WOMEN'S HEALTH AND HEALTH EQUITY RESEARCH

LECTURE AND SYMPOSIUM

KEYNOTE SPEAKER

ERICA E. MARSH, MD, MSCI, FACOG

THURSDAY, OCTOBER 8, 2020

VIRTUAL

7:00 a.m. - 9:45 a.m.

Welcome to the Women's Health and Health Equity Research Lecture and Symposium!

WebEx Information

https://uwmadison.webex.com/uwmadison/j.php?MTID=m81be11c8f804824b17bb7d057096c663
Meeting number: 120 309 4827
Meeting password: symp100820 (79671008 from phones)

Join by phone:
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Access Code: 120 309 4827

Schedule

7:00	**Welcome** Laurel W. Rice, MD
7:00-8:00	**Keynote by Erica E. Marsh, MD, MSCI, FACOG** *Ministration without Representation: The Essential Roles of Inclusion and Voice in Creating Health Equity*
8:00-8:45	**Christine Piette Durrance, PhD** *New Evidence on the Relationship between Substance Use Policies and Neonatal Abstinence Syndrome*
8:45-9:15	**Leigh Senderowicz, ScD, MPH** *Taking the population control out of family planning measurement (and measuring autonomy instead)*
9:15-9:35	**Ryan Spencer, MD, MS, FACOG** *Disparities in GYN Cancer Research: Maybe Not on Purpose, but Definitely not an Accident*
9:35-9:45	**Announcement of Poster Awards and Closing Remarks** Gloria E. Sarto, MD, PhD

Dr. Erica Marsh is the S. Jan Behrman Collegiate Professor of Reproductive Medicine at the University of Michigan Medical School and Chief of the Division of Reproductive Endocrinology and Infertility in the Department of OBGYN. She is the Founder and Director of the onWHARD Women's Health and Reproductive Disparities Collaborative, a group committed to advancing reproductive health through meaningful research, empowering education, and committed advocacy. She is also the Director of Community Engagement for the Michigan Institute for Clinical and Health Research (NIH-funded CTSA program) at UM.

Dr. Marsh graduated *magna cum laude* from Harvard College and *cum laude* from Harvard Medical School. She completed her residency at the Integrated OBGYN Residency at the Brigham and Women's Hospital and Massachusetts General Hospital followed by a Reproductive Endocrinology and Infertility fellowship at Northwestern University. She also earned a Master of Science in Clinical Investigation from Northwestern. After completing fellowship in 2008, Dr. Marsh joined the faculty at Northwestern's Feinberg School of Medicine. In 2016, Dr. Marsh joined the faculty at UM.

Dr. Marsh has received millions of dollars in funding to support her research and has published significantly in the area of fibroids, patient perspectives, and health disparities in reproductive health. Her work is currently funded by the NICHD, NIMHD, and PCORI. In recognition of her work, she has been inducted into the American Society for Clinical Investigation and the American Gynecological and Obstetrical Society.

Dr. Marsh's research area of interest is comparative reproductive health across populations. Her focus is on developing a holistic understanding of uterine fibroids, abnormal uterine bleeding, and ovarian reserve. To that end, her research examines the pathophysiology, clinical impact, and related social determinants of these conditions while investigating patient experiences and how symptoms, diagnoses, and treatments affect larger communities. In 2015, she received the Ira and Esther Rosenwaks New Investigator Award from the American Society of Reproductive Medicine in recognition of her work.

Dr. Marsh is a committed community advocate, scientific mentor, and proponent of community-based participatory research. She actively builds partnerships to develop relevant research agendas with diverse teams inclusive of community members and organizations, faculty colleagues, fellows, residents, and students to

conduct socially-meaningful research and support positive research experiences. While at Northwestern, she founded and directed the Northwestern Medicine Scholars Program, a high school pipeline program that was recognized by the AAMC. She also served as a Director to the Cook County Board of Health and Hospital Services. For these efforts, she was named the 2012 Community Health Volunteer Specialist of the Year Award and was awarded the 2013 Chicago Urban League STEM Innovator Award, the 2013 Northwestern Medical Faculty Foundation Physician Community Service Excellence Award, the 2013 Martin Luther King Jr. Humanitarian Award from Northwestern Memorial Hospital. Ultimately, Dr. Green aims to move the conversation about maternal and child health disparities forward by integrating scientific insights from multiple disciplines with a commitment to knowledge dissemination.

Presentation Title: Ministration without Representation: The Essential Roles of Inclusion and Voice in Creating Health Equity

Abstract: Using the example of uterine fibroids, benign tumors of the uterus that are the leading cause of hysterectomy in the United States, we will review the importance of diverse women being present and represented in the medical literature both as groups of identity and as individuals. We will discuss the concept of patient centeredness as an indicator of health care quality and confirm the centrality of the patient identity and voice in creating a just, equitable, health system.

Dr. Christine Piette Durrance is an economist and Associate Professor in the La Follette School of Public Affairs at the University of Wisconsin-Madison. She joined UW in 2020 as part of a cluster hire in Reproductive Health, and is the research co-lead for CORE (Collaborative for Reproductive Equity). She is also a faculty affiliate with the UW Prevention Research Center. For the past 13 years, she served on the faculty of the Department of Public Policy at the University of North Carolina - Chapel Hill. Her research interests are concentrated in health economics and policy, with particular focus on maternal, infant, and reproductive health; risky behavior (e.g., substance use and violence); and the legal and policy environment. She has studied questions related to contraception, bed rest during pregnancy, Cesarean Sections and Vaginal Births After Cesarean, and others. More recently, she has combined her interests in reproductive health and substance use, and has a series of projects analyzing the effects of prenatal substance use policies on maternal and infant outcomes. Her research has been published in numerous peer-reviewed journals, including *Health Affairs*, *Health Services Research*, *JAMA Pediatrics, and American Journal of Health Economics*.

Presentation Title: New Evidence on the Relationship between Substance Use Policies and Neonatal Abstinence Syndrome

Abstract: The US is experiencing a complex substance abuse crisis. Not only has opioid overdose mortality increased sharply, by 400 percent from 1999 to 2017, but opioid use during pregnancy contributed to a 300 percent increase from 1999 to 2013 in neonatal abstinence syndrome (NAS)—a postnatal drug withdrawal syndrome in infants that is identified at birth. States have adopted myriad policy approaches to combat the opioid crisis and its consequences, and some states have adopted punitive policies toward prenatal substance use. Specifically, some states equate substance use during pregnancy to child abuse, which can lead to the removal of the child from the home or can be grounds for the termination of parental rights. Opponents cite concerns about negatively impacting the physician/patient relationship. The American College of Obstetricians and Gynecologists (ACOG) and other organizations recommend against the use of punitive prenatal substance use policies and instead, recommend education, prevention, and community-based treatment. Prior work has shown that punitive prenatal substance use policies are not effective in reducing the rate of NAS or maternal narcotic exposure at birth, but may deter women from seeking substance use treatment during pregnancy. This study extends this prior work and analyzes the incidence of NAS by important characteristics such as insurance payor, urbanicity, income, and the severity (cost and length of stay). We consider this research question using data from the State Inpatient Databases (SID) of the Healthcare Cost and Utilization Project (HCUP) and a difference-in-difference fixed effects methodology.

Dr. Leigh Senderowicz is a public health researcher and social demographer focusing on global sexual and reproductive health and rights. Her mixed-methods research focuses on reproductive autonomy, exploring the ways that new approaches to measurement and evaluation can promote person-centered care, health equity and reproductive freedom. Dr. Senderowicz is currently an NICHD postdoctoral fellow in the Health Disparities Research Scholars program at the University of Wisconsin-Madison. In 2019, she earned her doctorate in Global Health and Population at the Harvard T.H. Chan School of Public Health.

Presentation Title: Taking the population control out of family planning measurement (and measuring autonomy instead)

Abstract: Though increased attention to quality and rights-based family planning in recent years, these concepts have been difficult to measure. Perhaps due to an intellectual history intertwined with population control, most family planning programs today uses contraceptive use/uptake as primary markers of success, with numerical targets for new contraceptive users set throughout the world. Existing family planning modes of measurement can create perverse incentives for providers and programs to meet contraceptive uptake targets at the expense of person-centered care. This talk will propose a working definition and detailed description of a new construct called "contraceptive autonomy" followed by a methodology for operationalizing and measuring this novel concept. Aiming to increase contraceptive autonomy rather than contraceptive use/uptake could help reduce or eliminate some common forms of contraceptive coercion and shift incentives for family planning programs, as measurement is realigned with the central focus on rights-based and patient-centered care.

Dr. Ryan Spencer is the Residency Program Director and the associate Fellowship Program Director for Gynecologic Oncology. He completed his residency at the Brigham and Women's Hospital and Massachusetts General Hospital in 2012. He finished his Gynecologic Oncology fellowship in 2015 at the University of Wisconsin. He has numerous publications and presentations on topics ranging from funding disparities in gynecologic cancers, health care disparities and improvement in quality of care, and quality of life interventions for cancer patients. He serves on the SGO's Legislative and Regulatory Task Force and as an SGO Congressional Ambassador, in addition to other committee appointments at UW, ACOG and CREOG.

Presentation Title: Disparities in GYN Cancer Research: Maybe Not on Purpose, but Definitely not an Accident

Abstract: White people have been the predominant group recruited and enrolled for clinical trials. Despite specific efforts to increase diversity in clinical trials, disparities continue to exist in GYN Cancer research. GYN cancers, in general, receive less funding than other cancers both for clinical trials and for research training programs. We will explore these disparities and how we can turn knowing about them into action.

POSTER ABSTRACTS

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https://www.obgyn.wisc.edu/womens-health-symposium

Agonist-dependent effects on sustained Ca2+ signaling in Human Umbilical Vein Endothelial Cells

Author: Carly Albright

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Abstract: Preeclampsia (PE) is a condition that complicates 6-8% of pregnancies, leading to hypertension and other symptoms that can harm mother and baby. In PE pregnancies, endothelial dysfunction hinders the mobilization of Ca2+, blunting the production of Nitric Oxide (NO). In this study, we examine how certain dilatory agents will affect the Ca2+ response in human umbilical vein endothelial cells (HUVEC) using a plate reader assay. HUVECs were pretreated with TPA, U-73122, 2-APB, or Krebs buffer. 2-APB, TPA, and U-73122 each inhibit the Ca2+ response through a different mechanism of action. The experimental agonists include ATP, Histamine, Carbachol, and Bradykinin. It was observed that the agonist Histamine produced the greatest Ca2+ response in HUVEC, but it seemed to inhibit its own response during the sustained phase. ATP also displayed a large Ca2+ response in HUVEC. Bradykinin and Carbachol reacted similarly, both displaying a diminished Ca2+ response compared to ATP and Histamine. It has been concluded that Histamine is the best agonist for stimulating a large Ca2+ response in HUVEC. But, Bradykinin or Carbachol may be well suited as screening agents for future studies. The ability to compare distinct agonists may identify new mechanistic targets for future therapies that promote healthy pregnancies.

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Unhappily Pregnant in the Pandemic: The Effects of COVID-19 on Wait Times and Abortion Services for Wisconsin Residents Compared to Bordering States

Authors: Barbara A. Alvarez, MS and Jenny A. Higgins, PhD, MPH

Corresponding Author: Barbara A. Alvarez, MS, baalvarez@wisc.edu

Objectives: To track how COVID-19 impacted wait times and other aspects of abortion healthcare in Wisconsin compared to bordering states with varying state-level restrictions.

Methods: From March 25 until June 17, 2020, investigators posing as 8-weeks-pregnant clients made weekly mystery calls to 29 abortion clinics in Wisconsin, Illinois, Iowa, Minnesota, and upper Michigan to determine wait times and COVID-related changes to abortion services.

Results: We found several ways that COVID's influence on abortion services in Wisconsin was conditioned by current state restrictions—especially the two-visit, 24-hour-waiting-period mandates and the ban on telemedicine for medication abortion services. For example, Iowa healthcare centers consistently recommended medication abortion by way of telemedicine because it reduced contact, but Wisconsin clinics could not offer patients this option. Average wait times were often longer and more confusing in Wisconsin, where callers could only get firm dates for the first, mandated in-person counseling visit —but not for the abortion appointment itself. Clinics in other states were often able to schedule patients sooner, with at least one less visit.

Conclusion: Amidst the COVID pandemic, Wisconsin residents were unable to access in-state telemedicine abortion services that could have made mandated abortion counseling safer and medication abortion more accessible.

Insurance Coverage and NIPT: Implications for Health Equity

Authors: Megan E. Benoy, MGCS; J. Igor Iruretagoyena, MD; Laura E. Birkeland, MS; Elizabeth M. Petty, MD

Corresponding Author: Megan E. Benoy, MGCS, mbenoy2@uwhealth.org

Abstract: NIPT in low risk (LR) women is typically covered by public insurance. NIPT in LR women with private insurance is typically not covered. This study determined whether a difference existed in NIPT uptake given insurance type in LR pregnant women. It also explored genetic counselor perspectives on how insurance coverage for NIPT is addressed with patients. A retrospective chart review of 1006 patients who received first trimester ultrasound with genetic counseling was performed. An odds ratio was performed to determine the difference in NIPT uptake based on insurance type. A survey was also sent to prenatal genetic counselors in Wisconsin. LR women with public insurance were 3.43x more likely to have NIPT than LR women with private insurance, indicating that insurance coverage may present a barrier to care. Additionally, there was no evidence that different demographic variables interact after the allowance was made for insurance type ($X^2_{14}=14.301$, $p=0.428$) Survey data suggests that more genetic counselors would recommend NIPT to patients if insurance coverage was not a barrier. Some women cannot choose the prenatal aneuploidy screening test of their choice when given the option due to financial barriers put into place by the lack of insurance coverage to pay NIPT.

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No Difference in Breastfeeding Rates in Women with Polycystic Ovary Syndrome (PCOS)

Authors: Leeann Bui, BA; Jen Birstler, MS; Laura G. Cooney, MD

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Objective: To evaluate if women with PCOS were less likely to initiate breastfeeding (BF).

Study Design: Cross-sectional analysis of participants in the Pregnancy Risk Assessment Monitoring System dataset sent to mothers 2-9 months after delivery. Logistic regression was used to assess odds of ever BF. Length of BF was assessed using Cox proportional hazards.

Results: Data from 16,036 participants were included which represents 855,302 women due to sample weights. 6.8% reported having PCOS and 96.7% reported ever BF. Compared to women with a normal BMI, women who were overweight or obese had decreased odds of BF (OR:0.7, 95% CI:0.6–0.9, P=0.01; OR:0.6, 95% CI:0.5-0.7, P<0.001); however, PCOS was not associated with decreased BF (OR: 1.1, 95% CI: 0.9-1.3, P=0.6). In multivariate analysis, women with PCOS still were at no decreased odds (ORadj:1.1; 95% CI:0.8-1.4; P=0.6). In multivariable Cox models, women with PCOS did not have a shorter length of BF (HRadj:0.9, 95% CI:0.8-1.1, P=0.3).

Conclusion: In this national survey, women with PCOS were at no decreased odds of BF, despite confirming the association between overweight/obesity and decreased BF. However, our data still supports carefully targeting women with PCOS for BF education due to the association of PCOS with increased BMI.

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A Rose by Any Other Name May Not Be As Sweet: Use of Descriptors in Ob/Gyn Grand Rounds Introductions

Authors: Emily M. Buttigieg, MD; Melissa F. Meyer, MD; Renee T. Sullender, MD, MPH; Zachary R. Dunton, BS; Amy Godecker, PhD, MS; Narjust Duma, MD; Sarah M. Temkin, MD; Christine A. Heisler, MD, MS

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Objective: To assess gendered language during grand rounds introductions in the women-majority field of Ob/Gyn.

Methods: This study was a planned secondary analysis of an IRB-exempt retrospective cohort study of 62 Ob/Gyn grand rounds introductions at a single academic center from December 2016 to February 2020. Introducers' use of descriptors were abstracted and classified as professional verses personal and gendered verses gender-neutral. Statistical analyses included Fisher's exact test and Student's t-test. Statistical significance was $p<0.05$.

Results: Women comprised the majority of introducers (n=53, 85%) and presenters (n=42, 68%). Men presenters tended to receive more descriptors than women (2.7 vs 1.9, p=0.059) and more men presenters than women received any personal descriptors (60% vs. 33%, p=0.058), including female-gendered personal descriptors (25% vs. 2%, p=.011), when being introduced. The professional descriptor "productivity" was more commonly used by men introducers (56% vs. 15%, p=0.015).

Conclusion: While the majority of descriptors used did not show a statistically significant difference between male verses female presenters, those that did related to productivity and personal characteristics. These differences may contribute to a perception of gender-bias where men presenters are introduced with an emphasis on their likability and accomplishments.

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County-level HPV vaccination rates and Title X clinic closures in Wisconsin

Authors: Lindsay M. Cannon and Emma Romell

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Abstract: Family planning clinic closures resulting from reproductive healthcare restrictions can negatively impact women's health by limiting access to preventive and diagnostic services. Previous research demonstrates the effects of early clinic closures on preventive care and the impact of recent closures on birth and abortion rates. However, no research evaluates how Title X clinic closures in Wisconsin in 2013 and 2014 affect preventive care related to cervical cancer. Using 2010-2017 county-level data from the Wisconsin Department of Health Services, we investigate how rates of vaccination against human papilloma virus (HPV), the leading cause of cervical cancer, changed in relation to clinic closures. We find that county-level increases in distance to the nearest Title X clinic are significantly negatively associated with county-level rates of HPV vaccination *initiation* among girls aged 13-18. However, increases in distance to the nearest clinic are not associated with changes in county-level HPV vaccination *completion* rates.

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Community, Support, and Anonymity: Investigating Medication Abortion Decision-Making using Reddit

Authors: Emma Carpenter, PhD, MSW; Taryn Valley; Natalie Weill, RN, MPA; Jenny Higgins, PhD, MPH; Laura Jacques, MD

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Objective: Reddit is the seventh most visited website worldwide. Given abortion access limitations and high levels of abortion stigma, individuals may turn to this anonymous resource for information and social support. Our group aims to understand decision-making and barriers around medication abortion. Anonymous online data can help us understand individuals' decision-making, experiences seeking abortion, and method preferences.

Study Design: Investigators web-scraped recent Reddit posts mentioning medication abortion on a forum (subreddit) dedicated to discussing abortion. Content analysis investigated factors influencing medication (versus surgical) abortion decisions, as well as how virtual communities impact abortion experiences. Investigators used a combined deductive/inductive analytic approach to establish themes.

Results: 250 users posted detailed descriptions of their abortion experiences, specifically citing desire to help other users. Some people described medication abortion as their first choice method for a variety of reasons, whereas others felt back-ended into this modality due to barriers such as lack of appointment availability and other access restrictions. Posters reported diverse personal preferences around pain tolerance, privacy, and (lack of) support.

Conclusions: Reddit posts provide valuable insights into medication abortion decision-making and barriers to preferred abortion method. Abortion-related discussions on Reddit allow those seeking abortion to distribute knowledge, support, and resources.

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Disparities Unmasked: COVID-19, Gender, and Equity for All

Authors: Samantha Crowley; Alyssa Bokotey; Talia Tao; Elias Tsarovsky; Paige Hardy; Lori DiPrete Brown

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Abstract: The direct and indirect impacts of COVID-19 pandemic have had differential impacts on men and women in the United States and around the world. While men are more likely to experience severe symptoms if they contract COVID-19, women are more likely to experience the social and economic hardships associated with the pandemic. Those with multiple marginalized identities related to race, socioeconomic status, sexuality, ability, and gender identity are at magnified risk of these harms.

In addition, the COVID-19 pandemic has exacerbated barriers to healthcare due to safety and exposure concerns, appointment availability, and loss of insurance. This has led to difficulty in accessing contraception, abortion, and other time-sensitive care. In addition to the impacts on reproductive health, delays in care for chronic conditions, mental health, pain management, and preventative health services may lead to secondary health consequences for women as a result of the pandemic.

Healthcare professionals have an ethical duty to advocate for policies that will alleviate health disparities caused by gender inequality. A call to action with recommendations and resources for this advocacy is included.

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Who testifies? Characteristics of experts who speak on abortion-related bills in Wisconsin

Authors: Rachel L. Dyer; Alisa Von Hagel; Daniela Mansbach

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Abstract: From 1973-2017, 1,193 abortion restrictions were passed at the state level, including in Wisconsin. Many of these laws were enacted with minimal, if any, input from medical experts. Often, interest groups use their own expert-activists to promote legislation that counters scientific consensus and sound medical practice.

Given this, our current study examines the characteristics of medical experts who testified in legislative committee hearings on abortion-related bills in Wisconsin between 1995-2019 to better understand how effective testimony grounded in science can be provided.

We collected and reviewed publicly available hearing statements to define the variables of interest. Iterative content analysis was conducted by two coders. The first author used R Version 3.6.0 to generate descriptive statistics.

277 experts who provided testimony between 1997-2019 were included in analyses. A plurality of the sample (46.6%) had expertise in activism with 66.7% of activists leaning pro-life. Despite the healthcare aspect inherent in abortion-related bills, only 39.7% of the sample had medical expertise; of those, only 39.1% had expertise in reproductive health.

Given ongoing efforts to restrict abortion, we must work to encourage and equip reproductive health medical experts to provide testimony on these bills – rather than leaving it to interest group expert-activists.

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The Impact of Post-Operative Complications (Clavien-Dindo classification Grade-3 and Higher) on Long Term Oncology Outcomes in Patients with Ovarian Cancer

Authors: Brenna Funfar; Steven Hesse; Megan Gokey; Nina Mirabadi; Dandi Huang, MD; Ahmed Al-Niaimi, MD

Corresponding Author: Brenna Funfar, funfar@wisc.edu

Objectives: Post-operative complications can be captured by the Clavien-Dindo (C-D) classification where each organ-system complication is graded on a scale of 1 to 5. Our objective is to validate the C-D classification system in ovarian cancer and its impact on long-term oncology outcomes.

Study Design: Data from 491 ovarian cancer patients (284 with PCS and 207 with NAT-ICS), extending from 2008 – 2018 were analyzed in two groups: patients with C-D Grade 3 and higher vs Grade 2 and higher. Outcomes were Progression Free Interval (PFI) and Overall Survival (OS). We used unpaired t-tests.

Results: In our analysis, 26/491 (5.3%) patients with C-D G3 and higher had post-op complications. Those patients had lower PFI (18.1 months) compared to patients without any complications (21.1 months) $p< 0.001$. A similar impact in OS is seen, p value =0.002. When the C-D classification included grade 2 and higher, the number of patients with complications were 301/491 (61%) but the impact on PFI and OS is no longer significant, 0.96.

Conclusion: Patients with serious Clavien-Dindo Grade 3 and higher post-op complications had a negative impact on PFI and OS. While C-D Grade 2 complications were very common and not impactful on patient's survival.

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The Role of mTOR and PI3K in Anal Cancer Prevention in Mice

Authors: Laura Gunder; Tyra Moyer; Andrew Auyeung; Micheal Bean; Jacki Chang; Margaret Finlay; Maggie Keating; Evie Carchman

Corresponding Author: Laura Gunder, gunderl@surgery.wisc.edu

Background: Anogenital cancers are often caused by HPV. HPV-associated carcinogenesis is regulated by mTOR/PI3K pathways. Here we evaluate whether mTOR or PI3K inhibition is necessary for HPV anal cancer prevention.

Methods: Mice expressing HPV-16 oncoproteins were used. Our previous work shows increasing grades of dysplasia with age (normal, low, and high). Mice were treated locally at the anus with topical 7,12-Dimethylbenz[a]anthracene (DMBA) to promote carcinoma development. Topical drugs, Sapansertib (TAK), a mTOR inhibitor, and Pictilisib (GDC), a PI3K inhibitor, were used. Mice were randomized into groups: control, DMBA, TAK, DMBA+TAK, GDC, DMBA+GDC. Fischer's two-sided exact t-test was used to evaluate tumor development.

Results: Neither control or TAK/GDC alone mice developed tumors. For mice starting with normal histology, 100% (27/27) of DMBA only, 100% (24/24) of GDC+DMBA and 40% (6/15) of TAK+DMBA mice developed tumors (p-value<0.05). For mice starting with low-grade dysplasia, 100% (16/16) of DMBA alone, 75% (15/20) of GDC+DMBA (p-value$=0.053$) and 40% (8/18) of TAK+DMBA mice developed tumors (p-value<0.05). For mice starting with high-grade dysplasia, 67% (12/18) of DMBA, 86% (19/22) of GDC+DMBA (p-value$= 0.25$) and 19% (3/16) of TAK+DMBA mice developed tumors (p-value<0.05).

Conclusions: Topical mTOR inhibition decreases HPV anal cancer development regardless of starting histology.

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Provider Perspectives: Abortion Exceptionalism and the Compound Negative Effects of Medication Abortion Legislation on Patients in Wisconsin

Authors: Corinne Hale; Taryn Valley; Laura Jacques, MD; Jenny A. Higgins, PhD, MPH

Corresponding Author: Jenny A. Higgins, PhD, MPH, jenny.a.higgins@wisc.edu

Objective: To assess the effects of Wisconsin's medication abortion polices, implemented in 2013, on patient care and service delivery.

Study Design: Investigators conducted semi-structured interviews with 20 physicians and registered nurses who provide or have provided medication abortion services in Wisconsin.

Results: Descriptive qualitative analyses of interview memos and transcripts revealed three broad themes. First, providers underscored <abortion exceptionalism>: due to stigma and politicization, abortion is treated vastly differently than other healthcare services (for example, "you don't need a 24-hour waiting period to get a vasectomy"). Second, interviewees argued that Wisconsin's 2013 medication abortion policies were <not evidence-based>, offered no medical benefits to patients, and delayed patient care. Finally, providers highlighted the <compound effect> of restrictions. Medication abortion legislation works in tandem with other factors, such as insurance coverage restrictions, limited numbers of abortion clinics and providers, and social stigma and protestor intimidation, to create an inaccessible abortion landscape, particularly for the most socially vulnerable patients in Wisconsin.

Conclusion: Physicians and nurses reported that Wisconsin medication abortion policies implemented in 2013 did not improve patient care, but rather perpetuated abortion stigma, mandated onerous and unnecessary delays in care, and further strained already limited patient and healthcare resources.

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Development of a culturally responsive questionnaire to assess determinants of triple negative breast cancer in Nepalese women

Authors: Rose Hennessy Garza, PhD, MPH; Rubina Chhantel, RN, MPH; Gaëlle Sehi, MPH Candidate, Keith A. Dookeran, MD, PhD

Corresponding Author: Rose Hennessy Garza, PhD, MPH, rhennessy2@wisc.edu

Objective: To create a culturally responsive questionnaire to understand why Nepalese women may have some of the highest rates of triple negative breast cancer (TNBC) worldwide.

Study Design: An international team gathered existing survey tools to measure socioeconomic, comorbid, anthropomorphic, environmental, and reproductive factors that may contribute to TNBC. Many of these tools are western-centric, and required tailoring to the Nepalese context.

Results: A novel 30-page questionnaire was collaboratively developed from previous research with particular attention to culture and context for use within a case-control design. The poster highlights the development of culturally-specific questions regarding caste, marriage practices, unique environmental challenges, and the Nepalese calendar.

Conclusions: Cultural considerations in data collection require proactive attention among researchers. International research collaborations demonstrate that, "we all work together" to create data collection instruments that are most likely to elicit data that best represents diverse communities. In this study, valid data collection is more likely to detect risk factors for future intervention to decrease the most lethal subtypes of breast cancer in Nepalese women and, subsequently, decrease health disparities.

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The Association between High School Cutting Policy and School Size with Sport Specialization Status and Multisport Participation

Authors: Mayrena I. Hernandez; Kevin M. Biese; Daniel A. Schaefer II; Tim McGuine; M. Alison Brook; Stephanie Kliethermes; Drew Watson; Pamela J. Lang; David R. Bell

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Objective: The purpose of this study was to determine whether cutting policy is associated with school size, sport specialization and sport participation behaviors in female high school volleyball athletes.

Study Design: Sport participation cross sectional survey (2018-2019). Female high school volleyball players (n=2,216, age 15.6±1.1 years). 83 Wisconsin high schools' size: student enrollment. Cutting policy: cutting at all levels or no cutting. Multisport: more than one sport. Frequency and proportions (%). Chi-square tests calculated between schools and sport participation habits.

Results: Specialization level was associated with school cutting ($p<0.001$). Of schools that cut, 62.6% were highly specialized while a majority of low specialization attended school with no cutting (62.1%). Club volleyball was associated with cutting ($p<0.001$). Non-club athletes attended schools with no cutting (61.6%), club athletes attended schools that cut (56.7%). Multisport status was associated with cutting ($p<0.001$). Schools that cut, 53.5% were volleyball only athletes. School size was associated with cutting ($p<0.001$). 91.7% of small schools had no cutting compared to large high schools that cut (76.2%).

Conclusions: Cutting policies may influence sport participation habits and sport specialization rates. Schools should investigate programs and policies that uphold their competitive nature without limiting the participation of athletes at all levels.

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Delayed Chemo Initiation After Primary Cytoreductive Surgery for Ovarian Cancer: How Common and Why?

Authors: Steven Hesse; Brenna Funfar; Megan Gokey; Nina Mirabadi; Dandi Huang, MD; Ahmed Al-Niaimi, MD

Corresponding Author: Steven Hesse, sphesse@wisc.edu

Objectives: Chemotherapy initiation after 28 days from Primary Cytoreductive Surgery (PCS) for ovarian cancer is associated with poor oncology outcome. Our objectives were: the prevalence and reason for delayed chemotherapy initiation after PCS at UW and the impact of such delay on PFI and OS.

Study Design: We analyzed 284 patients with advanced epithelial ovarian cancer who had undergone PCS extending from 2008-2018. Descriptive analysis and t-test were used.

Results: Overall, the average time until chemotherapy initiation was 36.4 days. Patients delayed beyond 28 days were 178/284 (62.4%), average delay was 45.2 days compared to 95/284 (33.4%) initiated chemotherapy within 28 days, average 21.8 days.

Scheduling issues were the main cause for chemotherapy delay, 59/284 (62%). Post-operative complications caused the largest delay, 57 days on average.

Patients delayed for post-operative surgical complications had a PFI of 17.5 months compared to 23.1 months with patients without surgical complications ($p=0.046$), this impact was not seen on OS (28.5 months vs 31.9 months $p=0.49$).

Conclusion: Delay of chemotherapy initiation after PCS for ovarian cancer at UW is very common, with a noticeable negative impact on survival. With the majority of delay in chemotherapy related to scheduling, a quality improvement project is needed.

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The Silent Majority: Physicians' Knowledge of and Attitudes toward Restrictive Abortion Policies in Battleground Wisconsin

Authors: Jenny A. Higgins, PhD, MPH; Nicholas B. Schmuhl, PhD; Cynthie K. Wautlet, MD, MPH; Laurel W. Rice, MD

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Objectives: To canvass physician faculty members regarding abortion policies and their implications for healthcare provision and patient wellbeing.

Study Design: Using strategies to maximize participation, we surveyed all clinical faculty at the Wisconsin School of Medicine and Public Health. Items assessed knowledge of and attitudes toward abortion restrictions.

Results: 913 clinical faculty members completed the survey (response rate=67%). Virtually all (94%) provide care for women of reproductive age. Physician knowledge of abortion policy was poor: only 26% knew that state law forbids abortion provision at UW Health, and only 16% were familiar with Wisconsin's abortion trigger law. However, doctors reported widespread concern that abortion restrictions negatively affect patients, providers, and institutions. For example, 91% said that women's healthcare in Wisconsin would get worse if Roe v. Wade were overturned. Essentially all (99%) were worried about legislative interference in the doctor-patient relationship. Finally, most reported that restrictive abortion policies make it difficult to recruit faculty and trainees (83% and 66%, respectively).

Conclusions: In a landscape with many abortion restrictions, physicians across medical specialties at our state's largest medical school expressed overwhelming concern about the effects of abortion restrictions on women's health, the provider-patient relationship, and the reputation of their institution.

View Poster

Examining the joint effect of race and neighborhood socioeconomic disadvantage on adverse obstetric outcomes: retrospective cohort study

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Objective: To assess the joint relationship between race/ethnicity and neighborhood disadvantage on obstetric outcomes at a single academic institution, situated in a Midwestern city with high economic-segregation.

Study Design: A retrospective cohort study of births at a single academic institution from 2016-2018 (n=10,442). Birth record data (preterm, LBW), and ICD-9 codes (hypertensive-disorders) were geocoded and linked to census-block group ADI. The relationship between race/ethnicity, ADI and outcomes were evaluated using multivariate logistic regression models.

Results: In models interacting race/ethnicity and ADI, racial/ethnic gaps vary greatly. At the lowest deprivation levels, compared to White women, Black (3.68 OR, $p<.001$) and Asian women (1.86 OR, $p<.05$) were at greater risk for LBW, whereas at the highest levels of deprivation the differences were not significant, and Latinx women exhibited some advantage. Similar patterns are observed for PTB, with Black women experiencing greater risk (1.9 OR, $p<.10$) at the lowest ADI, yet no increased risk at high ADI. Hypertensive disorders were greater among Black and White women at all levels of ADI, compared to Asian and Latinx women.

Conclusions: Racial/ethnic disparities in health are context dependent and should be examined in relation to neighborhood characteristics, perhaps allowing for better-tailored and targeted interventions.

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Prenatal Care Experiences Among Pregnant Women with Obesity: A Qualitative Quality Improvement Assessment

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Background: Stigma and bias experienced while receiving prenatal care has the potential to affect quality of care and, ultimately, the health of pregnant women with obesity and their infants. This project sought to better understand the bias and the stigma that women with obesity experience while receiving prenatal care, and inform health care providers about women's preferences regarding prenatal education about obesity and weight-related terminology.

Methods: We conducted and thematically content-analyzed 30 semi-structured interviews of women who received prenatal care while having obesity.

Results: All women recalled some positive experiences during which they felt listened to and respected by providers. However, many described a fear of weigh-related bias or recalled weight-based discrimination. Women reacted favorably to a proposed group prenatal care option for women with obesity that focused on nutrition, physical activity, and weight management. Women rated "weight" and "BMI" as the most desirable terms for describing weight, while "large size" and "obesity" were rated lowest.

Conclusion: Pregnant women with obesity experience bias in the prenatal care setting. Steps to begin eliminating such bias towards weight include provider awareness of the experiences and perspectives of this population, prenatal care options including group care, and the use of patient-preferred weight-related terminology.

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Machine learning predicts novel lipid markers of the metabolic syndrome in black and white women in the USA

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Abstract: The metabolic syndrome (metS) leads to increased risk of type 2 diabetes and cardiovascular disease (CVD). Women with metS are at an over 2-fold higher risk for developing CVD than men with metS. MetS rates are similar for white and black women (~20%) yet black women have higher rates of diabetes and CVD. Hence, women, especially black women, are disproportionately affected by metS. Current metS risk factors are a poor prognostic for CVD in women. To improve metS detection in women, we analyzed data from the Midlife in the United States (MIDUS) study to identify novel lipid biomarkers of metS. Clinical data was collected according to MIDUS guidelines, 800+ lipids were quantified by Metabolon Inc., and data was analyzed in R. MetS prevalence was 40% in black and 20% in white women. Black women without diagnosed metS had a significantly higher waist circumference and blood pressure than white women without metS. There was a broad increase in circulating lipids during metS regardless of race. Using machine learning-built regressions, we identified 9 lipids in black and 32 in white women predictive of metS. Future studies will verify these findings with independent data from the Survey of the Health of Wisconsin cohort.

View Poster

Does penicillin allergy increase the risk of surgical site infection after cesarean?

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Objective: To examine the relationship between documented β-lactam allergy and cesarean delivery (CD) surgical site infection (SSI).

Study Design: Retrospective cohort analysis of women who underwent CD. The primary exposure was a documented ß-lactam allergy and the secondary exposure of interest was the type of perioperative antibiotic received. The primary outcome was the prevalence of SSI. Maternal characteristics were stratified by the presence or absence of a documented ß-lactam allergy. A logistic regression model estimated odds of SSI after adjusting for possible confounders.

Results: Of the 12,954 women included, 929 (7.17%) had a documented ß-lactam allergy while 12,025 (92.83%) did not. Among the 929 women with a ß-lactam allergy, 595 (64.05%) received non-β-lactam perioperative prophylaxis. SSI occurred in 38 (4.09%) of women who had a ß-lactam allergy versus 238 (1.98%) who did not ($p = <0.001$). ß-lactam allergy was associated with higher odds of SSI compared to no allergy (odds ratio [OR] = 1.93; 95% confidence interval [CI] = 1.21-3.06; $p = 0.005$) after controlling for confounding variables including the type of perioperative antibiotic received.

Conclusion: The presence of a β-lactam allergy is associated with increased odds of developing a CD SSI after controlling for possible confounders.

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Religious Restrictions on Reproductive Healthcare: Wisconsin Patient Preferences, Attitudes, and Expectations

Authors: Renee D. Kramer and Jenny A. Higgins, PhD, MPH

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Objective: To describe Wisconsin women's preferences, attitudes, and expectations regarding religious restrictions on reproductive healthcare.

Study Design: In October 2019-April 2020, we fielded a two-stage survey to Wisconsin women aged 18-45. We oversampled rural census tracts and the three rural counties served by Catholic "sole community hospitals" (Oneida/Vilas/ Forest). Our response rate was 82% (N=675). We conducted descriptive statistics and chi-squared analyses and weighted for sampling design, nonresponse, and population age and education.

Results: Thirty-nine percent of women who said they would go to a Catholic hospital for hospital-based reproductive care did not know it was a Catholic institution. The overwhelming majority (81%) wanted to know what services are restricted before they decide where to seek care. In a hospital they perceived as Catholic, two-thirds of women expected availability of several prohibited contraceptive methods. Misconceptions were especially common among women in rural communities ($p<.05$).

Conclusions: Many Wisconsin women were not aware of the religious affiliation of their Catholic hospital and expressed misconceptions about availability of services in Catholic hospitals, which may contribute to women's likelihood of being denied care. Urban-rural differences in expectations for services may increase existing geographic disparities in access to the full range of reproductive care.

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Gender Differences in the Relationship between Financial Stress and Metabolic Abnormalities

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Objectives: The study aims are to: (1) examine the association between financial stress and the prevalence of common metabolic abnormalities; and (2) test the association for gender differences.

Study Design: A cross-sectional secondary analysis was conducted using data from the Retirement and Sleep Trajectories (REST) study, an ancillary study of the Wisconsin Sleep Cohort (WSC) Study (N=457, mean age=64 years, 45% women). Composite Indicator Structural Equation Alpha Modeling with a stacking approach was applied in the data analysis.

Results: After controlling for covariates, higher levels of financial stress are associated with higher prevalence of abdominal obesity (Odds ratio [OR]=1.532, p=0.002), metabolic syndrome (OR=1.643, p<0.001), and dyslipidemia (OR=1.386, p=0.039), with significant gender differences. Among men, financial stress was positively associated with the prevalence of hypertriglyceridemia (OR=1.682, p=0.030). Among women, financial stress was positively associated with the prevalence of prediabetes (OR=1.657, p=0.027), abdominal obesity (OR=2.098, p<0.001), metabolic syndrome (OR=2.116, p<0.001), and dyslipidemia (OR=1.629, p=0.007).

Conclusion: Men living with financial stress are more likely to have hypertriglyceridemia, a specific metabolic abnormality and risk factor for acute cardiovascular events. Whereas, financial stress in women is associated with a broader array of metabolic abnormalities, highlighting a potential risk of multiple chronic conditions later in life.

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Predictive modeling of postpartum readmission for hypertension: A retrospective study

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Objective: Hypertension is the most common reason for postpartum hospital readmission. We evaluated clinical predictors of readmission through 42-days postpartum using a novel statistical model.

Study Design: We conducted a retrospective cohort study from a single Midwestern academic center of deliveries between 2009-2015. The primary outcome was to establish a predictive model for hypertension-related postpartum readmission. We used a cost-sensitive random forest method to determine predictors of postpartum readmission.

Results: Our study included 19,820 women; 102 were readmitted in the postpartum period due to hypertension. Random forest method achieved sensitivity of 86% and specificity of 72% for predicting readmission. The most important variables for predicting readmission included mean arterial pressure (MAP), systolic blood pressure (SBP), diastolic blood pressure (DBP), and pulse pressure (PP) in labor and at 24 and 48 hours postpartum; body mass index; gestational age; and maternal age.

Conclusions: There are no available models using clinical variables to predict or prevent hypertension-related postpartum readmission. This study highlights timing of BP parameters at all points throughout labor and through 48 hours postpartum should be included in a model and can be combined with other variables to increase sensitivity and specificity for predicting women at risk for postpartum readmission.

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Demographic predictors and patterns of patient portal usage among individuals with cancer

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Objectives: We identified patients diagnosed with cancer who are at risk of being disadvantaged due to difficulty accessing a patient portal, an important health IT tool for engagement and self-management of chronic disease.

Study Design: Patterns and predictors of portal usage were assessed for adults with solid tumors diagnosed between 2015-2020. Demographics and cancer characteristics were also extracted. Statistical analyses were performed using logistic regression, Chi-square, and one-way ANOVA. A p-value of 0.05 was considered statistically significant.

Results: We identified 5950 patients with cancer; mean age 64.4 (range 21-101), 53.5% (n=3185) female, 93.9% (n=5587) white, 71.8% (n=4271) living in urban area, and 43.6% (n=2595) Medicaid/Medicare beneficiaries. Female, white, and privately insured patients ($P < .001$) were more likely to have an account; individuals living in rural area were less likely ($P < .001$). Among those with an active account (n=3898), frequent users were younger ($P < .001$), white ($P = .003$) and privately insured ($P < .001$). Percentage of metastatic disease was higher in the frequent users group ($P < .001$).

Conclusions: Patients with cancer may not equally access patient portals. More studies are necessary to better understand and address the needs of cancer patients under-served by this technology.

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Inhibition of Src but not MEK/ERK Signaling Supports HUVEC Monolayer Integrity

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Abstract: In preeclampsia, circulating factors contribute to endothelial dysfunction. We have shown that VEGF, bFGF, EGF and TNFa inhibit Ca2+ signaling in endothelial cells, via Src and ERK. Here we applied this to monolayer integrity.

Hypothesis: Treatment with growth factors and cytokines will negatively impact the monolayer and inhibition of Src and/or ERK will offer relief.

Human umbilical vein endothelial cells were used for monolayer integrity assessment by electric cell-substrate impedance sensing. After serum withdrawal, cells were pretreated with 10um PP2 or U0126 before 10ng/mL VEGF, bFGF, EGF and TNFa treatments. The experiment continued for 24 hours. Statistical analysis was by students t-test.

VEGF treatment led to an early increase in resistance ($p<0.05$), PP2 brought resistance closer to control. bFGF treatment continuously increased resistance ($p<0.05$), PP2 steadied this. EGF treatment was not significantly different from control. PP2 pretreatment increased resistance modestly ($p<0.05$). TNFa treatment reduced resistance ($p<0.05$), PP2 increased this to control levels. U0126 consistently reduced resistance.

VEGF and bFGF support the monolayer while TNFa is inhibitory. PP2 offers stability if not rescue, whereas U0126 is harmful. This highlights Src inhibition as a strategy for combating the endothelial side of preeclampsia. MEK/ERK was established as an important pathway for monolayer support.

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Rural US Women Burdened by High Maternal Transfer Rates

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Objective: Describe obstetrical transfer patterns concerning maternal characteristics and outcomes.

Study Design: Using 2014-2016 birth records from the National Center for Health Statistics we examined antepartum transfer based on maternal resident county: large metropolitan center/fringe, medium/small metropolitan, micropolitan, and non-core/rural. We examined the association between transfer and sociodemographic, health, and peripartum characteristics.

Results: 59,399 transfers occurred among 11,233,882 hospital births (0.53%). More were living in Micropolitan (OR 3.68, CI 3.59-3.77) and Non-core counties (OR 5.05, CI 4.92-5.19), < 18 (OR 1.40, CI 1.33-1.48), non-hispanic American Indian/Alaskan Native (NH-AIAN) (OR 8.31, CI 8.06-8.56), without prenatal care (OR 4.29, CI 4.14-4.45), Medicaid (OR 1.47, CI 1.44-1.49), self-pay (OR 1.67, CI 1.60-1.74). Associated characteristics included smoking (OR 2.40, CI 2.35-2.46), BMI >40 (OR 1.77, CI 1.71-1.83), diabetes (OR 1.63, CI 1.59-1.67), hypertension (OR 3.67, CI 3.59-3.75), multiparity (OR 4.98, CI 4.87-5.10), preterm (OR 21.5, CI 21.1-21.9). Morbidity was high with increased blood transfusion (OR 5.21, CI 4.87-5.58), ICU admission (OR 9.64, CI 8.98-10.36).

Conclusions: Transport disproportionately affects rural women who are more likely younger, NH-AIAN, without prenatal care, and utilize Medicaid or self-pay. Numerous individual and health systems factors led to increased morbidity for mothers and infants suggesting areas for future quality initiatives.

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Impact of Standardized Post-Cesarean Analgesia Regimen on Postpartum Opioid Use

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Objective: To determine if implementation of a standardized postoperative analgesic regimen decreases opioid use following cesarean birth.

Study Design: A standardized postoperative analgesia protocol was implemented in June 2018, with scheduled non-opioid medications and as needed opioids for breakthrough pain. A before-and-after study design was used to compare oral morphine milligram equivalents (MME) for nine months prior to and after this protocol was implemented. The primary outcome was the cumulative MME used in the first 72 hours postoperatively.

Results: 2001 women met inclusion criteria (914 pre-protocol and 1087 post-protocol). Baseline characteristics of the two groups were similar. The cumulative opioid dose in the first 72 hours postoperatively was 216.3±84.3 MME prior to implementation compared to 171.5±91.5 MME following implementation ($p<0.001$). The average cumulative MME use was higher in the pre-protocol period compared to post-protocol at all time periods: 12 hours (57.3±23.8 vs 48.6±26.2 MME, $p<0.001$), 24 hours (98.1±34.1 vs 82.1±38.8 MME, $p<0.001$), and 48 hours (165.8±58.3 vs 134.9±66.2 MME, $p<0.001$). Pain scores were similar between the two groups.

Conclusion: Scheduled administration of acetaminophen and NSAIDs following cesarean birth significantly decreased the cumulative dose of opioids used in the first 72 hours postoperatively.

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Dr. [Insert Name Here]: Maintaining Professional Address During Ob/Gyn Grand Rounds Introductions

Authors: Melissa F. Meyer, MD; Emily M. Buttigieg, MD; Renee T. Sullender, MD, MPH; Zachary R. Dunton, BS; Amy Godecker, PhD, MS; Sarah M. Temkin, MD; Narjust Duma, MD; Christine A. Heisler, MD, MS

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Objective: To assess use of professional address during Obstetrics and Gynecology (Ob/Gyn) grand rounds introductions.

Study Design: This was a retrospective cohort study of 57 Ob/Gyn grand rounds introductions at a large academic institution from December 2016 to February 2020. The primary outcome was consistent use of professional address of "doctor" throughout the introduction. Statistical analyses included chi-square tests and tests for the equality of proportions. Statistical significance was $p<0.05$.

Results: Women were more commonly introducers (n=50, 88%) and presenters (n=38, 67%). Consistent use of "doctor" was significantly more likely when the introducer was an assistant professor versus associate or full professor (86% vs. 0% vs. 10%; $p<0.001$), and professional address was maintained more often when the presenter was faculty versus trainee (56% vs. 17%, $p=0.027$). Dyads comprising women introducer/women presenter were significantly more likely to utilize any professional address compared to men introducer/men presenter dyads (80% vs. 25%; $p=0.017$). There were no significant differences in address by introducer or presenter familiarity, attire, or number of publications.

Conclusion: While gender bias was not specifically observed in grand rounds introductions for a women-majority field, maintenance of professional address may be affected by the academic rank of an introducer and presenter.

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Perinatal Healthcare Experiences of Mothers in Wisconsin: Qualitative evidence from Wisconsin PRAMS

Authors: Megan Murphy-Belcaster, MD Candidate and Fiona Weeks, MSPH, PhD Student

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Objective: The purpose of this study is to use qualitative data to characterize the perinatal healthcare experience of mothers in Wisconsin.

Study Design: Of all Wisconsin mothers who completed the PRAMS survey between 2016 and 2018, a subset completed the open ended additional comments section of the survey booklet. A total of 738 comments were analyzed for relevance to healthcare. Of those comments, 266 were extracted as relevant to healthcare, and used for this study. Using Dedoose, the health-care relevant responses were sorted according to content and implications. Themes that emerged were organized into recommendations to improve perinatal healthcare in Wisconsin.

Results: Three themes emerged as important to the perinatal experiences of Wisconsin mothers: relationship with providers, support and information, and patient agency and decision-making. Both positive and negative instances of these themes are explored.

Discussion and Conclusion: Opportunities are identified for improving the perinatal patient experience. Implications for culturally diverse populations are discussed.

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Can Public Health Insurance Coverage Reduce Disparities in Colorectal and Lung Cancer Care and Outcomes?

Authors: Rebecca Myerson; Jiren Sun; Noelle Loconte; Elise Lawson; Narjust Duma; Dan McCarthy; Heather Neuman

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Background: Colorectal and lung cancers are leading causes of cancer mortality. Despite progress in developing effective treatment regimens, gaps in access to these advances are substantial.

Objective: To assess the impact of nearly-universal Medicare insurance coverage at age 65 on colorectal and lung cancer treatment and population-level cancer mortality by gender and race.

Study Design: We used vital statistics and cancer registry data and used a regression discontinuity study design to adjust for the effect of aging and other variables.

Results: At age 65, colorectal and lung cancer mortality decreased by 8 per 100,000 population for women but did not significantly change for men. Improvements were particularly large for Black women, who experienced a 13 per 100,000 decrease in colorectal and lung cancer mortality. In a placebo check, there were no comparable changes at age 65 in Canada. Subsequent analyses will examine changes in treatment to help explain these improved outcomes, including decline in days from diagnosis to appropriate treatment, such as use of systemic treatment and/or definitive surgery for people with lung cancer.

Conclusion: Nearly-universal access to public health insurance at age 65 reduces colorectal and lung cancer mortality particularly for Black women, thereby reducing health disparities.

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HPV Vaccination Rates at the Time of IUD Placement: A Quality Improvement Study

Authors: Stephanie Peace, MD and Ashley Jennings, MD

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Objective: To improve rates of HPV vaccination among unvaccinated women </= 26 years of age at the time of IUD insertion by utilizing a new Epic smart phrase for IUD insertion that includes HPV vaccination status.

Study design: Retrospective chart review comparing pre-intervention (September 2019) and post-intervention (January 2020) periods.

Results: UW OB/GYN had a higher rate of vaccinated patients among 19-26 year-olds compared with Dane County data.Among previously unvaccinated patients, 0% were recommended HPV vaccination preintervention while 27% were recommended HPV vaccination postintervention. The new smart phrase was adopted in 25% of patients. When used, 100% of patients were confirmed vaccinated or offered HPV vaccination.

Conclusions: Overall, the Epic smart phrase helps providers confirm HPV vaccination status and offer HPV vaccination if appropriate, but the uptake was low. More work needs to be done to improve uptake of the Epic smart phrase among UW OB/GYN providers to increase catch-up HPV vaccination rates. As most IUDs are placed by NPs, targeting this provider group will likely have the most yield. Further QI efforts to improve HPV vaccination rates should target visits for colposcopy, especially as insurance companies begin to cover HPV vaccination to the CDC-recommended age of 45.

View Poster

Racial disparities in post-operative pain experience and treatment following cesarean birth

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Objective: To evaluate racial/ethnic differences in post-operative pain experience and opioid medication use in the first 24 hours following cesarean birth

Methods: This was a retrospective cohort study of women who underwent cesarean delivery at Meriter Hospital in Madison, WI between 01/01/2016 and 12/31/2017. A total of 2228 records reviewed. Pain was assessed by averaging all recorded pain scores in the first 24 hours post-operatively. Opioid use in this same time period was converted to oral morphine milligram equivalents (MMEs) for analysis.

Results: In multi-variate analysis non-Hispanic (NH) black women reported higher average pain scores (Coefficient: 0.629, 95% CI [0.414-0.844], $p<0.001$) than NH white women, but received similar quantities of MME (Coefficient: 0.13 mg, 95% CI [-5.12-5.38], $p=0.961$). NH Asian women had similar reported average pain scores to NH white women (Coefficient: -0.02 mg, 95% CI [-0.218-0.179], $p=0.319$), but received less MME (Coefficient: -7.44 mg 95% CI [-12.28- -2.59], $p=0.003$).

Conclusions: Despite reporting higher average pain scores, NH black women did not receive higher quantities of MME. NH Asian women received lower quantities of MME despite reporting similar pain scores to NH white women. These differences suggest disparities in post-operative pain management for women in these minority populations.

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Use and Attitudes Toward Complementary and Alternative Medicine Among University Students: The Role of Gender and Racial Identity

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Abstract: This study assessed the gendered and racialized use of complementary and alternative medicine (CAM) and attitudes towards CAM among students at a regional public university. A self-administered online survey using measures adapted from Quandt et al. (2009) was administered to 506 university students. Ordinary least squares regression models were used to examine relationships of interest, including uses of and attitudes toward CAM by gender and racial identities of the respondents. Results showed that the most common CAM therapy reported was vitamins and mineral supplements. Female respondents reported greater use of CAM, more positive attitude towards CAM and higher level of disclosure of their use of CAM to their healthcare providers than male respondents. White respondents reported greater use of CAM and higher level of disclosure of their use of CAM to their healthcare providers compared to respondents of other racial categories. There was also significant interaction between gender and race for attitudes toward CAM such that White female respondents were the most likely to have a positive attitude toward CAM. The results of this study will contribute to the growing evidence for the reality of the interactional nature of gender and race in healthcare utilization.

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Physician attitudes about abortion and willingness to participate in abortion care and referrals at the University of Wisconsin School of Medicine and Public Health

Authors: Nicholas B. Schmuhl, PhD; Jenny A. Higgins, PhD, MPH; Laurel W. Rice, MD; Cynthia K. Wautlet, MD, MPH

Corresponding Author: Nicholas B. Schmuhl, PhD, nbschmuhl@wisc.edu

Objective: To assess abortion-related attitudes and practices among practicing physician faculty at the University of Wisconsin School of Medicine and Public Health.

Study Design: Investigators disseminated a cross-sectional survey to 1,357 physician faculty members, achieving a 67% response rate (N=914).

Results: Physicians reported strong support for abortion across specialties and sociodemographic categories. While most (94%) reported caring for reproductive-aged women, many (69%) reported no opportunity to participate in abortion care and fewer than half (44%) knew where to refer a patient for abortion care. Women and non-religious physicians were more likely to support abortion. Few (14%) reported current participation in any aspect of abortion care, though many (58.8%) were very or extremely willing to consult in such care. Women, non-religious physicians, those exposed to abortion during medical training, and those with relevant expertise were more likely to be willing to consult in abortion cases. Physicians who perceived that their peers were relatively less supportive of abortion were less likely to be willing to consult in abortion cases.

Conclusion: Given overwhelming support for abortion among this population, participation or consultation in abortion care is remarkably low. Pluralistic ignorance regarding the climate of opinion surrounding abortion presents a barrier to access.

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Sustainable Partnership for Cervical Cancer Screening in Rural Guatemala

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Objective: Cervical cancer, though preventable and treatable, kills hundreds of thousands yearly in low- and middle-income countries. Guatemala, a middle-income country with significant healthcare inequity, struggles with high rates of cervical cancer. Our work focuses on San Lucas Tolimán (SLT), Guatemala, a largely Indigenous, rural municipality, where we hope to provide local women with cervical cancer care informed by their needs.

Study Design: Our international collaboration will scale culturally appropriate, high-quality screening and treatment, centering community health workers (CHWs) through community-based participatory research. After women complete PCR-based HPV self-swab screening, CHWs will use mobile health platforms for case management and follow-up.

Results: Our project integrates US providers, local Guatemalan health professionals, and Guatemalan governmental cancer experts to help women access complete cervical cancer care. We will build a best practices toolkit helping healthcare professionals worldwide scale sustainable, community-driven cervical cancer prevention and treatment.

Conclusions: In our 2019 mixed-methods study, 90% of SLT women interviewed knew of cervical cancer, but only 51% had ever received a Pap smear; several women had been diagnosed with cancer or precancer, but financial, cultural, and/or logistical barriers prevented treatment completion. We aim to improve Indigenous women's access to cervical cancer screening and treatment.

View Poster

Medical Student Attitudes and Understanding of Reproductive Health and Justice: An Institution-Wide Survey

Authors: Taryn Valley; Erin Nacev; Mireya Taboada; Jenny A. Higgins, PhD, MPH

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Objective: Approximately 95% of people with uteruses in the US will use contraception, and 1 in 4 will have an abortion. Despite this, few studies assess medical student knowledge of and exposure to contraception and abortion during their training.

Study Design: An anonymous, online survey of all medical students at the University of Wisconsin School of Medicine and Public Health (UWSMPH) assessed educational experiences, knowledge of reproductive healthcare, and support of reproductive justice (RJ) principles.

Results: In total, 446 medical students responded (60% response rate), with 350 (47%) completing the survey. UWSMPH students report both significant misperceptions about contraception and abortion and low exposure to these topics, despite notable alignment with RJ principles (between 88% and 98% endorsing each RJ statement). Only 41% had received didactic instruction about abortion, whereas 55% encountered abortion in "ethics content." Students reported incorrect perceptions about reproductive health topics: 21% thought that emergency contraception works by causing abortion, and 30% thought that progestin-containing birth control affects risk of breast cancer.

Discussion: We found that medical students at UWSMPH overwhelmingly support RJ principles but are inconsistently exposed to related curricula and many retain inaccurate perceptions about contraception and abortion.

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Immediate postpartum salpingectomy compared to tubal ligation following vaginal delivery

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Objective: To determine the feasibility of immediate postpartum salpingectomy compared to tubal ligation following vaginal delivery for patients desiring sterilization and ovarian cancer risk reduction.

Study Design: This retrospective cohort study identified patients undergoing tubal sterilization between 2009 and 2019 using the EMR. All patients undergoing postpartum tubal sterilization within 48 hours of vaginal delivery were included. Patient demographics, peripartum and perioperative data were collected with the primary outcome being total operative time.

Results: 317 postpartum sterilization procedures were identified. Total operative time was on average 3 minutes shorter for the salpingectomy group (p-value 0.04) compared to the tubal ligation group. Patients receiving tubal ligation were more likely to have Medicaid insurance compared to patients undergoing salpingectomy (152 (74.5%) vs 59 (52.2%), p-value <0.001). Patients undergoing salpingectomy were more likely to have an EBL ≤ 5 mL compared to tubal ligation (78 (69%) vs 112 (54.9%), OR 0.55 [95% CI 0.34-0.89].

Conclusions: Salpingectomy can be completed in the immediate postpartum period following vaginal delivery with an average 3-minute shorter operative time than standard bilateral tubal ligation. Patients insured by Medicaid are less likely to receive salpingectomy following vaginal delivery – highlighting a previously unknown disparity.

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Preeclampsia differentially dysregulates female and male fetal endothelial function: roles of miR29a/c

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Preeclampsia (PE) impairs fetoplacental vascular function and increases risks of adult-onset cardiovascular disorders in children born to PE. MiR29a/c regulates endothelial function and were down-regulated in unpassaged (P0)-HUVECs from PE.

Objective: Determine if PE altered miR29a/c and their target genes in fetal endothelial cells disturb fetal endothelial function.

Study Design: RNAseq and functional genomics analysis were performed with male(M)/female(F) P0-HUVECs from normotensive pregnancies (NT) and PE. Cell functional assays were performed with passage 1 (P1)-HUVECs with/without miR29a/c overexpression.

Results: PE dysregulated TGFβ1 target genes in F- but not M-cells. PE downregulated miR29a/c in P0-HUVECs, with F-cells exhibiting a more dramatic downregulation than M-cells. PE correspondingly dysregulated more miR29a/c-target genes in F-(55) than M-(11) P0-HUVECs, many of these genes associated with cardiovascular diseases. 27% of the PE-dysregulated miR29a/c-targets in PE-F are TGFβ1 targets. In P1-HUVECs, TGFβ1 stimulated cell proliferation only in PE-F cells. MiR29a/c overexpression inhibited the TGFβ1-stimulated cell proliferation in PE-F but enhanced this effect in PE-M cells.

Conclusions: PE differentially regulates miR29a/c and its targets in female and male fetal endothelial cells in association with differential cellular responses to TGFβ1. These data may provide potential therapeutic targets and risk predictors for adult-onset cardiovascular diseases in children born to PE.

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Department of Obstetrics and Gynecology

UNIVERSITY OF WISCONSIN
SCHOOL OF MEDICINE AND PUBLIC HEALTH

MISSION:
Our mission at the University of Wisconsin Department of Obstetrics and Gynecology is to improve the quality of life for women in the state of Wisconsin and beyond by providing compassionate patient care and by advancing knowledge through research, education, and advocacy. We do so in an environment of collaboration, humility, integrity, and respect.
The Department of Obstetrics and Gynecology is proud to be a part of the world-renowned educational heritage of the University of Wisconsin. Our commitment to education is reflected in a full spectrum of programs aimed at training the next generation of Ob-Gyn specialists and instilling a dedication to lifelong learning that continually enhances the level of care available to our patients.

DIVERSITY, EQUITY & INCLUSION:
We value and promote an inclusive environment that respects, welcomes and embraces differences across all of our missions including, but not limited to race, gender, gender identity, ethnicity, language, sexual orientation, age, physical or mental ability, religion, income, and national origin. To achieve this, we provide education and promote policies and practices that support patients, their families and our employees throughout the State of Wisconsin and beyond. We embrace the DEI mission, vision, values, and strategies set forth by the University of Wisconsin School of Medicine and Public Health and UW Health.

In 2003, Dr. Gloria Johnson-Powell and Dr. Gloria Sarto established a comprehensive center to investigate the role of biological and social factors on disparate health outcomes, primarily among minority ethnic and racial populations. In 2007, Dr. Sarto received funding from the NIH for the Health Disparities Research Scholars Program (HDRS) to provide postdoctoral training in interdisciplinary research, with a focus on health among minority populations, particularly maternal and child, adolescent, and family health. The annual Women's Health and Health Equity Research

Symposium provides an opportunity for the department and community partners to share work being done to promote diversity, equity and inclusion. In 2019, Tiffany Green, PhD and a graduate of the HDRS Program was recruited to UW-Madison to a newly established Reproductive Equity faculty position.

In 2019, the UW Department of Ob-Gyn established its Diversity, Equity and Inclusion Committee. The purpose of the committee is to provide a structure and process to coordinate and facilitate DEI work across the department. Committee goals include: making the department more welcoming & inclusive; incorporating anti-racism principles within leadership, staffing and policies; increasing diversity among faculty, staff, trainees and collaborators; and improving the patient experience and health outcomes for women from underrepresented groups.

The Department's DEI efforts over the past year have focused on recruitment & retention, staff trainings, community outreach and research. (read more here).