiencies in the newborn. G*enet Med*. 2017 Dec; 19(12): 1367-75.

4) <u>Maternal-Child</u>: The research on environmental influences on child health is exploding with a growing science on the discovery and development of the social epigenome. The focus on genetics interwoven with the science of social epigenetics allows nursing research to play a leading role in this unique area of discovery. I have over 20 years of pediatric and maternal–child clinical experience as well as third world medical experiences in this area of translational research.

a. Hazrati S, Hourigan SK, Waller A, Yui Y, Gilchrist N, **Huddleston K**, Niederhuber J. Investigating the accuracy of parentally reported weights and lengths at 12 months of age as compared to measured weights and lengths in a longitudinal childhood genome study. *BMJ*

Open. 2016 Aug 4; 6(8):e011653.PMID 27491670; PMCID PMC4985980

   b. Hazrati S, **Huddleston KC,** Clinical and Social Factors associated with excess weight gain in Hispanic and non-Hispanic White children. *Ped Res* 2019.
   c. Rosa MJ, Pajak A, Just AC, Sheffield PE, Kloog I, **Huddleston KC**, Schwartz J, Wright RJ. Prenatal exposure to PM 2.5 and birth weight: A pooled analysis from three North American longitudinal pregnancy cohort studies. *Environ Internat.* 2017; 107: 173-180. PMCID: PMC5568041
   d. **Huddleston KC**. Pediatric health policy analysis: The emergency medical services for children (EMSC) act and the Wakefield act, utilizing social construction of target populations. *Pediatr Nurs.* 2006 Mar- Apr; 32(2): 167-72. PMID 16719428

5) Research Ethics, Family Healthcare, and Healthcare Policy: The speed of technological change in genomic science has been fast and furious. The foundational components of ethics and policy have not been pursued in the same vigor. There is a need to blend genomics and social implications to adequately prepare the healthcare system for the inevitable future. A review of ethical values in genomic research is an additional area where I have contributed to the academic literature.
   a. Soylu, T.; Roess, A.; Boolani, A.; Wilson, A.; **Huddleston, KC**.; Lawrence, GN.; Oetjen, C. Depression, anxiety, energy, and fatigue among nurses who cared for patients during the COVID-19 pandemic: a cross-sectional study. International Journal of Mental Health Nursing.
   b. **Huddleston K**. Ethics: The Challenge of Ethical, Legal, and Social Implications (ELSI) in Genomic Nursing *OJIN: Online J Issues Nurs.* 2013 Dec 23; 19(1): 6. PMID 26812195
   c. **Huddleston KC** Creekmore P, Wood B. Administration of Infant Formula Through the Intravenous Route. *Am J Matern Child Nurs.* 1994 Jan-Feb; 19(1): 40-42 PMID8201861

Complete List of Published Work in My Bibliography:
https://pubmed.ncbi.nlm.nih.gov/?term=Huddleston%2C+Kathi+C%5BAuthor%5D&sort=