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<tr>
<td>Debbink, Michelle - #2670 - Place matters for maternal morbidity: Evaluating neighborhood and geographic drivers of racial/ethnic disparities of severe maternal morbidity in Utah</td>
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<tr>
<td>VPCAT 2021 Senior Mentor Selection Form</td>
<td>5</td>
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<tr>
<td>VPCAT 2021 Combined PDF Application</td>
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## Application Summary

### Competition Details

<table>
<thead>
<tr>
<th>Competition Title:</th>
<th>2021 Vice President's Clinical and Translational (VPCAT) Research Scholars Program Application</th>
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### Application Information

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<tr>
<th>Submitted By:</th>
<th>Michelle Debbink</th>
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<td>Application ID:</td>
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<tr>
<td>Application Title:</td>
<td>Place matters for maternal morbidity: Evaluating neighborhood and geographic drivers of racial/ethnic disparities of severe maternal morbidity in Utah</td>
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### Personal Details

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<th>u6012532</th>
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<td>Applicant First Name:</td>
<td>Michelle</td>
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<td>Applicant Middle Initial:</td>
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<td>Debbink</td>
</tr>
<tr>
<td>Applicant Alias (i.e., Name Applicant Prefers to Go By):</td>
<td></td>
</tr>
<tr>
<td>Applicant Degree(s):</td>
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<tr>
<td>Academic Rank (i.e., Primary Appointment Title):</td>
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<td>Division:</td>
<td>Maternal Fetal Medicine</td>
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<tr>
<td>Work Address:</td>
<td>50 N Medical Dr</td>
</tr>
<tr>
<td>Email Address:</td>
<td><a href="mailto:Michelle.Debbink@hsc.utah.edu">Michelle.Debbink@hsc.utah.edu</a></td>
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Debbink, Michelle - #2670
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<tr>
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<td>Do you have a disability? (NIH defines individuals with disabilities as those with a physical or mental impairment that substantially limits one or more major life activities):</td>
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<tr>
<td>Are you from a disadvantaged background? (see NIH NOT-OD-20-051 for definition):</td>
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<td>Separating each with a semicolon, list up to 5 key SCIENTIFIC TERMS aligned to your research interests that we could use to search for funding opportunities via online systems (i.e., Grants.gov, NIH, Pivot, etc.):</td>
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<td>Separating each with a semicolon, list up to 5 FUNDING AGENCIES you are interested in submitting an application for funding considerations. NOTE: if you are interested in the National Institute of Health (NIH), provide the name of the specific institute.:</td>
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<td>Administrative Assistant Email:</td>
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<td>Administrative Assistant Phone #:</td>
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Application Details

Proposal Title
Place matters for maternal morbidity: Evaluating neighborhood and geographic drivers of racial/ethnic disparities of severe maternal morbidity in Utah

Scientific Mentor Unid (U of U ID number/u0000000. If none, list "Not Applicable")
u0030408

Scientific Mentor First Name
Michael

Scientific Mentor Middle Initial
W

Scientific Mentor Last Name
Varner

Scientific Mentor Alias (i.e., Name Mentor Prefers to Go By)

Scientific Mentor Degree(s)
MD

Scientific Mentor Academic Rank (i.e., Primary Appointment Title)
Professor

If selected "Other Title," please designate Mentor's Primary Appointment Title

Scientific Mentor Secondary Appointment Title (i.e., clinic director, chair, chief, etc.)
Scientific Mentor College or School

Scientific Mentor Department
Obstetrics and Gynecology

Scientific Mentor Division

Scientific Mentor Email Address
michael.varner@hsc.utah.edu

Scientific Mentor eRA Commons UserID
unknown

Scientific Mentor ORCID Identifier # (if mentor does not have an ORCID, please register for a unique ID via www.orcid.org)
0000-0001-9455-3973

Comments to Competition Coordinators

Acknowledgment

Applicant Acknowledgement Statement
[Acknowledged] As an applicant to the Vice President's Clinical and Translational (VPCAT) Research Scholar Program, I acknowledge that everything I have written and included within my application is a true and accurate representation of the work that I have done and aim to do if chosen to be a part of the program. I acknowledge that my application will be reviewed by VPCAT senior mentors and members of the VPCAT Alumni Advisory Committee. I understand that upon submission, I will not be allowed to make any further changes to my application.
Dear Dr. Rubin,

Thank you for considering my application for the 2021 cohort of VPCAT Research Scholars. The VPCAT Research Scholars program offers a unique opportunity to focus on developing the leadership, organizational, research, and community partnership skills I will need to make significant progress toward reducing racial/ethnic disparities in maternal and perinatal outcomes. The project I propose has been an aspirational goal of mine since starting my PhD in Health Services Organization & Policy at the University of Michigan.

During my doctoral training, I studied the relationships between spatially-measured racial segregation and low birth weight, for which I received the American Public Health Association’s Maternal & Child Health Outstanding paper award. During residency, I expanded this work to assess the impact of health care access points on the relationship between racial segregation and birth outcomes; the analytic complexities of that work sparked my interest in further refining my geographic analytic skills. On my arrival to the University of Utah for Maternal-Fetal Medicine Fellowship, I benefitted immensely from Dr Michael Varner’s highly capable mentorship. He introduced me to several scholars across the University campus (for example, Dr Ken Smith, Director of the Utah Population Database and Louisa Stark, Director of the Community Collaboration and Engagement Team of the CCTS) and in the Utah Department of Health (for example, Laurie Baksh, the Maternal Infant Health Program director).

These partnerships and the consistent support I received from Dr Varner, Dr Silver, and the Ob-Gyn Department positioned me to compete for and receive the Society for Maternal-Fetal Medicine-AMAG Pharmaceuticals Health Policy Award. Using these funds, we have undertaken a complete state-wide review of all severe maternal morbidity (SMM) events in Utah and assess the general geography of SMM disparities. These projects enabled me to then craft a competitive proposal to conduct a detailed qualitative and quantitative assessment of the relationship between neighborhoods and SMM in Utah, with a goal of identifying neighborhood-level policies and interventions to reduce racial/ethnic disparities in SMM. This proposal was funded under the Reproductive Scientist Development Program scholars K12 award earlier this year.

I am passionate about the opportunity to build a research enterprise that will discover and disseminate tangible, sustainable interventions to reduce or eliminate racial and ethnic inequities in perinatal health outcomes. If selected as a VPCAT Research Scholar, I will work tirelessly to integrate the excellent instruction into my research and grant-writing products, and to build a mutually beneficial mentor-mentee relationship with the senior mentor selected for me. A productive and beneficial mentor-mentee relationship requires effort on the part of both mentor and mentee to identify areas of improvement, set mutually-agreed upon goals, and revisit progress on these goals – both professional and research. I approach my mentorship relationships from a foundation of mutual respect: from this perspective, I aim to hold myself accountable to the goals we set together, and to be transparent in communicating barriers, challenges, and successes.

In addition to the mentorship resources offered by the VPCAT Research Scholar Program, my interdisciplinary RSDP mentorship team (spanning across three different
colleges at the University of Utah) is enthusiastically committed to my success in an academic research career. This team includes experts in health geography (Neng Wan, Department of Geography), urban and rural land use evaluation (Alessandro Rigalon and Stacy Harwood, Department of City and Metropolitan Planning), qualitative research (Louisa Stark, Community Collaboration and Engagement Team of the CCTS) and population sciences and demography (Ken Smith, College of Family and Consumer Studies) in addition to the content and research experts in my home department (Drs. Torri Metz, Michael Varner, and Bob Silver) and the Utah Department of Health (Laurie Baksh).

Engaging in the VPCAT Research Scholar Program will undoubtedly provide the professional and career development scaffolding that would accelerate my research career toward independent funding. I would be honored to be selected to participate in the program, and I believe that my prior efforts in grant writing and research position me to be a successful scholar.

Sincerely,

Michelle P Debbink, MD/PhD
Assistant Professor, Division of Maternal-Fetal Medicine
Department of Obstetrics and Gynecology
University of Utah Health
michelle.debbink@hsc.utah.edu
Education
Maternal Fetal Medicine Fellowship, University of Utah, Salt Lake City, UT 2017-Present
Obstetrics and Gynecology Residency, University of Michigan, Ann Arbor, MI 2013-2017
Administrative Chief Resident, 2016-2017
M.D., University of Michigan Medical School, Ann Arbor, MI 2004-2013
Medical Scientist Training Program Fellow
Ph.D., University of Michigan School of Public Health, Ann Arbor, MI 2004-2013
Health Services Organization and Policy
B.A., Sociology & B.A., Policy Studies, Rice University, Houston, TX 1999-2003

Academic Work Experience
Graduate Research Assistant, Obstetrics and Gynecology Department & 2007-2013
Health Management and Policy Department
University of Michigan, Ann Arbor, MI

Data Analyst and Director of Publications, Texas Program for Society and Health 2003-2004
Baker Institute for Public Policy, Rice University, Houston, TX

Service Experience
Co-Chair, Diversity & Advocacy Task Force, Utah Department of Obstetrics & Gynecology 2019-Present
Committee Member, Perinatal Morbidity Review Committee, University of Utah Hospital 2019-Present
Committee Member, Perinatal Mortality Review Committee, Utah Department of Health 2019-Present
Board Member, Physicians for Reproductive Health, New York, NY 2013-2019
(formerly, Physicians for Reproductive Choice and Health)
Committee Member, Maternal and Child Health Committee, Michigan State Medical Society 2015-2017
Detroit Regional Infant Mortality Reduction Task Force 2010-2013
Board Member, Packard Health Clinic, Ann Arbor, MI 2005-2010
(Federally Qualified Health Center look-alike)
Peer Reviewer, Obstetrics and Gynecology 2018-Present
Top 10% Reviewer Recognition Oct 2019
Peer Reviewer, Social Science and Medicine-Population Health 2014-Present

Certification and Licensure
Board certified, Obstetrics and Gynecology, 2019
Utah Medical License, 2017-Present
Michigan Medical License, Inactive
ACLS/BLS Certification, Expiration 3/2021

Professional Development Activities
Undergraduate Research Mentoring Program, University of Utah Fall 2019
Healthcare Administration Scholars Program, University of Michigan 2014-2016

Honors and Awards
Gold Star Medical Student Teaching Award, University of Utah 2018
Quilligan Scholar, Society for Maternal Fetal Medicine 2015-2017
Galen's Society Bronze/Gold Beeper Teaching Award Nominee, University of Michigan 2015,2017
Maternal Fetal Medicine Division/SMFM 3rd year Resident Award, University of Michigan 2016
Urogynecology Division 3rd year Resident Award, University of Michigan 2016
Dean's Award for Graduation with Distinction in Research, University of Michigan 2013
Dean's Award for Graduation with Distinction in Community Service, University of Michigan 2013
Elizabeth Karlin Early Achievement Award, National Abortion Federation 2013
Warner/Goldberg Women's Health Program Award, University of Michigan 2013
AOA Honor Medical Society Member 2012
Gary Stewart Outstanding Student Paper Award, first place oral presentation, Maternal and Child Health Section of the American Public Health Association 2009
Outstanding Health Research Student Investigator Award, University of Michigan 2009
Center for Research on Ethnicity, Culture, and Health (CRECH) Award for Excellence in Research on Racial Disparities, University of Michigan 2009

Professional Memberships and Activities
Interdisciplinary Association for Population Health Sciences 2019-Present
Society for Maternal Fetal Medicine 2012-Present
  Fellow Representative, Research Committee 2017-Present
Society for Pediatric and Perinatal Epidemiology 2009-Present
AcademyHealth 2006-Present
American College of Obstetrics and Gynecology 2005-Present
American Public Health Association 2005-Present
Michigan State Medical Society, Committee on Maternal and Perinatal Health 2015-2017
American Medical Student Association 2004-2013
  Numerous leadership roles, including elected national leadership

Educational Activities
Faculty Facilitator, Critical Care in Obstetrics Course Nov, 2019
  Society for Maternal Fetal Medicine and Banner Health, Scottsdale, AZ
Population Health Pathway Faculty Research Mentor Feb 2019-Present
  University of Utah Medical School, Salt Lake City, UT
Native American Research Internship Faculty Research Mentor Summer 2019
  University Utah Medical School and Dept of Pediatrics
Guest Lecturer, Women's Health Initiative Summer Institute July, 2019
  University of Utah, Salt Lake City, UT
Guest Lecturer, Genetic Counselors Program 2018-Present
  University of Utah, Salt Lake City, UT
Medical Student and Resident Teaching, informal and didactic 2013-Present
Undergraduate Research Opportunities Program (UROP), Graduate Student Mentor 2007-2011
  University of Michigan, Ann Arbor, MI
Guest Lecturer, Women's and Gender Studies Graduate Level Courses 2006-2014
  University of Michigan, Ann Arbor, MI

Invited Meetings
Traversing Divides: Interdisciplinary Research in Population Health and Health Disparities Oct., 2019
  Workshop in Conjunction with Interdisciplinary Association for Population Health Science Annual Meeting. Seattle, WA
Perinatal Research Society Young Investigator Grant Writing Workshop Sept., 2019
  Minneapolis, MN
Grants and Research Awards/Traineeships

Current
Severe Maternal Morbidity in Utah: Sociodemographic disparities, preventable morbidity, and the cost of care
Funder: AMAG-SMFM Health Policy Scholarship
Total: $25,000
Role: Principal Investigator
Award Dates: 01/2019 – 01/2020

Group Prenatal Care for Diabetes in Pregnancy: A window of opportunity to Drive Out Diabetes
Funder: Larry H and Gail Miller Family Foundation
Total: $50,000
Role: Fellow investigator, with Dr Torri Metz as Principal Investigator
Award Dates: 10/2018-9/2019

Past
Place Matters for Racial Inequities in Low Birth Weight: How the health landscape of segregation, neighborhood networks, and prenatal care availability impacts low birth weight inequities in Los Angeles County
Funder: Milton Goldrath Resident Research Support Award, University of Michigan Department of Obstetrics and Gynecology
Total: $2,500
Role: Principal Resident Investigator, with Dr Vanessa K Dalton as Faculty Mentor
Award Dates: 4/2015-4/2017

Low birth weight inequities in context: Racial segregation, neighborhood factors, and preconception care
Funder: Rackham Graduate School Predoctoral Fellowship, University of Michigan
Total: $27,000
Role: Dissertation Award, Principal Investigator

Investigating Local Neighborhood Segregation and Low Birthweight in Metropolitan Chicago
Funder: Robert Wood Johnson Health & Society Scholars Program Small Grant Competition, University of Michigan
Total: $26,000
Role: Principal Investigator

National Research Services Award Training Grant, Health Management & Policy Dept, University of Michigan
Funder: Agency for Healthcare Research and Quality
Grant Number: T32 HS 000053
Role: Trainee

Strengthening Human Resources for Abortion Care: The ProviderShare Workshops
Funder/Project Number: Society for Family Planning Research Grant, Project SFP5-10
Total:$150,000
Role: Graduate Student Research Assistant, logistical implementation of multi-site study, budget management, grant and manuscript preparation, with Dr Lisa H Harris, Principal Investigator
Award Dates: 7/2009-6/2010
Publications

Peer-reviewed Publications


* Served as mentor to first author

Other Publications

Debbink, Michelle - #2670


In Press/Submitted/Under Review

Published Abstracts and Presentations

Oral Presentations


* Presenting author
Career Plan

Career Statement

I plan to craft a career as an independently funded physician scientist with a research program focused on producing evidence-based recommendations to eliminate racial/ethnic disparities in adverse perinatal outcomes such as maternal morbidity and mortality. Building on a foundation of research, leadership, and advocacy, I hope to create a program that provides health systems, communities, and states with the tools to make tangible, sustainable progress on reducing racial and ethnic inequities in perinatal health outcomes. The supportive environment of the University of Utah and my division have positioned me well to achieve these goals.

Career Development Plan

While my prior research training and current mentorship relationships provide a solid foundation on which to build a research career, my mentorship team and I have identified several remaining gaps in my skillsets that are key elements of my ongoing career development: (1) Expanding my existing skills in geographic analysis and neighborhood assessment; (2) Improving grant writing skills to facilitate access to funding; and (3) Developing the leadership and mentorship skills critical to leading multidisciplinary teams of community and academic partners. The Vice President’s Clinical and Translational Scholars (VPCAT) program offers critical resources that are essential to achieving my career goals.

My mentors and I have identified the following training, professional development, and research experiences to be completed during the VPCAT program, in addition to the VPCAT Research Scholar Program Orientation, Leadership Seminars, and curricular sessions:

1) Complete the Geographic Information Systems Science (GIS) Graduate Level Certificate through the University of Utah’s Geography Department. The GIS Certificate coursework will prepare me to become an expert in geographic data evaluation within obstetrics, gynecology, and women’s health. A recent emphasis notification from the Agency for Healthcare Research and Quality recognized the importance of social determinants and geographic predictors for disparities in health outcomes. Thus, the GIS Certificate will position me competitively for future funding. I have already completed two certificate courses and am enrolled in two additional courses this semester.

2) Complete coursework with Center for American Indian Health (CAIH) at Johns Hopkins University. Research with sovereign Native Nations faces challenges, some of which stem from an understandable mistrust of predominantly white institutions. CAIH has successfully established research and outreach relationships with the Navajo/Diné, and have developed courses for public health professionals and researchers seeking to establish similar relationships. This coursework will provide the foundation to develop stronger community partnerships with Native Nations.

3) Attend two meetings per year related to my research interests and professional development. I will attend the annual Pregnancy Meeting of the Society for Maternal-Fetal Medicine (SMFM), the flagship conference of my sub-specialty, as well as the special section on American Indian & Pacific Islander Health at the Annual Meeting of the American Public Health Association (APHA). A third meeting, the annual joint CDC/American College of Obstetrics and Gynecology (ACOG) preconference on maternal mortality, will also be included if funding permits.

4) Develop a strong research partnership with the groups comprising Community Faces of Utah. I have presented the proposed research to the Community Faces of Utah research advisory board which includes representation from community organizations that work on behalf of under-represented populations in Utah (Latino/Latina/Latinx, African refugee/immigrant, African American, Pacific Islander, and Native communities). Fahina Tavake-Pasi, executive director of the National Tongan American Society, and I have already begun planning for focus groups around Pacific Islanders’ experience with birthing, maternal mortality and morbidity as described in Aim 1.

5) Complete research tasks associated with my specific aims listed below. I will continue to work with Dr Neng Wan, Associate Professor of Geography & Director of the Utah Geo-Health Lab, to develop geographic analytic techniques assessing the relationship between severe maternal morbidity and location, as well as to identify novel quantitative neighborhood measurements. I will continue to work with Louisa Stark, PhD, Professor of Human Genetics & Director of the Community Collaboration & Engagement Team at the Center for Clinical & Translational Science to plan, document, and collect data from focus groups in communities most affected by severe maternal morbidity.
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<td>GEOG 6180 – GeoProcessing with Python</td>
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<td>GEOG 6161 – GIS Capstone</td>
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<td>CAIH - Collecting, Analyzing and Using Public Health Data in American Indian Communities</td>
<td>CAIH - Community Based Participatory Research with Indigenous Peoples</td>
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<td>American Public Health Association (Health Disparities &amp; American Indian/Pacific Islander sessions)</td>
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<td>CDC/ACOG maternal mortality meeting</td>
<td>CDC/ACOG maternal mortality meeting</td>
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<td>Research</td>
<td>Present geographic results to Community Faces of Utah research advisory group</td>
<td>Begin analysis of qualitative data from focus group sessions</td>
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<td>Complete geographic analyses and present findings at national conference &amp; publish manuscript(s)</td>
<td>Prepare at least one abstract related to qualitative data for national meeting</td>
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<td>Begin focus group sessions through Community Faces of Utah groups</td>
<td>Write competitive renewal for Phase II of the Reproductive Scientist Development Program K12</td>
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**Primary Scientific Mentor**

Dr. Michael Varner, a Professor of Obstetrics and Gynecology at the University of Utah, will serve as my primary scientific mentor during the VPCAT Research Scholar Program. Dr. Varner has served as one of my research mentors since I came to the University of Utah as a Maternal-Fetal Medicine Fellow in July 2017. He has supervised me through a relatively ambitious fellowship research plan, which resulted in two funded grants as well as one manuscript under review and three additional manuscripts nearing completion. Dr. Varner has authored or co-authored over 400 peer-reviewed publications. He maintained continuous NIH funding for the past 24 years and served as the Vice-Chair for Research for the Department of Obstetrics and Gynecology at the University of Utah from 2006-2019. He is the Program Director for the Utah Women’s Reproductive Health Research K12, the PI for the Utah Building Interdisciplinary Careers in Women’s Health K12, and the Associate Director for the Utah Center for Clinical and Translational Science KL2 and TL1 Training Programs. He also serves as a VPCAT Senior Mentor.

In addition to his many research accomplishments, his track record of successful mentorship for junior faculty investigators is unparalleled. He has advocated on my behalf to protect my research time and increased my access to departmental research resources. He has coached me effectively as I sought to focus my efforts on creating a niche in the social determinants of perinatal health and racial/ethnic disparities. He has a keen eye for potentially fruitful research collaborations, and his broad connections to the wider University research community had produced a wealth of excellent partnerships in environmental health, geography, and urban planning. Dr. Varner’s selflessness in advancing my career and vast research experience will ensure that I complete my proposed projects in a timely manner and stay on-task to submit an application for NIH funding.

**Mentoring Plan**

Dr Varner and I have engaged in a formal research review and check-in meeting once per month for the last six months, and plan to continue this process through the VPCAT program. During these meetings, we will discuss research progress, including issues with data collection, analytic questions, and identifying opportunities for additional funding, and review grant writing timelines. Importantly, however, Dr. Varner has always maintained a generous “open-door policy” for interval meetings as needed. He has a keen understanding of the hurdles that each of his mentees face, and his approach is not “one size fits all.” He has
sought to target his mentorship to specific gaps in my professional career development, which has been immensely helpful. In addition, he is impressively responsive to e-mail queries, even when traveling.

As mentioned, Dr. Varner has fostered interdisciplinary research relationships relevant to my career goals throughout my time at the University of Utah, and I anticipate he will continue to do so. Examples include: Ken Smith, PhD (Professor, Family and Consumer Studies, and Director, Utah Population Database); Laurie Baksh, MPH (Director of the Maternal Infant Health Program at the Utah Department of Health); and Louisa Stark, PhD, Professor of Human Genetics and Director of the Community Collaboration & Engagement Team at Center for Clinical & Translational Science). These relationships have been critical to my previous research as well as to the successful funding of my Reproductive Scientist Development Program K12 application. I have no doubt Dr. Varner will continue to provide this level of expertise in mentorship, collaboration, and professional development moving forward through the VPCAT program.

**Research Plan**

**Specific Aims**

Over the last 15 years, the U.S. maternal mortality ratio has increased by 26%, with persistent, stark racial/ethnic disparities. However, absolute numbers of maternal deaths are low and dispersed across many states, making systematic evaluation difficult. As a result, attention has turned to severe maternal morbidity (SMM) as a sentinel quality metric for reducing maternal deaths. SMM affects 1-3% of pregnancies in the U.S., again characterized by racial/ethnic disparities. In Utah, minority women have up to twice the risk of SMM compared to white women. Attempts to understand these disparities focus primarily on individual risk factors. However, individual risk alone cannot provide a complete picture of SMM nor fully explain disparities.

Neighborhood characteristics (e.g., segregation, food access, transportation, etc.) have been implicated in racial/ethnic disparities in health outcomes. We have previously demonstrated that racial segregation and health care access are associated with geographic “hotspots” (areas of spatial over-representation) of low birthweight. However, relationships between neighborhood characteristics and SMM have not yet been evaluated. If associations exist, neighborhood characteristics represent potentially modifiable risk factors for SMM disparities. Focusing on the community level for intervention could begin to close race/ethnicity gaps in SMM. Though we know little about which neighborhood characteristics are important, quantitative neighborhood assessment coupled with community-based qualitative data can provide important insights.

Our objective is to use qualitative community engagement approaches and unique quantitative neighborhood assessments to identify neighborhood factors associated with disparities in SMM in Utah. This work requires that I expand my geographic analytic skills, develop expertise in innovative neighborhood assessments, and create and maintain an interdisciplinary team. To accomplish this objective, we propose the following specific aims:

**Aim 1: Identify neighborhood risk factors associated with geographic hotspots of SMM.** We hypothesize that characteristics measured at the neighborhood level (defined as a Census tract), such as poverty, racial segregation, green space, transportation, food security, or healthcare access will partially explain disparities in SMM. Using data from our ongoing review of SMM in Utah, we will identify Census tracts with spatial over-representation (hotspots) of SMM. These tracts will serve as cases in a nested case-control study of neighborhoods. We will develop detailed neighborhood assessments based on quantitative data and focus groups. We will then build quantitative models of neighborhood risks for SMM. Expected training outcome: I will expand skills in geographic analysis and acquire skills in innovative neighborhood assessment.

**Aim 2: Build partnerships to address data gaps in Native communities in Utah.** We hypothesize that community-based partnership approaches will improve maternal health data acquisition in Native and indigenous communities in Utah. For various reasons, including rural location, a paucity of data in Native communities challenges basic understandings of SMM. As such, we could not currently pursue the work in Aim 1 on most reservations. Therefore, we will convene key stakeholders in Native/indigenous communities through established partnerships with Community Faces of Utah. We will use qualitative results to develop evidence-based, community-engaged plans for maternal health data collection. Expected training outcome: I will build skills in community partnership and expertise in rural community assessments.

Altogether, the work we propose turns the lens on SMM outward, bringing novel attention to neighborhoods as drivers of SMM disparities. The expected outcomes will significantly alter our understanding of SMM and the
etiology of disparities. We will obtain unique, robust data via innovative mixed-methods approaches which will guide future interventions. Our collective expertise in SMM, geographic information science, neighborhood assessment, qualitative methods, and community engagement bolsters the feasibility of this proposal. With this work, we will create momentum for neighborhood change to reduce disparities in SMM and maternal deaths.

Significance & Rigor of Prior Research

U.S. maternal mortality and SMM rates exceed those of all other high-income countries and, in contrast to these countries, continue to rise. Maternal mortality represents just the “tip of the iceberg” — for each maternal death, between 50-100 women experience an SMM event or “near-miss,” which, but for intervention, might lead to maternal death.1–5 SMM events in the United States have increased 31% from 2000-2014.6

Disparities in severe maternal morbidity. As with other adverse perinatal outcomes, women from racial/ethnic and socioeconomic minority groups experience a disproportionate burden of SMM.7–9 A recent report from Agency for Healthcare Research and Quality (AHRQ) reveals that in 2015, compared to white women, rates of SMM for women of color ranged from 22% higher (Hispanic women) to 112% higher (black women), which is similar to the range in Utah.8,10 Though individual co-morbidities may account for some excess SMM,7 geographic and health systems factors such as receiving care at hospitals with higher proportion of Medicaid recipients are associated with increased rates of SMM.8,11 In fact, one study estimates that 40% of the excess SMM among black women in New York City is accounted for by differences in delivering hospitals.12

In addition, disparities exist across method of payment, maternal zip code characteristics (e.g., average income), and rural/urban residence.8 In Utah, a Department of Health report utilizing hospital discharge data from 2013-2015 showed similar racial/ethnic inequities in SMM; strikingly, Native Hawaiian/Pacific Islander (NHPI) SMM rates were 202 events per 10,000 live births, the highest of any minority group in Utah.10,13

Studies demonstrating these disparities have generally been conducted using rigorous epidemiologic methods, and the methods for case ascertainment (e.g., the criteria published by the CDC) have been validated in a large case review study.14 These studies are limited, however, by lack of granular data that could help to pinpoint potential causal relationships for further study and intervention. The work we propose would fill an important gap by bringing detailed, rigorous qualitative and quantitative data to bear on the relationship between race and SMM.

Place and health disparities. Social determinants of health may help to explain the persistent racial/ethnic disparities in health outcomes.15 Social determinants of health are social circumstances that dictate how resources for health are distributed. Where people live is the physical distillation of many layers of influence on their lives and health, including environmental, socioeconomic, and political influences.16–18 As such, neighborhoods play a role in the concentration of resources for or barriers to health. An entire issue (Sept 2019) of Health Affairs emphasizes the relationship between neighborhoods and health, underscoring a growing understanding of the importance of place to health outcomes.19 I have previously shown that living in segregated neighborhoods is associated with increased risks of low birthweight and small for gestational age for women of color in Michigan and in Los Angeles County.20,21

In Utah, we have shown that SMM varies by hospital geographic region, as demonstrated in Figure 1.13

The quality of the studies assessing relationships between health and place are dependent upon the methods used; those conducted by heath geographers tend to use quite rigorous methods which account for such unique spatial problems as spatial autocorrelation. The preponderance of evidence provided by observational and quasi-experimental studies by health geographers suggests that relationships between place and health are implicated in health disparities. However, the work we propose fills two important gaps if the aims are achieved: first, we will demonstrate which unique geographic characteristics are associated with racial/ethnic inequities in SMM, which to our knowledge has not been specifically demonstrated; and second, we will provide qualitative data from individuals living in affected communities to bolster our understanding of the actual mechanisms driving the relationships between neighborhoods and SMM outcomes.

Figure 1. Rate of Severe Maternal Morbidity per pregnancy-associated hospitalization (PAH) by hospital district, 2013-2015
**Prior Research Efforts**

The places in which people live, work, and play provide a physical distillation of the influences of social determinants of health, and can provide an important window into the public health and policy levers we can use to alter the landscape of health disparities. I have focused efforts on understanding the ways in which these neighborhood factors may drive or mitigate racial and ethnic inequities in perinatal outcomes. My work in this area (both peer-reviewed and in preparation), includes:


I have gained additional expertise in severe maternal morbidity and mortality since joining the University of Utah. In partnership with the Utah Department of Health, our team at the University of Utah has been in the forefront of understanding the influence of substance use disorders and in mapping and tracking SMM. With the proposed research, I will apply knowledge of neighborhood contexts to content expertise in SMM. My work in this area includes:


In addition, I have experience with qualitative and mixed-methods research that will undergird my evaluation of focus groups with community members regarding their birth experiences, severe maternal morbidity, and community risk and resilience. These publications include:


**Future Research Efforts**

I am one of 6 recipients of the Reproductive Scientist Development Program K12, selected from a national cohort of applicants. The RSDP is a 5-year program, awarded in two phases. Phase I of my award is two years (July 2020 – June 2022). Using the data from the proposed project, I will submit my competitive renewal for Phase II (2022-2025). During Phase II, my focus will be to devise and test the feasibility and acceptability of neighborhood level interventions to reduce racial and ethnic disparities in severe maternal morbidity outcomes.

Following the completion of the RSDP, I plan to submit an R01 with a focus on developing and testing a national and state-level strategies for reducing racial and ethnic inequities in perinatal outcomes. In addition, based on the results of the RSDP projects, I plan to seek R-level funding for testing strategies to train providers and health systems to implement strategies for disparities reduction to improve maternal quality of care.


Dr. Robert Silver, the Chair of Obstetrics and Gynecology and I have developed this joint plan for transition to independence, including research advancement, support, and protected time.

**Division of time**

I am the recipient of the 2020 Reproductive Scientist Development Program (RSDP) Scholars award, a nationally competitive K12 award for which approximately 6 individuals are chosen each year. The award is jointly sponsored by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) and non-profit funders (including March of Dimes and American Board of Obstetrics and Gynecology). Accepting this award requires that at least 75% of my time be protected for research in Phase I (Years 1 & 2 of the program) and 75% in Phase II (Years 3 - 5 of the program). As this was a requisite of accepting the award and this coincided with the start of my Assistant Professor position, I have not needed to reallocate clinical time to research.

Prior to joining the faculty, I became the Co-Chair of the Departmental Diversity, Equity, and Inclusion Task Force, a position which I will continue as a new faculty member. Dr. Silver and I have discussed identifying additional leadership for task force subgroups, as well as an administrative support person who will allocate 10% of their time to assist with scheduling, logistics, budget, announcements, and other tasks.

<table>
<thead>
<tr>
<th>Percent effort</th>
<th>Category</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>75%</td>
<td>Research</td>
<td>Protected research time</td>
</tr>
<tr>
<td>20%</td>
<td>Clinical</td>
<td>• 1 full clinical day per week, divided into half days; including two ½ days per month in Substance Use, Pregnancy, Recovery &amp; Addiction (SUPeRAd) clinic. In my second year, this will also include 1 day per month of outreach clinic.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 14 in-house calls per year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 3-4 weeks of inpatient obstetric service per year, in place of outpatient clinical sessions</td>
</tr>
<tr>
<td>5%</td>
<td>Teaching/ Administrative</td>
<td>• Co-chair, Departmental Diversity, Equity, and Inclusion Task Force</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Assistant coordinator, Women’s Health Equity Fellowship</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Maternal Safety and Quality Review Committee</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Internal and external lectures and teaching</td>
</tr>
</tbody>
</table>

**Activity Alignment**

Importantly, my administrative and clinical roles are increasingly aligned with my research goals, which permits economy of scale in my efforts. For instance, substance use disorder contributes significantly to maternal morbidity and mortality, but our understanding of these relationships and ways to effectively intervene remain limited. Working clinically with this population is not only personally meaningful and fulfilling, but provides “boots on the ground” insight into the barriers to care and drivers of morbidity. In addition, serving as the DEI Task Force leader positions me to advocate effectively for the evidence-based changes that I may identify through my scholarly activities. Dr Silver and I have discussed, however, that the appropriate allocation of time must be maintained. Both Drs. Silver and Varner (primary research mentor) are committed to proactively monitoring these activities.

**Support for independent funding**

Dr. Silver (Department Chair), Dr. Varner (my primary mentor), and Dr. Metz (current departmental Vice Chair for Research) have each successfully achieved R-level NIH funding or mentored others in doing so. They have a keen understanding of the need for protected time and the momentum required to build toward R-level funding. In addition to excellent mentorship, the resources of the Obstetrics and Gynecology Research Network (OGRN) are also available to me, as well as time with our department statistician, Amanda Allshouse, to continue moving projects forward. The mentorship and resources available to me create exactly the right climate to have successfully competed for R01 funding by the completion of my RSDP award.

Michelle P Debbink, MD/PhD
r, Dept of ObGyn
September 23, 2020

Michael Rubin, MD, PhD, MS
Director, VPCAT Program

Re: Michelle P. Debbink, MD-PhD
2021-2022 VPCAT Research Scholar Program Application

Dear Mike,

I am writing to confirm my enthusiastic commitment to the candidacy of Michelle Debbink for the VPCAT Research Scholar Program. I have worked with Dr. Debbink on a regular basis since she started her Maternal-Fetal Medicine fellowship at the University of Utah in July 2017. Besides being an excellent clinician, she is passionate about racial/ethnic and socioeconomic disparities in health outcomes. Most research in this area has focused on individual patient parameters. Dr. Debbink appropriately observed that the impact of the neighborhoods in which these women reside may well be the dominant driver of their adverse perinatal outcomes (food deserts, unsafe streets, etc). She is thus planning to use qualitative community engagement approaches and geographic analytic technologies to address this innovative hypothesis. The training required for her to develop these skills fits perfectly with the VPCAT program objectives.

I have read the VPCAT scientific mentor requirements/responsibilities, and I will be supporting Dr. Debbink according to these responsibilities. I will meet with her at least monthly to discuss her career goals, monitor her research progress, and guide her in the development and submission of an extramural grant proposal. I will continue to maintain an open-door policy for her to voice additional questions or concerns between these formal meetings. With her committed mentoring team, institutional resources, protected time for research, and her dedication to studying health disparities and their impact on improve perinatal outcomes, I believe that she is an exceptional candidate for the VPCAT Research Scholar Program.

Thank you in advance for your consideration of Dr. Debbink’s application. I am completely confident that, should she be provided with this opportunity, she will produce a many-fold return on your investment.

Sincerely,

Michael Varner, MD
Distinguished Professor, Department of Obstetrics and Gynecology
University of Utah Health
E-mail: michael.varner@hsc.utah.edu
September 20, 2020

Michael A. Rubin, MD/PhD
VPCAT Program Director

re: Michelle Debbink MD PhD – VPCAT Application

Dear Dr. Rubin and VPCAT Selection Committee:

I am writing in my role as the Chair of the Department of Obstetrics and Gynecology at the University of Utah to offer my most enthusiastic endorsement of Michelle Debbink MD PhD for the Vice President’s Clinical and Translational Research Scholars Program (VPCAT). We have had the great privilege of having several of our junior faculty participate in this program with great success, so I understand full well the value of the VPCAT program. Therefore, I strongly support Dr. Debbink’s application to participate in the program as well. In fact, the excellent track record of the VPCAT program was included as an institutional resource in Dr. Debbink’s successful Reproductive Scientist Development Program K12 application earlier this year. This letter serves as evidence of our Departmental commitment to Dr. Debbink’s research goals with regard to protected research time and Departmental support.

Dr Debbink has had extensive training in standard social epidemiological statistical approaches for neighborhood research, including multi-level (hierarchical) modeling. In a prior project, she conducted scientifically rigorous qualitative research, and was the first author on the methodological paper that her team produced. She has also become something of an epidemiologic statistical consultant for her colleagues. However, Dr. Debbink identified that enhancing this methodological foundation with additional training in geographic information systems (GIS) and neighborhood assessment methods would improve her work. Through the training opportunities provided by the RSDP, and the professional and career development support offered by VPCAT, she will bring these methods together to produce new insights into the complex interplay of neighborhoods/communities and maternal health outcomes.

Dr. Debbink has a tenure-track Assistant Professor position in the Maternal-Fetal Medicine Division of our Department, and we have guaranteed her 75% protected time for the duration of the RSDP program (up to 5 years in two Phases). I have included for reference the Dean’s office Memorandum of Understanding which was signed in advance of the application to the RSDP. I would note that this MOU indicates 100% protected research time as was required of Phase I RSDP Scholars at the time. However, the RSDP now allows the scholar to choose between 75-100% protected time for research. Dr. Debbink chose a 75% allocation in order to be able to continue her board eligibility.
process in Maternal-Fetal Medicine without interruptions, but we are committed to strict adherence to 75% research time.

We will support the educational activities outlined in her VPCAT application. These include her continued participation in the Geographic Information Systems certificate program and enrolling in the Center for American Indian Health coursework through Johns Hopkins University. We further understand that K-level career development awards do not fully cover scholars’ salaries or research endeavors. Our Department and I are specifically committed to ensuring that Dr. Debbink will have the necessary research funding and support to successfully complete her RSDP K12 and compete for R-level funding.

Our Department and I are fully supportive of Dr. Debbink’s proposed research trajectory. Her RSDP research proposal, and her passion for it, have the very real potential to be paradigm-changing for our discipline. The VPCAT program will offer Dr Debbink the additional career and professional development support to build momentum for her research and successfully compete for extramural funding.

Thank you in advance for your consideration.

Sincerely,

John A Dixon Endowed Presidential Professor and Chair Professor, Maternal-Fetal Medicine Department of Obstetrics and Gynecology University of Utah School of Medicine
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.

Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Varner, Michael W.

eRA COMMONS USER NAME (credential, e.g., agency login): MIKEVARNER

POSITION TITLE: Professor, Maternal-Fetal Medicine Division Department of Obstetrics and Gynecology University of Utah Health Sciences.

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>Completion Date MM/YYYY</th>
<th>FIELD OF STUDY</th>
</tr>
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<tbody>
<tr>
<td>St. Olaf College, Northfield, MN</td>
<td>B.A.</td>
<td>05/71</td>
<td>Chemistry</td>
</tr>
<tr>
<td>University of Minnesota, Minneapolis, MN</td>
<td>M.D.</td>
<td>06/75</td>
<td>Medicine</td>
</tr>
<tr>
<td>University of Iowa, Iowa City, IA</td>
<td>Residency</td>
<td>06/79</td>
<td>Obstetrics &amp; Gynecology</td>
</tr>
<tr>
<td>University of Iowa, Iowa City, IA</td>
<td>Fellowship</td>
<td>06/81</td>
<td>Maternal-Fetal Medicine</td>
</tr>
</tbody>
</table>

A. Personal Statement

Over the decades, I have come to believe that the synergy between discovery and clinical research is reliant on an infrastructure able to successfully invest in career development and mentorship to facilitate the pipeline of translational researchers. It is imperative for our institutions to invest in junior investigators dedicated to research focused on discovering, conducting, and disseminating findings associated with all aspects of human health and disease. One such exceptional investment for the University of Utah, and specifically the VPCAT program, is supporting Dr. Michelle Debbink. She is an exceptional VPCAT candidate and one who I am fully committed to mentoring.

By way of introduction, I am a Professor in the Department of Obstetrics and Gynecology at the University of Utah and the Associate Director of the Utah Center for Clinical and Translational Science KL2 and TL1. I am a maternal-fetal medicine clinical investigator with continuous NIH funding since 1996. I am also an experienced mentor who is dedicated to guiding young investigators on the path towards independent research. I have served as the primary research mentor for more than 10 graduate students, 10 medical students, 18 residents, and 17 fellows. Further, I have been a senior, scientific mentor for 12 junior faculty members, 10 of whom have received extramural awards as PIs, including 6 research (R) awards, 4 career development (K) awards, and 6 large cooperative (U) awards.

Dr. Debbink’s personal passion, and area of research, focuses on racial/ethnic and socioeconomic disparities in adverse perinatal outcomes. Although the majority of previous research in this area has focused on individual risk factors, Dr. Debbink has insightfully noted that these factors are insufficient to fully explain disparities and hypothesizes that the impact of the neighborhoods in which these women reside may be a substantial, and even dominant, driver of adverse perinatal outcomes. She points out that neighborhood characteristic are of particular interest because they represent potentially modifiable risk factors. She is thus planning to use qualitative community engagement approaches and geographic analytic technologies to address this innovative hypothesis. The training required for her to develop these skills fits perfectly with the VPCAT program objectives.

I am well suited and honored to serve as Dr. Debbink’s primary research mentor, having served in that capacity for the past 3+ years. I will remain involved with all aspects of her career development and research progress. She and I will continue our monthly scheduled meetings, plus “as needed” in the interval.
In summary, I can assure the reviewers of this proposal that Dr. Debbink has the necessary passion, commitment, resources, and mentorship to succeed, not only with this proposal, but also in becoming a national leader in perinatal health disparities research. I have the necessary time, energy, enthusiasm, commitment, and resources to ensure that she succeeds.

B. Positions and Honors

**Positions / Employment**

<table>
<thead>
<tr>
<th>Year</th>
<th>Position Description</th>
<th>Institution/Location</th>
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<tbody>
<tr>
<td>1981-1985</td>
<td>Assistant Professor, Department of Obstetrics &amp; Gynecology</td>
<td>University of Iowa, Iowa City, IA</td>
</tr>
<tr>
<td>1985-1987</td>
<td>Associate Professor, Director, Obstetric Service, Director, Division of Maternal-Fetal Medicine</td>
<td>Department of Obstetrics &amp; Gynecology, University of Iowa, Iowa City, IA</td>
</tr>
<tr>
<td>1987-1991</td>
<td>Associate Professor, Obstetrics &amp; Gynecology</td>
<td>University of Utah Health Sciences Center, Salt Lake City, UT</td>
</tr>
<tr>
<td>1991-2000</td>
<td>Director, Maternal-Fetal Medicine Division, Department of Obstetrics and Gynecology</td>
<td>University of Utah Health Sciences Center, Salt Lake City, UT</td>
</tr>
<tr>
<td>1991-present</td>
<td>Professor, Obstetrics &amp; Gynecology</td>
<td>University of Utah Health Sciences Center, Salt Lake City, UT</td>
</tr>
<tr>
<td>2006-present</td>
<td>Vice Chair for Research, Obstetrics and Gynecology</td>
<td>University of Utah Health Sciences Center, Salt Lake City, UT</td>
</tr>
<tr>
<td>2008-2015</td>
<td>Women and Newborns Clinical Program Representative, Research Guidance Council</td>
<td>Intermountain Healthcare, Salt Lake City, UT</td>
</tr>
<tr>
<td>2010-2018</td>
<td>Co-Director, Institute for Women’s and Children’s Health Research</td>
<td>University of Utah, Salt Lake City, UT</td>
</tr>
<tr>
<td>2010-present</td>
<td>Associate Director, Center for Clinical and Translational Studies</td>
<td>University of Utah Health Sciences Center, Salt Lake City, UT</td>
</tr>
<tr>
<td>2011-2014</td>
<td>Interim Director, Program in Personalized Health Care</td>
<td>University of Utah Health Sciences Center, Salt Lake City, Utah</td>
</tr>
<tr>
<td>2012-2016</td>
<td>Co-Director, Clinical Genetics Institute, Intermountain Healthcare</td>
<td>Salt Lake City, UT</td>
</tr>
<tr>
<td>2015-2019</td>
<td>Internal Research Advisory Committee, Intermountain Healthcare</td>
<td>Salt Lake City, UT</td>
</tr>
</tbody>
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**Other Experience and Professional Memberships**

<table>
<thead>
<tr>
<th>Year</th>
<th>Activity Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-2015</td>
<td>NIH DSMBs (NIHCR - OPT and MOTOR Trials; NICHD - PASS and OPRU Networks)</td>
</tr>
<tr>
<td>2006-2012</td>
<td>NIH Obstetrics and Maternal-Fetal Biology Study Section (Chair, 2009 - 2012)</td>
</tr>
<tr>
<td>2011-2015</td>
<td>March of Dimes Pregnancy Research Initiative Study Section</td>
</tr>
<tr>
<td>2013-2017</td>
<td>NIH Infectious Disease, Reproductive Health, and Asthma/Pulmonary Conditions Study Section (IRAP) – permanent member.</td>
</tr>
</tbody>
</table>

**Honors**

2006
Martha Hughes Cannon Award, Utah Department of Health, Distinguished Achievement in Maternal and Child Health.

2011-2020
HA and Edna Benning Endowed Presidential Professor of Obstetrics and Gynecology (time-limited). Benning Society Chair, 2015-2020.

2015
Utah Chapter March of Dimes Physician of the Year Award

2020
Sigma Xi Scientific Research Honor Society (full member)

2020
University Distinguished Professor, University of Utah

C. Contributions to Science (selected from over 440 publications, >21,000 citations. H-index = 72)

1. My early research addressed problems that I encountered in clinical practice. Most were retrospective or prospective cohorts but a number have been frequently cited and have changed practice patterns:
   - Rosenblatt Prize, University of Utah, Faculty Career Excellence in Teaching, Research and Administrative Efforts – Shared with Kathleen Digre MD.
   - Utah Chapter March of Dimes Physician of the Year Award
   - Sigma Xi Scientific Research Honor Society (full member)
   - University Distinguished Professor, University of Utah

2. For the past 25 years I have actively collaborated in multicenter prospective clinical trials and have actively participated in protocol design, patient recruitment, and analysis of results. These skills would be particularly relevant to the current proposal:

3. I have had a long-term interest in the intergenerational predisposition to obstetric complications. These papers confirm that such predispositions exist and that I (and usually with one or more mentees) have successfully utilized the UPDB.

4. The UPDB also provides unique opportunity to evaluate the long-term impact of pregnancy complications. We are currently also using the UPDB to investigate associations of pregnancy complications with subsequent age-related macular degeneration and Alzheimer’s disease.


D. Additional Information: Research Support and/or Scholastic Performance

**Ongoing Research Support**

<table>
<thead>
<tr>
<th>Project ID</th>
<th>PD/PI</th>
<th>NIH/Institution</th>
<th>Grant Dates</th>
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<tbody>
<tr>
<td>5U10HD034208</td>
<td>Metz (PI)</td>
<td>NIH/Eunice Kennedy Shriver NICHD National Fetal Medicine Units Network</td>
<td>05/01/96-03/31/21</td>
</tr>
<tr>
<td>1UL1TR001067</td>
<td>Dere (PI)</td>
<td>National Center for Advancing Translational Sciences</td>
<td>09/26/13-02/28/23</td>
</tr>
<tr>
<td>1UO1HL120338</td>
<td>Tita (PI)</td>
<td>University of Alabama-Birmingham NIH/NHLBI Chronic Hypertension and Pregnancy (CHAP) - Clinical Coordinating Center</td>
<td>10/01/14–05/31/20</td>
</tr>
<tr>
<td>1K12HD085816</td>
<td>Silver (PI)</td>
<td>NIH/NICHD Utah Women's Reproductive Health Research Career Development Program</td>
<td>07/01/15-06/30/20</td>
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<tr>
<td>1K12HD085852</td>
<td>Varner (PI)</td>
<td>NIH/NICHD Utah Building Interdisciplinary Research Careers in Women's Health Career Development Program</td>
<td>09/30/15-09/29/20</td>
</tr>
<tr>
<td>R01 HL098354</td>
<td>Thom (PI)</td>
<td>National Institutes of Health Pulmonary Complications in a Birth Cohort after a Randomized Trial of Exposure to Antenatal Corticosteroids</td>
<td>09/06/16-07/31/20</td>
</tr>
</tbody>
</table>

The major goal of these projects is to investigate problems in clinical obstetrics: particularly those related to prevention of low birth weight, prematurity, and medical problems in pregnancy.

Role: Alternative PI. (After serving as PI for 23+ years I transferred PI status to Dr. Metz in 2019)

Role: Associate Director

The University of Utah's Center for Clinical and Translational Science (CCTS) provides support for all aspects of clinical and translational research, from basic science investigation to studies on how to implement research findings in current clinical practice. The CCTS builds upon the university's historic strengths in genetics and bioinformatics and developing new approaches to the process of clinical trials and translational investigation. The CCTS aims to increase the quality, quantity, safety, efficiency and impact of translational research for all conditions, provide resources and services to support and speed clinical and translational research of all kinds, train, mentor and support the next generation of translational investigators to become principal investigators by offering courses leading to the degree of Master of Science in Clinical Investigation and supporting junior faculty through a KL2 program, and engage in a process of continuous evaluation, improvement and innovation in all of these areas.

Role: Site co-PI

The Chronic Hypertension and Pregnancy (CHAP) Project is a large pragmatic multi-center randomized trial designed primarily to evaluate the benefits and harms of antihypertensive therapy for mild chronic hypertension in pregnancy to a goal <140/90 mmHg (as recommended for the general population in the US) compared with ACOG’s current policy to withhold treatment unless hypertension is severe.

Role: Research Director

The Utah WRHR Program will prepare obstetrician-gynecologists to be leaders in women’s reproductive health research programs that can improve women’s health throughout the life cycle.

Role: PD/PI

The Utah BIRCWH Program will prepare basic, translational, and clinical research Scholars to lead research programs that can focus on outcomes in females (sex and/or gender) and that can improve women’s health throughout the life course.
the ALPS Follow-Up Study.
Role: Site PI, 10% Effort.

RO1-HD-088646) Katheria (PI) 04/01/17–03/31/22
NIH – NICHD
Premature Infants Receiving Cord Milking or Delayed Cord Clamping.
Role: Steering Committee Chair

Completed Research Support (within past 3 years):

HHSN275201500001C Johnstone (PI) 07/15-01/19
NIH/NICHD
Impact of Diet, Exercise and Lifestyle on Fertility: The IDEAL Fertility Study
The goal of the proposed study is to evaluate the impacts of modifiable lifestyle factors on fertility in the context of a couple-based approach across a spectrum of fertility and treatment. Female partners of FAZST participants provide a unique and valuable resource, bringing about an opportunity to follow a large, prospective cohort of women undergoing fertility treatment, while leveraging precious resources to create a rich data source for future studies. In the proposed IDEAL study, the contractor shall extend follow-up of approximately 1200 of the female FAZST participants to 12 months post randomization of the male partner and complete additional detailed assessments and biospecimens collection.
Role: Key Personnel

1P01HD080629- Nygaard (PI) 07/27/15-06/30/20
NIH/NICHD
Bridging physical and cultural determinants of postpartum pelvic floor support and symptoms following vaginal delivery – Clinical Coordination Core

The Clinical Coordination Core is designed to support the objectives of the Program Project, “Bridging physical and cultural determinants of postpartum pelvic floor support and symptoms following vaginal delivery”. The Clinical Coordination Core provides support to the investigators for Projects 1-3 in carrying out their project goals by managing participant recruitment, retention, tracking, scheduling and coordination, conducting training and certification of personnel, conducting regular data queries, and overseeing adherence to human subjects compliance guidelines.
Role: Clinical Core Director