

WRITING HEALS & INSPIRES A MATERNAL HEALTH AND WELLNESS

FALL/WINTER 2021-2022 EDITION: VOLUME 2

Robert Wood Johnson Medical School Women's Health Institute
Rutgers Health; RWJ Barnabas Health

Preface

Welcome to the 2nd edition of the journal, Writing Heals & Inspires. Following the successful launch of the first edition, we are pleased to present this next edition, which captures the work of many outstanding contributors.

The first edition, highlighting two outstanding women leaders, Dr. Vivian Winona Pinn and the late Ruth Bader Ginsburg, was enthusiastically received. We are hopeful that this edition, highlighting the issues of maternal health, with a focus on the visionary work in maternal health and wellness that NJ First Lady, Tammy Murphy and her Nurture NJ team are accomplishing, also will be widely read. As well, we are hopeful that the journal's content will contribute to these efforts of elevating the standards of prenatal and postnatal care for ALL mothers and their infants.

We thank you for your readership and support.

Sincerely,

The Writing Heals and Inspires Editorial Team

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FIRST LADY

October 6, 2021

Dear Members of the Women's Health Institute Community,

It is my distinct honor to acknowledge your valued and treasured partnership to all of New Jersey's mothers and babies and share a few words of welcome to Rutgers Robert Wood Johnson Medical School's 2021 edition of *Writing Heals and Inspires Journal*.

The Women's Health Institute community has been an incredible advocate for improving maternal care in New Jersey. In many important ways, it has laid the groundwork over the years for our maternal health initiative, Nurture NJ.

I want to thank all of you - and especially Dr. Gloria Bachmann - for raising up the voices of mothers across the state. I am incredibly grateful for your contributions, leadership and dedication.

Together, we will make New Jersey the safest and most equitable place to deliver and raise a baby!

My very best,

Tammy S Murphy.

Tammy Murphy
First Lady Tammy Murphy

Foreword

With Pen in Hand, I'm Writing about "Maternal Health Awareness Day" that occurs each year on January 23rd

By Amy Papi

How did I become involved? Most of us on the original team have Dr. Gloria Bachmann, Director of the Women's Health Institute, to thank for our involvement and passion on this topic.

I certainly do! It all began back in 2016 with the tragedy of a healthy young woman, Tara Hansen, passing away 6 days after giving birth to her first child from birth complications. The family, experiencing the worse devastation imaginable, wanted to bring awareness to all with the hope that this horrible scenario could be prevented from happening to others. That Tara's complaints should have been acted upon more quickly by the health care team rather than initially being considered 'symptoms of the birth process.' Thus, with Tara's spouse, Ryan, a part of the initiative from day 1, steps were taken which ultimately led to the drafting of legislation that commenced NJ Maternal Health Awareness Day, which occurs annually every January 23rd.

The formal process for this legislation began on 6/6/16 when I initiated a meeting with Chairman of the Senate Health Committee, Senator Joseph Vitale, at the New Jersey State House office.

I am sharing with you the message that I sent to Senator Vitale, including who attended the meeting, in order to discuss with him drafting a bill/resolution that would bring awareness every year for everyone, especially the health care team and new moms, to pay attention to these very important words, "Stop, Look, Listen". Dr. Bachmann invited Dr. Apuzzio to join the team so that both the New Brunswick and Newark campuses would be represented.

“Dear Senator Vitale,

Thank you for taking time today and meeting with Dr. Bachmann, Patricia Hansen, Dr. Apuzzio, Dr. Lu and myself in your State House office. The below document for your convenience is the Proposal: Designate one day each year in New Jersey for the awareness and the importance of providing safe maternity care for all women in order to decrease and to strive for eliminating maternal deaths in the state.

Please advise if you need additional information and if you need to further discuss this with us. We look forward to hearing from you on whatever we need to do in making this happen. Again, we appreciate your positive feedback and supporting us on this request.”
Sincerely,

Gloria A Bachmann, MD, Patricia M. Hansen, MA, Joseph J Apuzzio MD, Chi-Wei Lu, PhD,
Amy Papi, Advocacy, Community Outreach for WHI

This meeting was very successful, and Senator Vitale immediately giving his support to this initiative. This is the original proposal:

“A mother’s health during her pregnancy and after childbirth cannot be an after-thought,” said Senator Vitale (D-Middlesex). “Raising public awareness on maternal health and safety will aid efforts that lead to a reduction in maternal mortality, and this will benefit men, women and children.”

According to the World Health Organization, maternal health refers to the health of women during pregnancy, childbirth and the postpartum period.

Although maternal death rates have declined in other parts of the world, the rate of pregnancy-related deaths in this nation has actually risen in recent decades, despite recent advancements in medical science and technology. In 1986, the federal Centers for Disease Control and Prevention (CDC) implemented a Pregnancy Mortality Surveillance System to obtain information about the frequency and causes of pregnancy-related death in the United States, and the data collected has shown a steady increase in the number of reported pregnancy-related deaths.

In 2012, the most recent year for which surveillance data is available, there were approximately 16 pregnancy-related deaths per 100,000 live births in the United States, with the highest mortality rate being evidenced among black women, who suffered an average of 41 deaths per 100,000 live births.

“This is not just about women; this is about families being affected every day,” added Senator Vitale. “We must keep our eye on improving positive outcomes for mothers, babies and families.”

Several recently developed maternal health initiatives, however, have adopted a promising approach to reducing the number of maternal deaths and increasing public and professional awareness of maternal health and safety issues. These initiatives include the Safe Motherhood Initiative, which was developed by the American College of Obstetricians and Gynecologists (ACOG); the Postpartum Hemorrhage Project, developed by the Association of Women’s Health, Obstetric, and Neonatal Nurses (AWHONN); and the Alliance for Innovation on Maternal Health (AIM), which is a national partnership of organizations that is poised to reduce severe maternal morbidity through initiatives implemented in New Jersey and other states.

In New Jersey, the “Stop, Look, and Listen!” educational maternal safety campaign, was developed by the Tara Hansen Foundation, the Rutgers Robert Wood Johnson Medical School, and Robert Wood Johnson University Hospital to educate patients and health care practitioners about the importance of using a deliberative stop, look, and listen approach in response to maternal health complaints or other indications of maternal distress, as a means to prevent maternal deaths.

The designation of “Maternal Health Awareness Day” will promote greater public and professional awareness of, and participation in, these initiatives, and will encourage the establishment of other, similar programs.

The resolution, SJR–92, which takes effect immediately, calls on the Governor to issue a proclamation annually recognizing January 23 as “Maternal Health Awareness Day” in New Jersey. “

The above proposal was submitted and of course, Sen. Vitale introduced this bill. The bill passed both Senate and Assembly chambers and signed into law.
Final Law is under https://www.njleg.state.nj.us/2016/Bills/PL17/1006_.PDF

Since then, every year activities are created not only in remembrance of this very important maternal safety campaign, but also to educate the health care team and the general public that every concern a mother has should be acted upon quickly and thoroughly.

"Life is a blessing."

Maternal Health Awareness

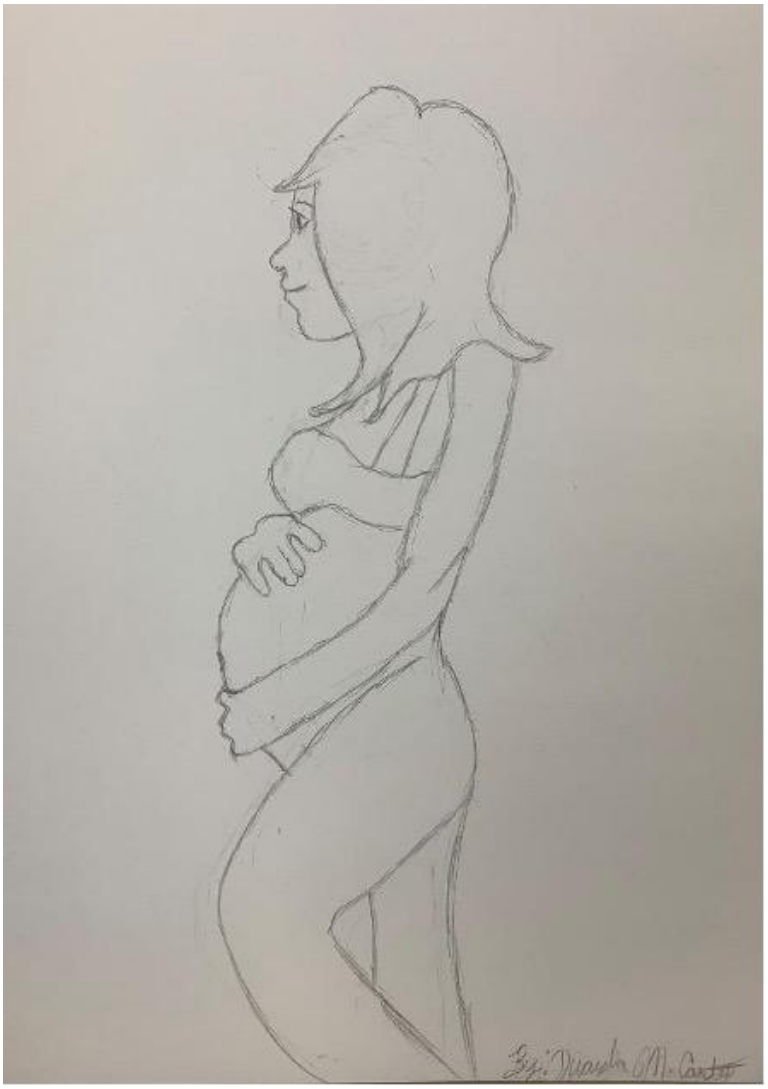


Illustration by WHI Intern, Dwayla M. Carty

Invited Essays

Expanding clinical trials opportunities for Pregnant Women

By Dr. Marjorie Jenkins

As the COVID 19 pandemic brought to light, there must be evidence-based information to inform women about what is best for themselves and their unborn children during pregnancy. Should women take the COVID 19 vaccination or not? To answer these questions safe clinical trials that determine what is best for pregnant women must be done. I have been very involved in this and would like to present some of the language that moves the research opportunities for pregnant women ahead:

To begin, required by section 2041 of the 21st Century Cures Act, P.L. 114–255, the Task Force on Research Specific to Pregnant Women and Lactating Women (PRGLAC TF) was formed in Spring 2017 and consisted of representatives from all major HHS organizations, as well as pharmaceutical companies, non-profit organizations, and consumer advocacy entities. The mandate specified specific leaders, or their designees, required to serve, and Dr. Marjorie Jenkins was selected as the designee for the Commissioner of the U.S. Food and Drug Administration.

The initial PRGLAC TF meeting occurred August 21–22, 2017 and members were directed to deliver the following to HHS and Congress:
(1) A plan to identify and address gaps in knowledge and research regarding safe and effective therapies for pregnant women and lactating women, including the development of such therapies;
(2) Ethical issues surrounding the inclusion of pregnant women and lactating women in clinical research;
(3) Effective communication strategies with health care providers and the public on information relevant to pregnant women and lactating women; and
(4) Identification of Federal activities.

During the next year, The PRGLAC Task Force met quarterly for two days and developed a report which was submitted to HHS Secretary Azar and Congress in September 2018. The PRGLAC TF Final Report included the following fifteen specific recommendations:

Task Force on Research Specific to Pregnant Women and Lactating Women Recommendations

1. Include and integrate pregnant women and lactating women in the clinical research agenda
2. Increase the quantity, quality, and timeliness of research on safety and efficacy of therapeutic products used by pregnant women and lactating women
3. Expand the workforce of clinicians and research investigators with expertise in obstetric and lactation pharmacology and therapeutics lactating women 4. Remove regulatory barriers to research in pregnant women
5. Create a public awareness campaign to engage the public and health care providers in research on pregnant women and lactating women
6. Develop and implement evidence–based communication strategies with health care providers on information relevant to research on pregnant women and lactating women
7. Develop separate programs to study therapeutic products used off–patent in pregnant women and lactating women using the National Institute of Health (NIH) Best Pharmaceuticals for Children Act (BPCA) as a model
8. Reduce liability to facilitate an evidence base for new therapeutic products that may be used by women who are or may become pregnant and by lactating women
9. Implement a proactive approach to protocol development and study design to include pregnant women and lactating women in clinical research
10. Develop programs to drive discovery and development of therapeutics and new therapeutic products for conditions specific to pregnant women and lactating women
11. Utilize and improve existing resources for data to inform the evidence and provide a foundation for research on pregnant women and lactating women
12. Leverage established and support new infrastructures/collaborations to perform research in pregnant women and lactating women
13. Optimize registries for pregnancy and lactation
14. The Department of Health and Human Services Secretary should consider exercising the authority provided in law to extend the PRGLAC Task Force when its charter expires in March 2019
15. Establish an Advisory Committee to monitor and report on implementation of recommendations, updating regulations, and guidance, as applicable, regarding the inclusion of pregnant women and lactating women in clinical research

The PRGLAC TF Charter was extended, but the formation of the Advisory Committee as recommended in #15 above has not occurred to date. It is time to hold the creators and gatekeepers of public health policy to this straightforward edict “protect women with research not from research”.



Dr. Marjorie Jenkins joined U of SC School of Medicine in Greenville as Dean from Texas Tech University Health Sciences Center in Lubbock, Texas, where she was a Professor of Medicine and the founder of the Laura Bush Institute for Women’s Health, a biomedical research and health education institute spanning across five health professionals’ schools and six campuses. Her most recent endeavor was her work as the Director of Medical and Scientific Initiatives for the FDA Office of Women’s Health between 2015–2019 where she provided sex and gender scientific expertise within scientific programs. In addition to her medical degree from East Tennessee State University in Johnson City, Tennessee, Dr. Jenkins holds a degree in Chemical Engineering and a Master of Education in the Health Professions (MEdHP). Dr. Jenkins is a well–recognized expert in women’s health and sex and gender–based medicine and has served in a variety of national roles such as Program Chair of the 2015 and 2018 National Sex and Gender Health Professional Education Summits, co–Chair of the Reproduction Workgroup of NASA’s Decadal Review, USMLE Women’s Health National Board of Medical Examiners Writing Group, and HRSA expert panel advisories and NIH expert panels. Dr. Jenkins has delivered over 150 scientific and consumer presentations and co–authored numerous research publications, scientific commentaries, and textbooks. She has been honored through numerous awards such as the American Medical Women’s Association Elizabeth Blackwell Award, the Women’s Health Congress Award for Public Policy and Advocacy in Women’s Health, and the Cedars Sanai Linda Joy Pollin Advancing Women’s Heart Health Leadership Award, and recognized multiple times as a Texas SuperDoc. Her academic credentials are stellar as she has served as the Associate Dean of Women’s Affairs for Texas Tech Health Sciences Center School of Medicine, Chief Science Officer of the Laura Bush Institute, and has been faculty with Johns Hopkins MEdHP program where she also filled the capacity of CAPStone Program Director.

What are We Missing?

Looking at Maternal Health Programs Serving Black Women From a Racialized Perspective

By Patricia B. Campbell, PhD and Veronica G. Thomas, PhD

Introduction

The US has the highest maternal mortality rate among developed countries with racial disparities in maternal and infant health that are appalling, long standing, and well known. For example, between 2014 and 2017, the US maternal death rate for Black women was over three times that of White women (41.7 vs 13.4 per 100,000) (Centers for Disease Control [CDC], 2020). In New Jersey between 2012–2018, the mortality rate for Black newborns was more than 3.5 times that of White newborns (9.4 vs 2.6 per 1000) (Center for Health Statistics, ND). Many researchers believe that these racial disparities are due to a combination of factors, including institutional racism in our society and in the health care system, coupled with Black women's increased susceptibility to certain health conditions, such as obesity and hypertension (Howell, 2018).

Race Differences in Maternal Mortality: It's Racism and Not Race

Race is not a genetic concept; it's a social construct with no true or absolute biological basis (Goodman, Moses, & Jones, 2019). As Dorothy Roberts points out we know that race is a social category, is a political category, but race has biological consequences. Not because of differences at the molecular level, but because of the effect of social inequality on people's health. (2012, para 3). Nevertheless, we continue to investigate race as a variable in health, social and behavioral research. When race is used as a variable in maternal health programs, it serves as a proxy for a number of related social and environmental variables that differ by race and as such can mask their impact (Thomas & Campbell, 2021)

A number of programs have been and continue to be implemented to counteract these differences. Their interim indicators of success focus on outcomes, such as women having a healthier diet, receiving prenatal care, becoming more knowledgeable to threats to a healthy pregnancy and delivery, and making the home environment healthier. Longer term indicators focus on better health outcomes for both mothers and infants. While programs may have success in interim indicators, large racial disparities in pregnancy–related deaths persist (CDC, 2019)

Some recent troubling research highlights the role that systemic and institutional racism is playing in these disparities that can lead to the conclusion that racism, not race, is the root of disparities in health outcomes and mortality rates. For example, Black patients with Black physicians were more likely than those with non–Black physicians to rate their physicians as excellent and to report receiving preventive care and all needed medical care during the previous year (Saha et. al, 1999). Those results may help explain why a study of 1.8 million hospital births in the state of Florida between 1992 and 2015 found that proportionality twice as many Black babies delivered by non–Black doctors died than did Black babies delivered by Black doctors. This same study did not find any relationship between the race of the doctor and the race of the mother on maternal death rates (Greenwood et al., 2020). However, another study found that Black college educated women are five times more likely to die in child birth than college educated White women (Petersen, et al., 2019). These suggest that other factors besides income and education contribute to the disparities and support CDC's recommendations that hospitals and healthcare systems implement standardized protocols in quality improvement initiatives, especially among facilities that serve disproportionately affected communities and identify and address implicit bias in healthcare that would likely improve patient–provider interactions, health communication, and health outcomes (CDC Newsroom, 2019).

While these are good possible next steps, there needs to be a realization that standardized protocols and equal treatment often is not the answer and may even contribute to the problem. As Eric Jolly points out in the following story: "You are working with two children, one of whom is a seriously overweight. The other is seriously underweight. Your goal is to bring them both to good health. Is it fair to treat them equally? Will you achieve your goal if you do so? Of course not" (Jolly, 2007). The emphasis needs to be on equitable rather than equal treatment.

Developing and Evaluating Maternal Health Programs

Too often programs are developed based on a deficit model that basically blames individuals for social problems and their poorer health outcomes, rather than considering how institutional practices or societal responses to the certain individuals or cultural groups place them at increased risk for negative outcomes" (Thomas & Madison, 2010). Programs designed to "fix" individual weakness, as defined by the dominant culture, without looking at the social context or broader environmental milieu, as well as individual strengths, are less likely to be successful. Evaluations that don't consider those contexts are not likely to yield the most useful data to determine what is and isn't behind positive or negative changes in maternal and infant mortality.

There are a number of questions that program developers and evaluators of maternal health interventions should ask themselves while also considering the program through a racialized lens, which means paying attention to ways race shapes problem definitions and solutions. These include, for example asking:

- Were women from the community involved in the program design? If not, how can we get them involved?

- What roles do the individual patients play in determining their needs and the best ways to address their needs?

- Is the program based on a deficit model? If so, how can we shift to a more strengths–based approach?

- Is there a formal process for identifying and dealing with bias?

- Are statistical results reported by race/ethnicity supplemented with contextual information about that might better explain the disparities that emerged?

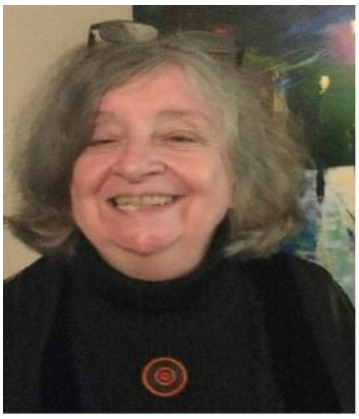
- Are data collected, analyzed, and presented in ways that illuminate rather than mask disproportionalities or disparities that different racial ethnic groups experience?

Evaluations of maternal health programs should be expanded to capture process and institutional indicators such as:

- Staff implicit bias
- Incidents of explicit bias
- Incidents of macroaggressions
- Time spent with patients by race
- Degree to which the women's concerns are heard by race
- Degree to which attention is paid to the women's concerns by race
- Treatment options offered by race

As program developers and evaluators, we must ask questions that can help uncover the root causes of disparities as well as policies, practices, attitudes and cultural messages that reinforce stereotypes and differential treatment and outcomes by race. It is only after finding the answers to these questions and addressing those root causes can we truly move in the direction of eliminating racial differences in maternal mortality and other health disparities.

The references can be viewed at:
http://campbell–kibler.com/MaternalHealth/WhatAreWeMissingReferences.html



Patricia B. Campbell, PhD, is the president of Campbell– Kibler Associates, Inc. She has been involved in research and evaluation with a focus on issues of race/ethnicity, gender and disability for many years. Formerly an associate professor of research, measurement and statistics at Georgia State University, Dr. Campbell has authored more than 100 publications including coauthoring, with Veronica Thomas, Evaluation in Today's World: Respecting Diversity, Improving Quality, and Promoting Usability. Her other publications include "The Role of Resilience in Black Men's Success in STEM Graduate Programs", Good Schools in Poor Neighborhoods: Defying Demographics; Achieving Success and The AAUW Report: How Schools Shortchange Girls.

Veronica G. Thomas, PhD, is a Professor in the Department of Human Development and Psychoeducational Studies at Howard University. She also serves as the Evaluation and Continuous Improvement (ECI) Director for the Georgetown–Howard Universities Center for Clinical Translational Sciences (GHUCCTS). Dr. Thomas is the 2019 recipient of the American Evaluation Association's Multiethnic Issues in Evaluation TIG Scholarly Leader Award for scholarship that has contributed to social justice–oriented, equity–focused, and/or culturally responsive literature. She has authored or coauthored numerous peer–reviewed publications and her most recent textbook, Evaluation in Today's World: Respecting Diversity, Improving Quality, and Promoting Usability, is co–authored with Patricia B. Campbell.



Maternal/Fetal Urgent Care Center (MamaCare)

By Richard Brodsky, MD and Marly Brodsky

Pregnancy can be an exciting and wondrous experience, but also fraught with potential difficulties and anxieties. While many women prefer to see their obstetrician for any bumps in the road, there are some that are unable to gain access to the resources they need. Sometimes a woman may not have access to an OB, due to lack of established primary care or significant wait time for appointments. Other times, the timing or urgency of the problem warrants immediate care in which an OB may not be available. It is at these times that a woman may be forced by circumstance or recommended to go to the Emergency Department of their local hospital.

Speaking as an emergency physician and as a husband, I can easily say that the ER is not the most hospitable place for a woman with pregnancy concerns. You may be placed in the shuffle with severely ill people in the waiting room or the department. Your doctor is very competent, but they are also caring for trauma patients, psychiatric patients, febrile patients, and all manner of folks with differing issues. Your wait time may be extensive before being seen, and your ER visit may be extremely long even with the best and most expedient care they can offer. This is in the best of times, but now with COVID–19 at its highest peak, there is an inherent risk in going to the ER. This also creates a hesitancy to go there to receive care, hence further delaying care and endangering both mother and baby. Emergency department visits are also known to be significantly expensive and carry a financial burden to families and insurance carriers in the healthcare system.

A maternal urgent care center (MUCC) would be a place where pregnant women (or women who think they are pregnant) can seek expert care immediately and expediently, avoiding the emergency department and receiving necessary triage and treatment for their concerns. Obstetricians in a community would be able to refer to these places overnight or even during the day when their schedule is packed. In addition, if a woman's concern or difficulty does warrant more extensive or emergency care, the staff would have the expertise to appropriately triage and transfer the patient directly to an OBGYN floor or unit within the local community hospital and continue to avoid the ED.

Setup:

A maternal Urgent care center (MUCC) would be open and staffed 24 hours a day (With flexible staffing for high volume hours.) The most likely structure would be to always have a single OBGYN on site, supported by a staff of a few advanced care physician extenders, nurses, and administrative staff. In addition, the center would likely have some formalized relationship with the OB units and staff of several surrounding hospitals to help expedite care.

What problems can be seem at a maternal urgent care center?

Due to the nature of pregnancy and pregnancy related issues, a MUCC would have more advanced treatment techniques available than the average general urgent care center. All clinical staff would have intimate knowledge of US techniques as likely every patient would require a bedside evaluation of the pregnancy. Based upon my (albeit limited) knowledge of pregnancy issues, here is a list of potential problems that a MUCC would be able to handle without the need for an emergency room:

Concern for pregnancy (Am I pregnant?)
STD testing/treatment for pregnancy
General infections during pregnancy (i.e. influenza, gastroenteritis)
Pelvic Pain/Round ligament Pain
Urinary Tract Infections
Hyperemesis Gravidarum
Dehydration
Threatened Miscarriage
Vaginal bleeding
Small Subchorionic hemorrhage
Braxton Hicks Contractions
Tocolysis
Decreased Fetal Movement
Checking for labor progression (How many cm dilated?)
Screening for: HELLP (If positive will require transfer)
Screening for: Pre–Eclampsia (If positive will require transfer)
Screening for: Ectopic Pregnancy (If positive will require transfer)

In order to support some of the above problems, services offered at a MUCC would likely include, but not be limited to:

Pregnancy testing
Urine screening
Complete blood count screen (Via I–stat for immediate results)
IV placement and fluid bolus/delivery
Bedside ultrasound
PO and IV medications for nausea, tocolysis, pain, etc.
Fetal Heart Rate Monitor

Potential Barriers:

1) While running on an urgent care center model will reduce the cost to the family and insurance company significantly, the fee would most likely need to be higher than the average UCC visit due to the extensive nature of the treatments and time commitment needed to care for these women. Still, it would be lower than an equivalent ED visit. These rates will need to be negotiated with all local insurance carriers before progressing.

2) Due to its specialized nature, a MUCC would have a higher geographic catchment area than your average UCC. Where a certain region might be able to support 5 general UCC, there may be only enough population to support 1 MUCC in a given region. Geographic location and ease of access to the facility will be key to the success of each office.

3) Direct admissions to local institutions will require a formal agreement with the facilities, which can be complex.

4) Obstetrics is a high-risk field for malpractice. The staff will need to have instructions to call 911 if there are any signs of complications beyond the scope of the facility. Insurance will likely be a high overhead.

5) Schedule 2 medications would need to be kept on-site, thereby requiring higher levels of security and DEA licensure.

In summary, adopting and adjusting the Urgent Care Center model to service obstetrics patients could potentially change the face of pregnancy care. In a world where there are significant health disparities in different populations, allowing for better access to Maternal care outside of the emergency department would benefit many women and families.



Doctor Richard Brodsky is an Associate Professor of Pediatrics and the assistant director of the pediatric emergency medicine department at the Rutgers-Robert Wood Johnson, Bristol-Myers Squibb Children's Hospital. He is fellowship trained and board certified in both Pediatrics and Pediatric Emergency Medicine physician. He has over a decade of clinical experience in the treatment of emergency conditions in children. After fellowship training at the Children's Hospital of the Kings Daughters in Norfolk, Virginia, he has worked at multiple academic institutions in order to continue to teach and participate in Resident physician and Fellow education. For the past 8 years Dr. Brodsky has been innovating in the field of Pediatric Telemedicine by setting up and expanding telehealth initiatives at multiple institutions. Within the RWJ-Barnabas system he created and administered a functional intra-hospital telemedicine program, as well as aiding in the transition of our outpatient pediatric subspecialty services to telemedicine. He serves on multiple hospital committees and has recently been named as Director of Pediatric Telemedicine Services for the RWJ-Barnabas Health System. He has published several academic studies, given multiple grand round presentations, been invited as an international speaker to the Women's and Children's hospital in Panama, and presented on behalf of the NJAAP specifically on telemedicine.

Marly Brodsky is a current graduate student at Rutgers School of Business, and will be graduating with an MBA in December 2021. She has a Bachelor of Science Degree in Public Health from San Diego State University. She is a results-oriented business and operations professional offering 15+ years of experience leading key growth initiatives within the hospital, outpatient, and healthcare industry. She carries expertise in delivering innovative and proven profit-generating solutions and strategies that streamline processes and drive business growth. She has experience in implementation of healthcare programs ranging from small healthcare settings to major hospital networks. She is also the founder and CEO of MedCompanion(TM), a virtual assistance company for medical needs.



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Section A:

International Perspective

Perspectives: Being of Immigrant Status & Pregnant

By Dr. Trishee Bhurosy

Two weeks ago, I sat down with one of my dear friends who is a graduate student where I did my PhD. My friend is also pregnant. While talking to her, I realized how much emotional stress she is going through right now amidst a pandemic. She is beyond happy to have her baby, but she is very stressed over not having her husband by her side during her regular medical appointments. Adding to that, she is a woman of color and is not originally from the United States. I asked myself at that moment – What can I do to help her? I really believe there are several things, big or small, that we can do right now to help pregnant women or new mothers.

Providing social support and access to mental health resources. I have been providing emotional support to my friend and a safe space for her to talk. We meet on a monthly basis through videoconferencing to discuss her experiences with pregnancy. Social isolation, racism, fear of COVID-19, and anxiety for her baby's health and future are taking a toll on my friend and many others like her. It is well known that depression is very common during pregnancy and after childbirth. While mental health screenings are supported by the Affordable Care Act, a lot remains to be done in order to improve accessibility, affordability, and availability of these resources. Women of Color are especially impacted due to additional factors such as stigma and lack of culturally competent and well-trained counselors. We can certainly do more in these areas by developing policies and/or programs that take into account the ongoing and lived experiences of pregnant and postpartum women of color. Personally, I have found that finding and connecting to women going through the same challenges as I am is very effective for my mental health. That being said, we need to amplify and support women-led organizations or support groups especially in the area of maternal health.

Financial incentives. We can significantly improve maternal health during the COVID-19 era if we develop a system, whether locally or on a national level, to identify individuals who are at risk to food insecurity, housing insecurity, job loss and access to basic needs like diapers and formulas and provide them with some basic financial support. Currently, many mothers may be forced to give birth without the assistance of a partner or doulas. It is also challenging to access pre- and postnatal care. There is a fear among immigrant women to seek these resources due to visa issues and risk of deportation especially if they are undocumented.

When I was a graduate student living on my own without any financial support, I often found myself with only $25 in my bank account at the end of each month. I cannot imagine how hard it must be for my friend to not only struggle with making daily ends meet, navigate graduate school, visa renewals and issues, and handle a pregnancy. I am in a position to provide financial assistance to my friend, but that is not the real solution to her long-term problems.

We must work together to dismantle a system that is negatively impacting women, especially women of color and women who are immigrants. Right now, minority communities in the United States are facing numerous issues and are at increased risk to adverse health outcomes. As a society, we need to do better.



Dr. Bhurosy works as a Research Associate in the Section of Behavioral Sciences at the Rutgers Cancer Institute of New Jersey. She has a PhD in Health Behavior and is a Certified Health Education Specialist. Her research focuses on improving and understanding dietary behaviors along the prevention continuum and among individuals diagnosed with cancer and other chronic conditions. Outside of her research, Dr. Bhurosy loves cooking Mauritian food, hiking, knitting, and doting on her beloved pet

Maternal Healthcare in Canada

By Tamkeen Farmuz

Canada — one of the few countries to provide universal healthcare to its citizens. Every Canadian citizen is afforded a 'Health Insurance Card' and with a scan of a barcode at reception, you enter a family doctor's office, address your medical concerns, and are either referred to a specialized doctor or are given a prescription — instantly. As an additional benefit, health coverage will follow from province to province and will not be taken away as a result of unemployment or missed payments. Through socialized healthcare, Canada has proven to be a system that is one and for all and that basic access to healthcare is a right regardless of socioeconomic background.

To continue, the Canadian healthcare system is not one without its flaws. The basic foundation of Canadian healthcare is a means to provide for its citizens' wellness, one that prioritizes accessibility, but that does not come without critiques. Under its public healthcare, varying from provinces, coverage doesn't extend to mental health services, dental, vision, and even some select drugs. The waiting times to receive treatment, procedures, or elective surgical interventions sometimes extend to several months, a feat that can be mentally and physically tasking for patients.

To be more specific to maternal healthcare, the maternal mortality ratio in Canada reported by Statistics Canada, is 8.3 per 100,000 live births. In comparison to European counterparts such as Finland and Switzerland, countries that also offer socialized healthcare, the maternal mortality ratios vary from 3 and 5 per 100,000 live births. Further, in stark comparison to the United States of America, the CDC reports the maternal mortality ratio is 17.4 per 100,000 live births. This proves that while Canada's maternal healthcare is on the right track in effort to reduce maternal mortality and promote wellness, there are more efficient models to learn from in order to improve the state of maternity care and wellness.

In providing an optimal level of maternal healthcare, Canada prioritizes a family–centered approach. Providing mothers with this approach, it allows for families, backgrounds, and beliefs to be individualized for each pregnancy and thereby provide wellness physically, mentally, and spiritually. Furthermore, healthy attachment between the parents and infant is actively encouraged by promoting skin to skin contact, breastfeeding, and rooming – in. Rooming–in is an initiative that allows for parents to be with neonates in the NICU for extended periods of time. This has proven to improve breastfeeding, reduce infections, increase parental involvement, and reduce hospital stays.

Although only 7% of Canadian healthcare settings facilitate rooming – in services, it has proven to be beneficial. Family units or significant others play an essential role in the psychosocial wellbeing of a pregnant woman and thereby involving them positively impacts the outcome of the pregnancy, neonate's health, and family bonding.

With promoting families, there is also an obvious emphasis on women. Empowering women to make independent, informed decisions on their own health, the services they require, and they interventions they need is one of the practices of family–centered approach. The responsibility of the healthcare worker is to provide all the information relevant to the individualized cases and offer their better medical opinion, and the decision–making lies on the patient to provide consent. This has been shown to increase satisfaction because of the amount of control this offers parents.

A belief that Canadian maternal healthcare promotes is treating the birthing process as a natural, physiological process. A 2008 statement to "support best practice and serve to promote, protect, and support normal birth" was issued by the SOGC with other maternal healthcare provider associations. SOGC and other maternal healthcare associations issued this statement in response to the statistics of increased interventions in the birthing process. According to the Public Health Agency of Canada 2016, epidural rates have incline to 57.8%, induction rates have inclined to 21.8%, and caesarean births have dramatically risen to 27.9%. The effort to decrease interventions in antepartum care and promote natural deliveries is a target for maternal healthcare in Canada.

Provinces in Canada has begun to integrate midwifery services into maternal healthcare. As of recent, they are regulated and funded on federal and provincial level. With this, parents who are determined to be low risk pregnancies are opting for pre–partum, ante–partum, and post–partum care to be given by a midwife. This results in fewer interventions during birth and delivery. If the patient is determined to be a high–risk pregnancy due to comorbidities or events throughout the pregnancy, an OB/GYN will be referred to the case. Midwifery led services are modelled after European countries that are the primary maternal healthcare givers alongside nurse practitioners allowing for a steady rate of positive outcomes. Healthcare workers from different backgrounds such as OB/GYN, nurses, midwives, and doulas are encouraged to work in cross–collaborative approach to improve access and provide better care.

Furthermore, family physicians are the first interaction in prenatal care for parents accounting for 64% of FPs providing some level of maternal care in 2001, although the rate at which they are attending to deliveries is steadily declining at 16% as reported by the CIHI. CIHI also reports, Obstetricians are attending to more live births at 61% vaginal deliveries and 95% caesarean sections in 2000.

Canada aims to be an accessible and integrative system of healthcare encompassing all backgrounds, cultures, and sensitivities. In contrast, there are few regional disparities where the maternal healthcare system falls short. To an extent, maternal healthcare fails to accommodate Aboriginal populations living in Northwest Territories, Nunavut, and Yukon. The shift from their traditional holistic birthing practice to an increasingly medicalized procedure has decreased accessibility to antepartum care. Disproportionately affected, 40% of women from Northwest Territories, 38% from Nunavut and 23% from Yukon have to travel from rural locations to urban locations where birthing facilities are more accessible. Having to travel 100 km away from their homes and families provides Aboriginal parents and families discomfort, stress, and a less satisfactory birthing experience. Additionally, Indigenous populations are less likely to seek prenatal care because of a lack of culturally sensitive and regionally inaccessible modes of care. This makes the regulation of midwives, doulas, and nurse practitioners even more necessary to provide a level of care that is accessible to different regions, more collaborative and understanding in their approach.

Canada's universal healthcare aims for accessibility and wellness have proven to be productive in reducing maternal mortality ratios to 8 per 100,000, but there is more to be learned and integrated from counterparts who have dramatically lower statistics. There is much more to be to increase accessibility, increase culturally sensitive care through education, and provide women with a more empowered and satisfactory birthing experience in an effort to further reduce maternal mortality and set precedent for countries like the US with higher MMRs.



Tamkeen Farmuz is a M5 studying at Dow International Medical College in Karachi, Pakistan. She is native to Toronto, Canada and is eager to continue her medical career in the OBGYN specialty in the States after graduation in July 2021. She is a member of DIPCA at her medical college –– an initiative which provides medicine and treatment to underprivileged patients. In her free time, she enjoys reading poetry, swimming, and volunteering at the local orphanage.

Statistics of Maternal Mortality

By N'faly Keita, MD

In 2017, approximately 295 000 women died during and following pregnancy and childbirth globally. Although much effort is done, the maternal mortality is sadly becoming unacceptably high and the vast majority of these deaths (94%) occurred in low-resource settings. Sub-Saharan Africa alone accounted for roughly two-thirds (196 000) of maternal deaths. In 2019, the maternal mortality rate is 560 deaths/100,000 live births in Mali. Unfortunately, most of these deaths could have been prevented. I believe that in order to effectively improve maternal health worldwide we need to focus on two dimensions.

1) Integrated approach on demand and supply side includes 'demand side' interventions – community level efforts to improve women's knowledge and empower them and their families to make decisions around their maternal and reproductive health – and 'supply side' interventions – access to skilled, trained staff, and high-quality care with the necessary supplies.

2) The second approach is related to Integrated Management of Pregnancy and Childbirth (IMPAC). That approach helps in shaping technical support to countries in strategic and systematic ways to improve maternal health. Mainly based on a quality policy, technical and managerial approach, IMPAC includes guidance and tools to improve the health systems response, health workers skills and family and community action and care.



Dr N'faly Keita MD is a leader in maternal and child health improvement, a project officer in strengthening health systems, a Mandela Washington for Young Africans Leader, and a Mali Country Coordinator for Young African Leaders.

Integrating culturally important traditions into Modern Obstetric care

By Dr. Yonas Lakew

Traditionally, women in Ethiopia give birth at home. They will be attended by a traditional birth attendant or an older woman from the neighborhood. After the expansion of obstetric care, however, more women give birth at a health institution. This is a big leap in reducing maternal morbidity and mortality.

In Ethiopia, the post–partum period is a culturally celebrated event. Women in the neighborhood would gather and ululate in celebration. Families, friends and neighbors gather and make coffee and special porridge. It is customary to come with gifts. These postnatal rituals are highly esteemed by the society.

Women who have obstetric complications and/or difficult labor will be referred to a health institution with Comprehensive Obstetric care which oftentimes is located many hours away from their vicinity. And the woman giving birth might stay there for days. There, she will get better obstetric care. But she will be away from the niche of her social support and the culturally important postnatal ritual. The lack of social recognition causes disappointment and distress for the women and sometimes worsens postpartum blues and at times makes it perpetuate beyond the immediate postpartum period.

Integrating cultural practices in the Modern Obstetric care will help many Ethiopian women feel at home and enjoy the miraculous event of childbirth. It definitely reduces the stress associated with childbirth. Moreover, it will alleviate one of the barriers to health seeking.



Dr. Yonas Lakew is a psychiatrist working at Amanuel Mental Specialized Hospital, Ethiopia. He is a Mandela Washington Fellowship Rutgers University Alumni. He is pursuing MPH at Jimma University. Additionally, he is a professional mental health advocate. He writes on various mental health topics on Facebook and hosts a weekly mental health radio program. He strives to raise mental health awareness in Ethiopia.

Maternal Health Disparities in MENA: The Challenges Faced

By Khadija Alshowaikh MD

The remarkable progress witnessed in childhood and maternal health in the Middle East and North Africa (MENA) region is indisputable. The Maternal Mortality Ratio (MMR), defined as the number of maternal deaths per 100,000 lives, halved over the past two decades as institutionalized deliveries by qualified attendants increased. Nevertheless, burdensome healthcare inequity persists for women of the region, particularly with regards to reproductive health. Therefore, it is crucial to highlight and address the maternal health challenges in the MENA region to promote well-being and improve women's quality of life beyond MMR reductions.

To date, one woman and six newborns die every two hours in Yemen from pregnancy or childbirth complications. In 2017, the MMR in the MENA region was 110 per 100,000 live births – a ratio almost 40-60 times seen in high-income developed countries including Netherlands, Norway and New Zealand. Additionally, millions of women experience non-fatal and chronic obstetrical complications, significantly compromising their quality of life. While the MMR values in MENA are alarming on their own, they are still potentially underestimated due to the underdeveloped registration and reporting systems.

Despite the downward trends in MMR, the immediate causes of maternal mortality in MENA remain unchanged. The unshifted trend in maternal mortality causes shed light that the fundamental root problems of maternal mortality have not been addressed appropriately. The leading causes, in the most prevalent order, are hemorrhage, hypertensive disorders, self-induced and unsafe abortive outcomes, maternal sepsis and obstructed labor. The UNICEF states that almost 70% of all maternal deaths in MENA are preventable. This suggests the need to approach maternal healthcare effectively by tackling the core factors driving reproductive health disparities.

Elements affecting maternal health in MENA are complex. The various socio-economic determinants of health, the institutional and systematic healthcare inadequacies and the continuous political conflicts play a significant role in maternal health disparities. Of the aforementioned factors, the socially constructed gender role is one of the most important to discuss. Gender inequities in the region influence women's perception of their health and, subsequently, their utilization of healthcare services.

The lack of emphasis on female and maternal health awareness results in non-compliance to preventive and interventional medical services. A study conducted in Morocco showed that 50% of women who did not seek antenatal healthcare care reported non-compliance due to absence of symptoms, 22% had unavailable medical services and 10% could not afford it.

Moreover, women in MENA are more likely to seek healthcare services if the providing physician is female as a result of cultural and religious constraints. However, female providers are usually under-represented in healthcare and only a few are available in rural areas where they are most sought. Rural regions, usually areas of low literacy, present a key challenge to enhancing maternal health as uneducated women are often unable to recognize emerging medical issues. Many of these women believe that peripartum death is an unavoidable fatality and some even honor it. Invalidating the normalization of maternal mortality requires a change in women's understanding of their role in society and hence on their health.

Political turmoil across MENA is another massive contributor to the maternal health disparities in the region. Internal conflicts and violence and externally imposed sanctions have substantial consequences on individual health outcomes and healthcare system development. Economic embargoes disrupt the distribution of even the basic life necessities: food, pharmaceuticals and sanitary supplies. The negative repercussions, although widespread, have the most impact on vulnerable populations of society, women and children. The remaining resources have to be prioritized to ensure population survival rather than robust system development, which further complicates the matter.

Even in the more developed and wealthier countries in MENA, maternal healthcare systems are far less advanced than the western world. The lack of institutional obstetrical and gynecological guidelines tailored explicitly to women in MENA and the inadequate regulation of maternal health services propose unsuccessful attainment of maternal health. It is vital to stress that lower MMR does not equate to better maternal welfare.

Certainly, maternal well-being is directly related to the overall wellness and advancement of the family and society. A recent systemic review by Onarheim et al. reports that communities that prioritize women's health will have improved overall population health, better education and a stable, productive economy.

Although maternal health challenges in MENA are multifaceted and reliable data is scarce, appropriate solutions instill hope in enhancing maternal health.

Better data collection and thorough research is an essential building block of development. It allows an accurate depiction of reproductive health disparities in MENA from which proper solutions can be derived. Empowering women through intensive female health education, eliminating cultural and institutional gender bias and granting more female providers with decision-making roles in healthcare are bound to enhance maternal health in the region. Furthermore, structural changes in the healthcare sector, including implementing clear evidence-based guidelines and reprioritizing national budges, also promote maternal health.

The Centers for Disease Control and Prevention (CDC) further suggests enforcing standardized protocols in quality improvement initiatives as a means to reduce disparities. Maternal health initiatives and strategies executed in developed countries can be studied and modified to better suit women in MENA. International collaborative efforts between organizations have been proven to reduce MMR and help alleviate maternal health disparities in Lebanon. The success of this initiative can be further expanded to include all women in MENA.

Factors affecting maternal healthcare disparities are deep-rooted in the MENA region and some are easier addressed than others. Nonetheless, women in MENA are not alone in facing healthcare challenges. Women across the globe have their unique sets of hurdles to knockdown. Thus, in the era of globalization, we are presented with the chance to come together and collaborate to drive maternal health progression.



Khadija Alshowaikh earned her medical degree from the Royal College of Surgeons in Ireland-Bahrain and worked as a physician in the Middle East. She is passionate about women's health advocacy and alleviating maternal health disparities through clinical research and the promotion of evidence-based medical practice. She aspires to be a well-rounded and skillful physician who works for underserved populations and capable of facilitating change in women's health. Khadija is a member of the Women's Health Institute Women's Reentry Commission, dedicated to enhancing incarcerated women's health.

Section B:

Student Voices

Examining How the Squat Position Can Improve Maternal Health

By Lena Acosta

Giving birth in a supine position has been a standard practice for decades. The supine position provides an unobstructed view to obstetricians making it easier for them to assist during labor. However, it has been long debated whether giving birth on your back is the best option for the soon-to-be mother, as many mothers have reported experiencing pain and discomfort in the supine position. Studies have shown that the supine position places tremendous amounts of pressure on the perineum and vaginal floor, while the squat position allows the pressure to be distributed evenly. This eased pressure, and with gravity being on the squat position's side, the woman's blood vessels that provide the baby with oxygen and nutrients are less constricted. There are numerous cases in which babies go into fetal distress as a result of the aortocaval compression that stems from giving birth in supine position. The rate and severity of perineal tearing among pregnant women has also decreased due the expansion of the pelvis in a squatting position. A study found both second-degree and third-degree perineal tears occurred in 9% of patients in the non-squatting group, however none occurred in the squatting group (Nasir, Korejo, & Noorani, 2007). However, another study found no difference in the number of perineal tears between women giving birth in an upright position versus in supine (Gupta, et al.). In a 1989 study, "Birthing Cushions" provided mothers with support while they held a squatting position. They observed that the squatting group had less forceps deliveries and shorter pushing times in the second stage of labor (Gardosi, Hutson, & B-Lynch, 1989). Additionally, 82% of women in the squat group expressed satisfaction with this birthing position. Although some papers believe that squat position allows for proper alignment for delivery, it is ultimately up to the mother to decide what position she feels most comfortable in. There is no right or wrong way to bring a human into this world and more studies are required in order to deem one birthing position safer than another.



Lena Acosta is a second-year student at Rutgers University pursuing a major in Exercise Science on a Pre-PA Track and a minor in Women and Gender Studies. She is currently enrolled in the Honors Program for the School of Environmental and Biological Sciences. She plans to always be an advocate for Maternal Health and hopes to become a Physician Assistant that specializes in Obstetrics and Gynecology. In her free time, she loves designing posts for the Mother's Touch App.

Examining the Causal Effect of Delayed Cord Clamping

By Lena Acosta

Delaying the clamping of the umbilical cord is an extremely time-sensitive procedure that is associated with numerous benefits for preterm and term infants. The American College of Obstetricians and Gynecologists recommend a 30–60 seconds time period in which the umbilical cord is not immediately clamped, while the World Health Organization recommends one to three minutes. It is routine procedure in the United States to clamp the umbilical cord shortly after birth, however there are only certain situations in which the cord should be clamped immediately, especially if there is a need for resuscitation (ACOG). The American College of Obstetricians and Gynecologists states that the neonatal benefits of delayed clamping include improved blood flow and circulation, a higher red blood cell volume, a decreased need for blood transfusion, and a decreased number of necrotizing enterocolitis and intraventricular hemorrhage cases. Studies of blood volume changes from pre-labor to post-birth show that in the first three minutes after the birth there was an 80–100 mL increase of blood from the placenta to the newborn. A significant percent of the blood volume transfer occurred within the first few breaths in healthy term infants. This increased level of blood allows for hemodynamic stability which has been improved with delayed cord clamping in preterm infants with reports showing higher superior vena cava blood flow and a greater ventricle output (Sommers, et al.). Additionally, the increased level of blood has shown improved iron status in babies and at four months of age there are reduced iron deficiency cases (Andersson, 2011). There are concerns that delaying the cord clamping leads to excessive placental transfusion and some studies show higher rates of jaundice in newborns. However, the benefits appear to outweigh the risks when it comes to preterm infants who benefit from increased levels of blood volume. It is important to recognize that the benefits associated with delayed cord clamping need to be aligned with hemodynamic stabilization in women to ensure that both the mom and baby are safe. It varies case by case as to whether this time-sensitive procedure should be performed, but many doctors and researchers believe it is time to implement delayed cord clamping as a routine procedure.

The Impact of a Caregiver

By Danika Baskar

Even with several efforts dedicated to eliminating health disparities in maternal health, it is an area where we are still working hard to improve outcomes. Despite several challenges in strengthening the complex systems that underly these disparities, an area that I believe we as caregivers can make an impact is in the conversations we have with our patients.

Encouraging our patients to openly share their knowledge and concerns about their body not only strengthens our ability to connect with them, but also opens opportunities for education. Often times many topics we discuss surrounding women's health can be sensitive but encouraging these conversations can help us empower our patients to take charge of health and ultimately advocate for their needs. As we continue to work with our patients, taking time to listen to things like concerns they may be hearing from providers for the first time, reasons for delay in care, and even the ability to achieve health goals given a patient's unique situation can help uncover additional areas of focus for efforts within our broader community that target education beyond the patient–caregiver interaction.



Danika Baskar, BA graduated from Case Western Reserve University in May 2016 and earned her B.A. in International Studies with a concentration in global health. She is a rising M4 at Rutgers RWJMS who is passionate about clinical research that translates to improving health outcomes for patient populations. Danika is working with Dr. Bachmann and a team of students leading a study exploring knowledge among women about healthy weight prior to conceiving. Together, we hope to learn more about topics for targeted conversation and education between caregivers and patients, as well as areas

Birthing support: doing more and doing better

By Veena Bhagavathi

While the vast majority of pregnancy and childbirth–related deaths occur in low–resourced countries, the United States is home to its own developing maternal health crisis. Not only does the US have the highest maternal mortality rate in comparison to other similarly resourced countries, but maternal mortality is rising, especially in Black and Native populations. This is all despite the fact that most pregnancy and childbirth–related mortality is preventable.

Multiple studies have shown that health outcomes are improved for birthing people who have access to a midwife or a doula throughout their pregnancy. In the US, midwifery care is not consistently covered by insurance and most insurance carriers do not cover doula support. As a result, these vital sources of care are not well–integrated into maternal healthcare. Policy changes to improve access to maternity care providers across the spectrum of care have the potential to improve maternal health outcomes overall. In 2019, New Jersey was one of the first states to formally incorporate doula care into the state's Medicaid coverage. As Medicaid covers nearly a third of births in New Jersey, this is a step in the right direction.

The protective effects of care from a doula or midwife can be amplified by shared culture and traditions between the birthing person and the caregiver. When Tewa Women United, an organization of Indigenous women based in New Mexico, carried out a survey of perceptions and practices of maternal healthcare in Tewa women, they found that half of those surveyed wished their cultural practices could have played a bigger role in their birthing experience. The majority of survey respondents gave birth in a hospital setting, out of which over half felt that their prenatal care providers and labor and delivery caretakers were culturally insensitive. Out of these results, the Yiya Vi Kagingdi Doula Project was born with the aim of connecting Native American birthing parents with culturally appropriate birthing support.

Increasing awareness of maternal health support may increase utilization of these resources, increasing the demand for coverage. Or increasing coverage for these sources of support may increase access and so increase use of them. Either way, maternal health outcomes in the US may be improved with the integration of more sources of support for birthing parents–and more specifically, the right kinds of support.



Veena Bhagavathi is a first–year medical student at Rutgers Robert Wood Johnson Medical School. She graduated from the University of Pennsylvania in 2019 with a major in biology and a minor in French. In her free time, she enjoys reading, spending time outdoors, and attempting to cook new recipes.

Healing and Adverse Effects of Cannabis Use in Pregnancy

By Samantha Cacella

In recent years cannabis use and popularity have increased across the United States. It has become more socially accepted, accessible, and applauded for its healing capabilities. This acceptance and availability of cannabis has been able to help people so immensely who find relief and healing from medical use of cannabis.

In a study gathering data through self-reporting methods from cannabis users, 64% stated pain as their reason for medical cannabis use, 50% stated depression as their reason, and 34% said they used it to aid with anxiety (Kosiba, Maisto, & Ditre, 2019). This supports conclusions made by the National Academy of Sciences whose findings found that there is substantial evidence to support cannabis as an effective treatment for chronic pain (Kosiba, Maisto, & Ditre, 2019; National Academies of Sciences, 2017). Two studies both found results to support the effectiveness of cannabis at pain relief, resulting in up to 80% of individuals with chronic pain feeling pain-relief and benefit from medical cannabis use (Troutt and Didonato, 2015; Bonn-Miller et al., 2014b). There is not yet enough studies and substantial evidence researched and gathered regarding medical cannabis use for psychological purposes, however many people claim they use cannabis for psychological purposes and see benefit, especially including anxiety and depression relief as stated above.

While cannabis has shown in many instances its capability to offer healing and relief with little to no negative side effects, one instance where cannabis may potentially carry risk and adverse health outcomes may be when it is used by women who are pregnant. With cannabis use during pregnancy, concern is raised for not only the health of the pregnant mothers, but the developing fetus as well. A 2019 article discussing this concept presented that "a growing body of literature suggests that prenatal cannabis use is associated with lower offspring birthweight, and there is evidence of possible adverse effects on other fetal and neonatal outcomes, as well as worse neuropsychological functioning among children exposed to cannabis in utero" (Young-Wolff, 2019). Data collected can conclude that "the prevalence of daily or near daily cannabis use among US adult users of cannabis increased from 18.0% in 2002 to 26.3% in 2014, corresponding with decreases in perceived risks associated with cannabis use" (Young-Wolff, 2019).

While this is beneficial to many and making strides in the medicinal cannabis community to decrease stigma and offer benefits, this large increase in social acceptance can also lead people to assume and perceive no risks to cannabis, even in instances like pregnancy. This could potentially raise a public health issue. There is not substantial research on cannabis use, its medicinal effects, or specifically cannabis use in pregnancy in order to provide guidelines or recommendations for safe use for pregnant women. Because of this, national guidelines recommend abstinence from cannabis use during pregnancy (Young-Wolff, 2019). Regarding the public health concern raised from cannabis use in pregnancy, a 2017 study was conducted to assess the effects seen from women who used cannabis while pregnant. Ultimately the results of this study found that frequent cannabis use among pregnant women raises more concern for neonatal health outcomes as opposed to pregnant women who use cannabis once or twice a week; the US data suggested that 71% of pregnant women who used cannabis less frequently at once or twice a week perceived no or slight risk (Young-Wolff, 2019). However, there are other variables that can potentially contribute to the adverse effects including that pregnant women who use cannabis more frequently are also more likely to use other drugs, and this could potentially be a causal factor to the neonatal health outcomes that follow (Young-Wolff, 2019). It is more difficult to identify any causal factors since there is not enough research surrounding cannabis use in pregnancy on the health outcomes for the mother and child. A conclusion was made that "future research is critically needed to examine the short- and long-term health outcomes for mothers and their offspring associated specifically with daily vs occasional cannabis use during different time points in pregnancy, adjusting for co-use of other substances" (Young-Wolff, 2019).



Samantha Cacella is a student at the Rutgers Edward J. Bloustein School for Planning and Public Policy in New Brunswick, graduating with a Bachelor of Science degree in Health Administration. She has always had a strong passion for health and helping others. She is looking forward to her future career in the health care field with the overall goal to contribute to helping improve the health and overall livelihoods of communities of people.

The Effect of healthcare disparity on Maternal health and mortality

By Isabel Chacko

My goal is to understand how healthcare disparities between mothers of color and white mothers affect maternal and prenatal health and mortality. This is significant given the state of racism in the United States.

In this country, people of color, especially black men and women, have faced significant challenges when navigating their quality of life. When discussing women's health, this lack of care is seen in pregnant women. From maternal morbidity and mortality statistics, it is quite evident that there is a vast difference in the care given to black pregnant women versus white pregnant women. This discrepancy has caused maternal and prenatal difficulties and mortality at an inflated rate.

Without the proper physical and mental care, many women have health issues undetected. These issues can result in serious outcomes and complications as the months and years pass. Knowing this information, it is imperative that we as advocates of women's health understand the cause of these discrepancies in order to begin solving them.

Research that identifies the barriers and then templates that address them are quickly needed. As well, affected women must speak out in order to allow us to understand the extent to which these disparities affect maternal and prenatal health.



Isabel Chako is a current senior at Rutgers University earning her B.S. in Public Health in May 2021. She is an individual who is passionate about women and maternal health and different ways to better women's healthcare overall. Isabel is working with Dr. Bachmann and a team of interns to discuss various topics regarding maternal health, while focusing her research specifically towards substance abuse in pregnant women. Through her research, Isabel hopes to learn the effects of substance abuse on maternal and prenatal health, as well as devise treatment plans and discuss preventative intervention

Improving Maternal Health: Mental Health Treatment During Pregnancy

By Krista Collins

Pregnancy is typically considered a time of emotional well-being and associated with the "pregnancy glow." However, recent studies have found that up to twenty percent of women suffer from mood or anxiety disorders during pregnancy. It is extremely necessary to identify gaps in clinical care among women who may need psychopharmacological treatment during their pregnancies. It should also be further explored whether pregnant women are given enough opportunity to discuss the risks and benefits of medications with the prescribing providers. The knowledge regarding risks of prenatal exposure to psychotropic medications is not complete, and there should be safe options available for pregnant women.

Because the knowledge of risks is incomplete, it is common for patients to discontinue pharmacologic treatment during pregnancy. Women with histories of psychiatric illness who discontinue medication during pregnancy are especially vulnerable. A recent study followed a group of women with histories of major depression across pregnancy and found that women who discontinued medication were five times as likely to relapse compared to women who maintained treatment. Despite this, it is still important to know the risks of continuing medication as well. Providers might not be prepared to facilitate an informed decision-making process and may also be reluctant to continue medication treatment. All medications diffuse across the placenta, and no psychotropic drug has been approved by the Food and Drug Administration (FDA) for use during pregnancy. In addition, knowledge of long-term effects of prenatal exposure to psychotropic medications is not complete. The central nervous system is vulnerable to toxic agents throughout pregnancy. There have been few studies that investigate the impact of exposure to psychotropic medications in utero on development and behavior later in life.

The risks associated with fetal exposure to medication should be taken into account, but there are also substantial risks associated with untreated psychiatric illness of the mother. Psychiatric illness may cause significant morbidity for a mother and her unborn child. Anxiety and depression have been associated with adverse outcomes such as low birth weight, preterm delivery and fetal growth slowing.

Therefore, there is a need for a thorough risk and benefit analysis for pregnant women with psychiatric illness. I believe moving forward there should be more research done on the short–term and long–term risks of pharmacologic treatment during pregnancy. There should be improved communications between obstetric care professionals and mental health clinicians for more proactive risk and benefit discussions with patients. Health providers need to be prepared to have informed discussions regarding mental health treatment for pregnant women in order to yield the safest outcomes.



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Improving Maternal Health Care

By Samantha Cacella and Neve Dispenza

Maternal health care is crucial not only for mothers enduring pregnancy, childbirth, and their postnatal period which can be taxing on their minds and bodies, but also the direct impact the mother's health can have on the child's health. This is why when approaching it as a public health issue, maternal and child health are grouped into one category. Mental health in itself is a public health issue that should be taken seriously in healthcare for all populations of people, but it is an especially important concern in mothers, as maternal depression has the highest public health impact (Atif, Lovell, & Rahman, 2015, para. 4). The link between the mother's health and the child's health is well understood and taken into consideration in health care and maternal and child health programs; however, the importance of maternal mental health and the extent to which that can impact the mother and child's physical health seems to be overlooked. A mother's mental health directly affects her ability to care for her child. It has been found that children of mothers who are depressed are at risk for poor health, developmental and behavioral problems (Atif, Lovell, & Rahman, 2015, para. 1). Acknowledging the risk associated with poor maternal mental health and their children's health along with the prevalence of postnatal depression in mothers raises a concerning public health issue. Data gathered from multiple studies with different participants and setting resulted in a prevalence of 5.0–63.9% of maternal postnatal depression in America (Arifin, Cheyne, & Maxwell, 2018, para. 12). Methods of assessment, the use of self-reporting, and stigma surrounding mental health and specifically postnatal depression are all contributing factors that may impact the accuracy of the data produced (Arifin, Cheyne, & Maxwell, 2018, para. 16).

Correlation between maternal depressive symptoms and child development have proven high. Toddlers with mothers who experience depressive symptoms show long term effects of their environment. This pertains to the foreseen impact a mother has on her children, such as high irritability, temperament, slow learning, and stress. Most "Toddlers of mothers with depressive symptoms show more concurrent health problems, more language and global developmental delays, more negative and less positive affect, less sustained attentiveness, overly high activity levels, and more non-compliance and tantrums than children of non-symptomatic mothers" (Brennan et al., 2000; Turney, 2011; Turney, 2012; NICHD, 1999). Heavy emphasis is placed on parenting style as children are ultimately affected from learning in an unstable environment, knowing that as their normal. Treatments for depression include both pharmacologic and psychotherapeutic interventions, even the combination of both. Mothers who are experiencing moderate to severe depression are treated with pharmacotherapy.

However, evidence-based psychotherapy reduces depressive symptoms across age groups, genders, and medical comorbidities" (Cuijpers et al., 2011). This includes the prescription of antidepressants that range from newer selective serotonin reuptake inhibitors and older tricyclic antidepressants. Another effective treatment for postpartum depression includes hormonal therapy which include estrogen patches, bright light therapy, and repetitive transcranial magnetic stimulation during pregnancy. Although early treatment regarding postpartum depression reduces depressive symptoms it is important to note that treatment shows virtually no difference in the mothers parenting behaviors. To help with such parenting behaviors, relationship focused interventions have proved effective in increasing depressed mothers' responsiveness to their children. To achieve such a positive impact on parenting behaviors, there needs to be substantial resources. Such resources depend on the psychological well-being of the mothers to persuade them to participate in treatment as well as implement the suggested advice into her life.

In order to improve maternal health care, mental health needs to be addressed, especially when depression is a prevalent postnatal occurrence in mothers. Additionally, poor mental health in the maternal population poses the largest public health risk as infant and child health is largely impacted by maternal health. Because of this and the nature of mental health, specifically depression, being fairly complex and difficult for the person experiencing it, this makes having resources readily available for mothers experiencing postnatal depression crucial when it comes to effective intervention. By including and emphasizing maternal mental health, especially in the postnatal period, in maternal and child health programs, this will work directly to improve maternal mental health and, indirectly, the physical health of the mother and child. Effective treatment begins with mothers who show willingness to overcome such difficulties as well as finding a suitable course of action. Modes include prescription drugs, therapy, and even parent-child interventions. With the combination of both pharmacological and psychotherapeutic interventions, women suffering from depressive symptoms show self and parenting improvement.



Neve Dispenza is a senior graduating with a Bachelor's in Health Administration from the Rutgers Edward J. Bloustein School for Planning and Public Policy in New Brunswick. In hopes to make a difference in people's lives, she has always been driven to healthcare. Taking care of others and continuously learning about the field is something that inspires her as well as making the world a better place. In the future she hopes to help others whilst working in the healthcare industry.

Maternal Health Disparities

By Carina Feeney

Acknowledging that maternal health or rather maternal health disparities are a driver for poor health outcomes in the U.S., maternal health improvement is pertinent.

In addressing maternal health two major improvements come to mind. These include:

1. Access to affordable healthcare. There has to be services for all regardless of the ability to pay.

2. Education regarding maternal health. By that I mean health education that's specific to maternal health which can empower and encourage women to seek medical services when appropriate. More so, with education about the importance of health care and the increased access to affordable healthcare, the boundary that currently stands between women and maternal health services such as prenatal care is "strengthened".



Carina Feeney is majoring public health with a minor in biological sciences at Rutgers University. She has developed a strong zeal for sexual health and its role in healthcare, which she hopes to gain knowledge into the medical field.

“Harping” on the Importance of the Maternal Mind

By Aqueena Mary Fernandez

The first songs we learn are lullabies, melodies crafted to soothe the newest members of our society, designed to comfort whatever fussiness arises in infants who yearn for warmth, comfort, and sustenance. These lullabies are often accompanied by the gentle hold of a parent, the tight embrace of a swaddling blanket, the hum of the cicadas chirping in the background.

But what if instead of the constant hum of the natural world, it was the continuous drone of electricity powering the artificial light? What if the first noises you heard were the rhythms of NICU machines monitoring each breath, each beat, each moment of life?

In a study done by Schlez et al. in 2011, music was used to transform this cold, sterile environment into a heavenly one of sorts; after all; each strum of a harp is said to be ethereal. Music therapy has proved to show beneficial effects for both mothers and their preterm infants during their stay in the NICU. There are a variety of anxiety reduction techniques that have been developed in the hopes of decreasing the anxiety levels of preterm infants and enhancing their neurobehavioral and physiological outcomes. By combining the modalities of skin–to–skin contact, known as kangaroo care (KC), and music therapy with a harp, the authors believed it would make sense for the soothing effects to be greater in conjunction than their effectiveness alone on maternal and infant physiological parameters and for neonatal and maternal anxiety.

The randomized intervention was initiated during a 4–month period. It involved 52 mother–infant pairs that acted as their own controls. The infants received either KC alone for 30 minutes or KC combined with live harp music therapy for 30 minutes. Based on the results, the authors were able to conclude that the combined therapy had no measurable outcome on infants’ physiological responses. However, they found that the combined therapies were more advantageous in reducing maternal anxiety than KC by itself.

These findings were significant because they implied that the calming effect of KC with harp music therapy could be generalized to all mothers in the NICU setting, regardless of their ethnicity, education, age, or affinity for music. Furthermore, this finding is critical for parents, especially mothers who may experience the stress of separation following birth and require a calming atmosphere to initiate bonding with their baby.

Heart rates, oxygen saturation levels, and respiratory rates are easy. They're numbers– cut and dry, efficiently and effortlessly recordable and analyzable. The same cannot be said about the mental state of a woman following childbirth, especially after high–risk pregnancies that result in the need for the NICU. I can only imagine the jumble of worries going through their minds, the patchwork of emotions, the roller coaster of hormonal change and their effects. If each pluck of a harp can, even for a moment, untangle this contortion of feeling and anxiety with its celestial harmonies, it should be more widely implemented. Music therapy is safe, inexpensive, and well–established– the benefits are there and waiting to be realized.

The feel of their babies' skin on theirs, the song of the strings reciting their poem of serenity– together they're a potent mixture to enhance the vitally important bonding between mothers and premature infants. Maternal mental health matters, not least because it directly impacts the outcomes of vulnerable babies. Mothers' minds will nurture our next generation of dreamers and doers. They deserve the utmost attention, receiving every intervention that could increase their quality of psychological well– being.



Aqueena Mary Fernandez is a sophomore at the University of Florida on the pre–medical track pursuing a B.S. in Psychology with an emphasis on Behavioral and Cognitive Neuroscience and a minor in Theories and Politics of Sexuality. Her interests include gender and health disparities, and she is an advocate for education and awareness of topics relating to these. She hopes to be an OBGYN and Professor of Women's Studies. Outside of the fourth floor of Library West, you can find her with her pups, Button and Zipper, immersed in her recent research project with the Florida Exposure and Anxiety Research (FEAR) Lab, exploring Gainesville nature, or at home spending time with family in Orlando.

Healthcare Barriers for LGBTQ+ Individuals

By Ishaa Gadkari

It is not a secret that gaps exist in the United States' healthcare system. Health disparities between populations are prevalent across the country. These gaps in our healthcare system impact racial and ethnic minorities, low–income families, as well as LGBTQ+ individuals. LGBTQ+ individuals face unique barriers to care in the US healthcare system.

A significant barrier to care is the fear of discrimination in a healthcare setting. Many LGBTQ+ individuals do not inform their primary care physician or other health care providers of their gender and/or sexual orientation because they fear it will impact the quality of the healthcare they receive. However, the omission of relevant information may also affect an individual's health. If an LGBTQ+ individual fears discrimination in a healthcare setting, they may choose not to see a doctor even when necessary. This could lead to their health worsening. Discrimination takes a toll on LGBTQ+ individuals and puts them at a higher risk for developing other health issues, such as depression and addiction. Furthermore, physicians may refuse to see or treat LGBTQ+ individuals because of their gender identity or sexual orientation. In a 2017 survey conducted by the Center for American Progress 8% of lesbian, gay, and bisexual respondents and 29% of transgender respondents reported that a healthcare provider refused to see them due to their gender identity or sexual orientation in the past year.

Lack of competent care is another barrier to care LGBTQ+ individuals face. Due to social stigma, LGBTQ+ individuals do not disclose important information to doctors, and therefore doctors are unaware of their patient's needs. However, many medical schools across the country do not teach medical students about the needs and health of LGBTQ+ individuals. This is detrimental to the LGBTQ+ community since students and doctors with exposure to LGBTQ+ patients are more likely to have greater knowledge about LGBTQ+ health issues and accept their LGBTQ+ patients. This leads to better healthcare for LGBTQ+ individuals.

So how do we dismantle these barriers? Medical schools must incorporate culturally competent training in their curriculum. All medical students should be informed about issues specific to the LGBTQ+ community, as well as how to respectfully treat LGBTQ+ individuals.

Furthermore, physicians' offices should be more inclusive and respectful of LGBTQ+ individuals as well. For example, they should ask all patients for their pronouns and include more genders on medical forms. Doctors and other medical staff should not assume a patient's sexual orientation or even that someone has a spouse. Even simple things like displaying a pride flag in the waiting room of a physician's office could lessen anxiety about seeing the doctor a great deal.

Although there has been much progress made in regard to gay rights throughout the years, it is important to recognize that we still have a long way to go, especially in the healthcare sector. The barriers LGBTQ+ individuals face when accessing healthcare services must be eliminated to improve the health of this vibrant community.



Ishaa Gadkari is a senior at Rutgers University–New Brunswick studying Public Health with a minor in Mandarin Chinese on track to graduate in May 2021. After graduating from Rutgers, she plans to begin pursuing a Master of Public Health. In her free time, she enjoys playing the guitar, reading, and biking.

Improving Maternal Health

By Alisha Hasnain

Postpartum depression often occurs with mothers following childbirth. This can include episodes of anxiety, insomnia, loss of appetite, and frequent mood swings. It can last from several months to a couple years. The physical cause of this is due to a sudden drop of hormones, estrogen and progesterone, after giving birth.

The mental reasoning may be related to a new mother feeling incapable of providing for the child, feeling a loss of control in her life, and having self-identity issues. To avoid this state of mind, it is important to provide mental health facilities to new mothers for emotional support. Being part of a small community with those going through a similar experience is beneficial because it will let them feel less alone. The facilities can also teach self-care techniques, displaying ways to relax and meditate.

Another approach would be to have one-on-one cognitive behavioral therapy sessions. This will allow new mothers to stop feeling overwhelmed, and rather learn to process their thoughts and emotions. In all, mental health facilities will have a great, positive impact on maternal health by decreasing rates of postpartum depression.



Alisha Hasnain is a senior at Rutgers University pursuing a B.S. in Exercise Science with a minor in Psychology. Her interests include increased health and wellness opportunities for women. She hopes to focus on OBGYN studies following her first B.S. Further from her education, you can find her scribing in the ER under a pile of charts, or at home spending time with friends and family.

Oral Health and Pregnancy

By Caitlyn Horton & Hannah Oliveira

Oral health is an essential part of one's overall health that is often overlooked during pregnancy. Most gynecologists agree that there is a relationship between oral health and pregnancy outcomes. There is a misbelief amongst the pregnant community about the safety and importance of regular dental attendance during pregnancy which inhibits this demographic from seeking proper dental care. This is an issue because this group is more susceptible to oral health issues due to changes in hormones and diet during pregnancy. If oral health complications are not addressed, they can lead to adverse short and long-term pregnancy outcomes.

Periodontal disease, gum disease, is caused by a gram-negative bacterial infection leading to irritation and inflammation of the gums, tissues, and bone surrounding and supporting teeth. There are two forms of periodontal disease: gingivitis, which is a mild gingival inflammation that is reversible, and periodontitis, which is a chronic gingival recession and destruction of the periodontal ligament and alveolar bone that is irreversible (Komine - Aizawa, Aizawa, & Hayakawa, 2019). Seventy-five percent of pregnant women are expected to experience gingivitis at some point during their pregnancy, while 20–50% will experience some form of periodontal disease (Nguyen, Nanayakkara, & Holden, 2020). These experiences are associated with hormonal changes, specifically the increased production of estrogen and progesterone, that occur during pregnancy and elicit an immune-inflammatory response throughout the body (Nguyen, Nanayakkara, & Holden, 2020). Periodontal disease during pregnancy can lead to adverse pregnancy outcomes, most notably premature delivery, low birth weight, and preeclampsia (Komine - Aizawa, Aizawa, & Hayakawa, 2019). It is also associated with long-term effects such as diabetes, cardiovascular disease, and respiratory infections (Srinivas & Parry, 2012). This disease is preventable and can be safely treated during pregnancy with early intervention and proper dental hygiene education (Nguyen, Nanayakkara, & Holden, 2020).

Periodontal diseases and oral health issues affect the pregnant person's health and the fetus's health, as well as have negative health effects reaching past birth. The vast majority of gynecologists support the relationship between oral health and the health of a pregnancy (Hashim, Akbar, 2014). In a survey of 150 gynecologists, 75.9% suggested the outcome of pregnancy can be affected by periodontal diseases. Research suggests periodontal disease could be a causal factor leading to preterm labor and other adverse pregnancy outcomes (Han, 2011).

There are two main theories used to support this relationship. Periodontal diseases can induce immune responses in both the pregnant person and the fetus, and oral bacteria can travel to the uterus and cause dangerous inflammation or infection. Both of these conditions can result in premature labor and other adverse pregnancy outcomes.

One study of postpartum parents in Uganda found a significant association between gingivitis and infants born with low birth weights (Muwazi et al., 2014). Given the association between premature labor and low birth weight with periodontal diseases, pregnant women must regularly see an oral health professional.

There is a lack of knowledge surrounding the safety and importance of dental attendance during pregnancy. A study of 825 participants found that 46.9% of pregnant women believed that dental treatments should be avoided entirely during pregnancy, while 16.4% acknowledged that routine visits were important (Nazir & Alhareky, 2020). The same study also proposed a relationship between dental phobia –an intense and irrational fear of dental situations– and the perception of dental treatments amongst pregnant women. Although estimates of dental phobia amongst the general population range between 0.9% and 12.4%, 16.1% of pregnant women have a dental phobia (Nazir & Alhareky, 2020). Pregnant women are more vulnerable to oral health problems due to hormonal and diet changes during pregnancy, yet 61% of pregnant women had not been advised by a healthcare professional about the importance of dental attendance during pregnancy (Bahramian et al., 2018).

There are three minerals and vitamins that dentists most frequently attribute to dental health: fluoride, vitamin D, and calcium. Fluoride supports tooth damage resistance and is incorporated into developing enamel during odontogenesis (Khayat et al., 2017). Natural fluoride sources, including teas and marine fish, can be incorporated into diets to ensure individuals consume adequate amounts of the mineral. Additional fluoride supplements are not encouraged by gynecologists or dentists. An adequate amount of fluoride (3–10 mg/day) is crucial to maintaining tooth health. However, doctors recommend higher amounts of vitamin D for pregnant women and calcium for lactating individuals. If pregnant women do not have adequate intakes of vitamin D and calcium, they are at an increased risk for tooth loss due to periodontal diseases. Current recommendations for vitamin D in pregnancy are for 200–600 IU/d; though, developing research suggests a noticeably higher amount, 6000 IU/d, may be sufficient (Grant, 2008).

For individuals lactating, doctors recommend increasing their calcium intake by around 200 mg/day if they already received the minimum amount of calcium, 1000 mg/day (Khayat et al., 2017). For individuals suffering from periodontal diseases, calcium leaches from the teeth, leading to increased sensitivity and tooth damage (Grant, 2008). Preparing a healthy diet and utilizing the appropriate supplements can help prevent tooth damage, and healthy fetal tooth and bone development can be supported.

Poor oral health poses an increased risk for pregnant women and fetal and infant health and development. The presence of periodontal diseases can cause premature labor, low birth weight, and preeclampsia (Nguyen, Nanayakkara, & Holden, 2020). Despite this, many pregnant women are hesitant to visit dentists and receive dental care. Given the relationship between periodontal diseases and adverse pregnancy outcomes, obstetricians and gynecologists must recommend pregnant people receive adequate amounts of vitamins and minerals essential for oral health and regularly visit dental professionals to take care of their oral health.



Caitlyn Horton is a Rutgers student affiliated with SAS/Edward J. Bloustein School '22 pursuing a Bachelors in Public Health with a minor in Women's, Gender and Sexuality Studies. She demonstrates her love for service as a crisis counselor and as an event coordinator and service leader for Rutgers University Alternative Breaks. Caitlyn combines her service and public health background by organizing Narcan training for the Rutgers community. As a Douglass woman and an Institute for Women's Leadership Scholar, she has worked as a Barbara Voorhees Mentor and currently interns at the RWJ Women's Health Institute. Caitlyn's involvement on and off-campus provides her with a community-oriented mindset, which she intends to utilize in the future to provide healthcare to underserved regions.

Hannah Oliveira is a student at Rutgers University – New Brunswick Honors College and School of Arts and Sciences Class of 2022. Majoring in Exercise Science with minors in Health & Society and Women's, Gender and Sexuality Studies on a Pre-Medical track. Hannah is currently a part of the Institute for Women's Leadership Leadership Scholars Program where she plays an active role in the social committee. Off campus, Hannah is involved in Rutgers Honors College Ambassadors, Rutgers University Alternative Breaks, Sigma Delta Tau, and a volunteer at Robert Wood Johnson University Hospital.



Model Minority and Maternal Health

By Monica Hsu

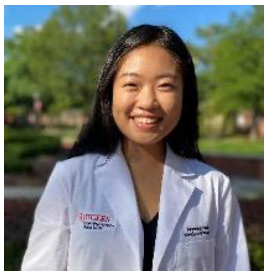
The “model minority” stereotype embeds itself deeply, as Asian Americans are perceived to be highly focused on academic excellence and minimal risky behavior. Though there are perceived benefits from this stereotype, the harmful impacts cannot be overlooked. The high standards placed on Asian Americans by members inside and outside of the community creates barriers for Asian American adolescents to speak openly and inquire about sexual and reproductive health topics. Lack of communication in these areas has implications in access to contraception and unplanned pregnancy prevention.

While Asian Americans have made great strides in finding success in the United States, Asians still retain a “foreigner” image1. The uproar and xenophobia experienced earlier this year from COVID–19 only highlights this fact and emphasizes the need for further cultural competency in this country. Yet, the model minority myth serves to justify that Asian Americans are self–sufficient, as they are viewed as wealthier, more educated, and more successful in assimilating into American society in comparison to other minority populations1. These assumptions perpetuate inequities between ethnic populations, implying that social determinants of health can be simply overcome by hard work.

With this model minority stereotype, there is also the belief that Asian Americans are more likely to abstain from sex and less likely to have teen pregnancy. Holding Asian Americans to this higher standard can create barriers in introducing critical topics such as sexual and reproductive health to adolescents. Cultural stigma influences immigrant parents to place expectations of modesty on their children and rarely engage in conversations about sexual and reproductive health. Many Asian American adolescents fear lack of confidentiality and report lying to their health care providers about their sexual history2. Subsequently, physicians may also perceive Asian Americans at lower risk for unplanned pregnancy2, thus may not initiate thorough questioning about the patient’s sexual health history. As a result, Asian American adolescents have among the least communication with family and health care providers about topics on sexual activity, contraception, and pregnancy prevention2. Education of pregnancy prevention and the use of contraception are important in reducing risk of unintended pregnancy and maintaining overall reproductive health, since women who do experience unintended pregnancy are at higher risk of mortality and financial hardships.

From personal experience as well as speaking to my Asian American friends and peers, bringing up the topic of sexual and reproductive health with parents is often taboo. I remember when I went to my dermatologist to help control my acne. He suggested I begin taking birth control, to which my mom alarmingly questioned why that would be necessary. It was not until I finally had separate insurance with my school did I feel comfortable asking my OBGYN to begin birth control. I also know of friends who rely on places like Planned Parenthood for confidential access to contraception, as well as peace of mind knowing they have someone aside from their parents to ask for help if they were to become pregnant. Planned Parenthood is an excellent resource for young women and use of such options can provide much needed assistance. I hope to advocate for young women and empower Asian American women to speak out about their reproductive needs and encourage them to seek resources. There is a need and desire for health care providers to initiate conversations about sexual and reproductive health with Asian American adolescents –– health care professionals just need to answer the call.

Patients should be informed about reproductive health and feel inspired to ask questions, whether it is deciding to use contraception, planning ahead for a healthy pregnancy, or being cognizant of options if they do become pregnant. To initiate important conversations between Asian Americans and their health care providers, harmful stereotypes and lack of communication calls for a need for cultural competency and discrediting these stereotypes.



Monica Hsu is a first-year medical student at Rutgers Robert Wood Johnson Medical School. She graduated from Northwestern University in 2019 as an anthropology major with a concentration in Human Biology and a minor in psychology. In her free time, she enjoys sketching and painting, as well as playing soccer with friends.

The Price of Being A Woman: Addressing The Elephant in The Room

By Merna Mohamed Ibrahim

One's freshman year of college is often recognized as a time of tumultuous changes. The shifts faced during freshman year can range from newly found independence to realizations that this new chapter in life is a defining one. However, the lessons I learned during my freshman year serve as insight into where I aspire to be for the rest of my life: on the front line of women's health disparities.

It was in my freshman year that I decided to delve into research regarding female genital mutilation, certainly a heavy subject. I myself am a proud Egyptian American woman and FGM rates in my country were, up until recently, over 90 percent. It was all these ingredients together that made this freshman year research project more than just that, it became a jumpstart to a calling. It was through this research that I interviewed my own mother and had her open up to me about the FGM performed on her as a little girl in Egypt. Female genital mutilation is a multifaceted women's health issue that I know a lot about but keeping with the theme of this Women's Health Institute journal, I'll focus on specifically the maternal health outcomes.

My mother is a survivor of female genital mutilation. It was a life–changing moment for my mother to open to me about the traumatic struggles she experienced as a little girl in Egypt. But the one detail that struck a chord with me the most was when she talked about how she is continuously treated poorly by doctors when they see the physical cost of being an FGM victim. My mother would always feel humiliated when it was time to take examinations while pregnant because she saw herself as an abnormality in the American doctor's eyes. The doctors could tell what happened to her but never addressed it.

The lack of communication my mother detailed was shocking. Especially considering the delivery complications that FGM exacerbates, why was my mother never talked to? Female genital mutilation notably affects the elasticity of important tissues during labor leading to more tears and lacerations than anticipated, impeding parturition in the process. One of the leading causes of maternal deaths is lack of communication and preparation. I got angry. My mother knew the doctors were too uncomfortable to even try to discuss with her the possible catastrophic consequences she would endure––both physically and mentally. As more and more data gets released regarding maternal health outcomes, the elephant in the room gets bigger and bigger.

The World Health Organization says one of the greatest tools in saving women's lives can be as small as simply addressing it. All of it. From addressing the pregnant woman who is complaining about a headache to the nervous expecting mother who happens to be an FGM–victim.

After speaking with my mother, I could not shake what she told me from my mind. I thought about the number of women who experience the same silence and the mistreatment they go through at the hands of inept doctors. And that is when I thought about what I can do to alleviate this instance of health care inequality. It was at this point that I decided that I can fill the void that people, like my mother, need in health. We have to be the change that we want to see in the world. If those who, like us, care passionately about maternal health are not the change, then who will be? I assured my mother that one day in the future I'll be the obstetrician that she and others so desperately need but cannot find today. The price of being a woman should never be the loss of life, but only the gain.

Merna Mohamed Ibrahim is a junior at Rutgers University Honors College majoring in Biochemistry. She is also a part of Douglass Women's College and after graduating in 2022 plans on going to medical school to one day become an OB/GYN. Tackling bias in medicine and women's health issues are major driving interests of Merna. In her free time, she enjoys volunteering at her local mosque, tutoring high school students in chemistry and calculus, and film photography.

Harnessing the Power of Machine Learning to Improve Maternal Health

By Hadjira Ishaq

In 2018 the United States Congress passed the Preventing Maternal Deaths Act, legislation which empowered the Centers for Disease Control and Prevention (CDC) to support state and tribal Maternal Mortality Review Committees (MMRCs). These interdisciplinary teams evaluate instances of maternal death by collecting data from diverse sources such as hospital discharge records, autopsy reports, police reports, and state-specific program data. Some states even conduct in-depth exploration of pregnancy-associated, but not related, deaths in detail which has revealed that self-harm, substance use, and homicide are contributors to mortality in pregnant women. Most importantly, the MMRC determines whether the death was preventable. The continued establishment and strengthening of MMRCs has provided us with a rich data set concerning adverse maternal health outcomes.

While this data has been the basis for informing recommendations to reduce maternal mortality, I believe we can use this data in a more impactful way. To improve maternal health outcomes in the United States, I argue that we should invest in machine learning to develop prediction models for obstetric and post-partum complications. Machine learning, an application of artificial intelligence, facilitates the analysis of large quantities of data. In essence, machine learning "learns" from past data and develops algorithms that can be applied to predict future events or outcomes.

I propose the development of a machine learning prediction model using MMRC and hospital outcomes data. This model would analyze past patient outcomes and a current patient's characteristics to calculate an individualized risk estimate. Demographic data, such as race, socioeconomic and health insurance status, and other maternal factors must be included in the training dataset. This is essential for developing a tool that accounts for disparities in maternal health, allowing for a holistic risk estimation. The efficacy of machine learning is limited by the quality of its training data, as such, this data must be robust. In clinical practice, this multivariable analysis would further inform physician's decisions regarding how to monitor, treat, and refer their patients to social programs. This data-driven and individualized approach could facilitate timely and targeted interventions that would ensure the best possible outcomes for patients, improving maternal health. Research illustrates the promising applications of machine learning prediction models in obstetric and postpartum patients.

In a study conducted in Australia, machine learning effectively used maternal data collected through delivery, including neonatal data, to predict postnatal hypertensive disorders and surgical wound infection. Another study in Korea input maternal factors and antenatal laboratory data into a machine learning algorithm to effectively predict late–onset pre–eclampsia5. Finally, a study conducted in the United States used machine learning to predict postpartum depression within one year following childbirth.

Machine learning is at its early stages of development and there are some challenges associated with implementing this tool. Labelling and curating the training dataset is a large undertaking. However, once this data organization has been established and standardized, the initial time investment is marginal compared to the potential returns. There are some ethical concerns that must be considered when developing this tool. First, steps must be taken to ensure that bias is not encoded into the algorithm. Second, these systems would store enormous amounts of protected patient information. Informed consent must be obtained and data privacy must be protected3. Despite these challenges, I believe the promise of machine learning lies in its ability to improve as it is used. Through a process called "incremental learning", the algorithm adapts to new data and further refines the accuracy of its predictions. As opposed to static prediction models that work within the parameters set at its inception, machine learning offers the possibility of evolving our predictive models to match the evolution of obstetric and postpartum outcomes.

Among high–income nations, the maternal mortality rate in the United States is staggering and disproportionately affects black women and women of color7,8. While our maternal health crisis can, in part, be ameliorated through reform in our healthcare system and addressing inequalities in our society, change is slow and often met with resistance. Patients cannot wait for such change to be brought about; they need better health now. We must use innovative strategies to optimize how we care for patients in our current system. In that context, machine learning is a promising tool to improve the health and wellbeing of mothers.



Hadjira Ishaq is a second–year medical student at the Rutgers New Jersey Medical School. She graduated from the University of Maryland College Park with a B.S. in Cell Biology and Genetics and a Graduate Certificate in Global Health. As a medical student, Hadjira promotes maternal health in the Newark community by co–leading health education initiatives. She is committed to improving women's health with a focus on low–income patient population.

Family Planning for Incarcerated Women

By Sofia Lamberto

The female population in correctional facilities is often overlooked and excluded from supportive maternal health services, specifically when it comes to proper family planning and reproductive healthcare. Family planning opportunities are a true unmet need for incarcerated women and when we consider statistics, these women are generally of prime reproductive age and are arguably the most likely group to benefit from family planning services (Sufrin, et al, 2017). Whether an incarcerated woman has the desire to begin a family upon her release or not, the need for on-site contraceptive services is ever present and has been implemented successfully in states like California. Furthermore, women who are incarcerated are largely from underserved areas that face socio economic hardship making them less likely to receive reproductive healthcare outside of correctional facilities. This being considered, detention facilities have the opportunity and the obligation to provide their female population with adequate contraception and other family planning services. In the context of public health, allowing all women the opportunity to access contraception is a public health prevention strategy to reduce the occurrence of unintended pregnancies. According to the ACLU, In the state of California, strong steps are being taken to make reproductive health and family planning a priority in the penal system. Jails and correctional facilities are now required to provide reproductive health care and education on reproductive services to female inmates. In addition, the state requires that any preexisting prescription for birth control be continued through a woman's period of incarceration without interruptions. The state of California also allows female inmates to request birth control services within 60 days of their release and the jail facility is required by law to make such services available. California is setting a positive example to the rest of the country in terms of making family planning a common-place service offered to incarcerated women. Reproductive rights are fundamental and incarcerated women should not be an exception.



Sofia Lamberto is a WHI intern for the spring of 2021 researching LGBTQ individuals among law enforcement. As a prospective 2021 graduating senior at The Bloustein School of Planning and Public Policy at Rutgers University she has studied public health and has over 3 years of experience in laboratory research in health and nutrition.

LGBTQ Family Planning

By Sofia Lamberto

When it comes to maternal health, quality family planning is a distinct first step in the process that must be openly discussed and made available in every community. One population in particular that has historically been isolated from receiving adequate family planning is the LGBTQ population. Although In recent years the level of support has increased, there still remains significant barriers to care and family planning services. One New York City based clinic is having an impact and changing the lens with which the LGBTQ community views their own options for family planning and family support. Gay Parents To Be was founded by Dr. Mark Leondires who was inspired by him and his partner's personal struggle to become parents. This experience no doubt personalizes the care the clinic offers to other longing parents–to–be. The clinic's website states, "Our philosophy is to provide a supportive, compassionate, and encouraging environment for patients undergoing this process." The process can be complex but ultimately is extremely personalized for each couple's needs using quality community partnerships with reproduction specialists, surrogacy agencies, egg donor agencies, specialists in reproductive law, foster and adoption agencies, and LGBTQ health psychologists. Gay Parents To Be is making further strides in family planning education using a virtual monthly newsletter called The Voice. The Voice offers advising tips, fertility expertise and a variety of other topics aiming to educate specialists and parents–to–be of their options and give them a solid and supportive starting point. The power of social media should not be underestimated when it comes to spreading useful family planning information for the LGBTQ community. It allows for the spread of not only information but comradery, support, and communication among those experiencing similar struggles on the road to building their families. While LGBTQ family planning can be a costly endeavor, The Voice is a free educational opportunity to offer advising and guidance from clinicians and other supporting professionals. In addition, the Gay Parents To Be website has a comprehensive list of LGBTQ grants and charities to relive some of the financial burden for those seeking to build their family. The clinic acknowledges the lack of employer coverage for services like theirs and offers financial payment plans to their patients. Gay Parents To Be is an inspiring example to similar clinics striving to make family planning a readily available option for the LGBTQ community in a way that is empowering, educational, and supportive.

Maternal health Outcomes: Postpartum Hemorrhaging

By Afsara Mannan

Each year in the United States, postpartum hemorrhage bleeding takes the lives of hundreds of women after childbirth and many continue to live with the trauma that it encompasses. If standard healthcare practices put the mother's life as a priority, why are there still so many preventable cases of this pregnancy complication? This is a topic that is often not highlighted in maternal health outcomes, making it even more vital to further research and develop medical approaches that ensure the safety of women after delivery.

From a global standpoint, postpartum hemorrhage (PPH) is the number one cause of maternal death and is a result of excessive blood loss that can occur within a period of one day to three months after delivery. According to the American College of Obstetrics and Gynecology, most cases of PPH occur when the uterus fails to contract enough to compress the blood vessels where the placenta was attached, which leads to uncontrolled bleeding, decreased blood pressure, and increased heart rate.

The rapid loss of large amounts of blood is the most life–threatening aspect that impacts the mother and carries psychological effects long after the birthing process. In order to diagnose PPH early on, the patient's complete medical history as well physical examination is analyzed. However, the real diagnosis is made through looking at the given symptoms which is facilitated by laboratory tests.

This leads to the most common error: missed or ignored warning signs. For instance, blood volume loss is often underestimated due to visual measurement instead of taking an accurate numerical measurement. Furthermore, risk factors such as placental problems, genital tract trauma, gestational hypertension, and increased body mass index are high indicators of PPH. However, it is important to note that most women who suffer from severe PPH do not possess any risk factors before or during pregnancy.

What can be done? Primary prevention methods may include replacing lost blood and fluids by delivering intravenous (IV) fluids, blood, and blood products which can aid in treating postpartum hemorrhage by preventing shock in addition to supplying oxygen to the mother. Likewise, blood volume measurements can be taken through used pads and swabs reported to clinicians as soon as possible, which can help keep track of gradual bleeding. Tools such as coagulation tests that make it easier to measure fibrinogen, a protein found in blood plasma, should be implemented in all clinical settings where women give birth. Coagulation tests help to assess risk of excessive bleeding or developing clots.

Additionally, there needs to be an emphasis on efficient training for healthcare professionals. Having a skilled maternity team composed of well-equipped midwives, anesthesiologists, and obstetricians can make the stark difference between life and death. It is critical that all staff caring for women in labor and childbirth be aware that most women who have severe PPH have no identifiable prenatal risk factors and that a high level of awareness should be maintained continuously during labor and birth. Opportunities for escalation of intervention and/or calls for backup cannot be missed and should be carried out as soon as the patient is showing signs of major blood loss.

Postpartum hemorrhage poses many dangers to women from all backgrounds. Nonetheless, quickly detecting and treating the cause of bleeding can often lead to a full recovery.

Healthcare professionals have a responsibility to monitor the patient's vital signs, not just during childbirth, but after as well.
Overall, prevention plays an imperative role in identifying high risk factors and active management of labor combined with a multi-disciplinary approach to successfully control hemorrhaging, reducing mortality among women.



Afsara Mannan is a senior at Rutgers University pursuing a major in Public Health and a certificate in global health and policy. She is aiming to get a Masters in Biomedical Sciences and apply to medical school after she graduates. During her free time, she enjoys hiking on local trails and volunteering with urban design projects.

Improving Maternal Health Outcomes

By Tara Mason

There are a multitude of reasons for why maternal health issues need to be addressed. Just to name an obvious reason: it would pinpoint that it is critical to a mother's physical, mental, and overall emotional well–being. Maternal health risks are detrimental to mothers that are prone to chronic conditions, such as high blood pressure, diabetes, and heart disease that is not treated properly. This is a failure as every person in the population should be receiving an excellent quality of health care. Working together should be a requirement, because it will get a great job done.

I always abide by the original saying, "When there is a will, there is always a way". Whenever there is a problem, there are always solutions to seek in order to solve these specific issues, even if it would be a difficult task to fulfill. Some ways in improving maternal health outcomes would be to fully train and educate as many people as possible first, whether these are health care workers, nurses, & physicians. Second, there should be an abundant source of health centers throughout the nation. The more health centers, the more ways in which mothers are given access to health resources to support their pregnancy and post–pregnancy periods. In minority communities, taking care of maternal health is done poorly (specifically targeted to black and hispanic women). In these cases, everyone should empower each other, because it will remind people of their abilities and what they are able to handle. Women are essential people in this world. Having strong and great health indicates that women could help empower other women to remain strong during their periods of pregnancy.

Some other ways of addressing maternal health outcomes would be a more spiritual approach taken. This would include having webinars and information sessions of how women could take care of their spiritual health, such as learning to pray, do self–reflections, and seeking clarity and guidance towards their specific direction in life. Doing health–based bingo activities, distributing health pamphlets, booklets, plush toys, and special goodie bags/care packages would be crucial to ensuring that women's health is just as important. Making sure that pregnant women have special therapy that will be beneficial. There could be free therapeutic night services at local health centers, churches, universities, schools, and even outside. Providing them with different environments that are safe for women would even help steer them in a clearer direction.

Although these ways share a combination of realistic and unrealistic approaches, these are still simple ways that will come a long way. It would teach not only health care workers, men, and other women about these maternal health outcomes, but we would definitely teach ourselves lessons. It is important to carry hope, perseverance, and strength.



Tara Mason is a sophomore at Rider University, majoring in Psychology with a minor in Spanish (on the Pre-med track) and plans to graduate in May 2023. After she graduates, she plans to further her education in Psychology by attending medical school. Outside of her academics, she enjoys doing meditation/yoga therapy, singing, drawing, dancing, and spending her leisure time with family and friends." Interests: Cultivating more holistic medicine approaches in healing + treating people with many disorders and in combating their traumatic lifestyles (more specifically in women and in children)

Substance Abuse in Pregnant Women: Cannabis

By Isabel Chacko & Nicole Mora

Purpose: To understand Cannabis usage in pregnant women and how it affects maternal and prenatal health.
In the modern-day, the decriminalization and legalization of recreational use of cannabis have aided in increased cannabis use amongst men and women. This is also seen in the target group of pregnant women, whose prevalence rate of cannabis use has risen exponentially in the past ten years. Cannabis is known for its short-term effects of relaxation and euphoria but consequently has detrimental effects when used consistently. Knowing this information can allow for evaluation regarding the cause and effect of cannabis use during pregnancy and result in the integration of alternative approaches to combat this issue. A systematic review of relevant literature will provide deeper insight into the validity of these claims and the extent to which cannabis intervention in pregnant women can be achieved.

A literature review was completed on the topic of cannabis use in pregnancy. Many sources were evaluated for relevant information, and the findings are summarised in this paper.

There are many risks involved with using marijuana while pregnant. The effects include, but are not limited to preterm labor, low birth weight, admission to NICU, reduced attention and functioning skills, and behavioral problems in babies. As for the mother, it can impair their function and may lead to domestic issues within the household. Many of these women are reluctant or fail to complete treatment programs because of a lack of support and the methods used during the treatment. As the nation continues to legalize the recreational use of cannabis, the number of pregnant users only increases. In the last decade, the number of pregnant users has doubled. Access to treatment is limited for these mothers because of gaps in knowledge of treatment, lack of a support system, and the criminalization of drug use during pregnancy in some states. These barriers amongst many others can all be resolved with more research and attention put towards this growing population.



Nicole Mora is a current senior at Rutgers University pursuing a degree in Healthcare Administration, Health and Society, and Nursing. Her interest in women's health and maternal health has connected Nicole with the Women's Health Institute where she is now working on exploring the effects cannabis can have on mothers and babies both during and after pregnancy. Together with Dr. Bachmann and a team of interns, we hope to educate the public on health disparities that are affecting women worldwide and to raise awareness.

Improving Maternal Health: Patient-Centered Abortion Care

By Patricia Moscicki

Maternal health refers to the period of pregnancy, childbirth, and the postnatal period. In the first stage, women must make an important decision regarding pregnancy continuation. For women and their families, this decision involves considering personal circumstances, fetus viability, maternal conditions, and many other factors. This difficult decision is an individual one yet, it has historically been made into a topic of community discussion and political rhetoric. To improve maternal health, we must change our dialogues and our framing of the issue. Abortion care should not be a political argument discussed by politicians but a health discussion between patient and provider. In late October 2020, the Constitutional Tribunal in Poland declared that abortion due to fetal defects was unconstitutional. This decision led to massive protests throughout the country for a month, followed by a reversal of the law to the former, which still holds as one of the most restrictive. Abortion prevention laws pose as a protection of fetus rights; however, in reality, they are a threat to women's health. With such laws, women's health is dictated by governing bodies of mostly males and religious leaders, neither of whom endure the physical, mental, or financial consequences. In the United States, the battle for equal and safe abortion access requires constant activism and legal interference. Abortion care in the United States has become construed with political party affiliation rather than grounded on patient care and evidence-based medicine. There is an unacceptable presence of politicians and religion in the clinical practice of abortion that threatens women's safety. Whether a woman chooses to abort a pregnancy due to personal choice, fetal abnormality, fetal demise, rape, or any other reason is a discussion to be had with an educated non-judgmental physician without interference from the law or dictated by the current political climate. Religion should only play a role if a woman wants it to. Safe and equitable access to family planning services protect women's mental and physical well-being. To improve maternal health, we must agree that a woman, not politicians or religious leaders, holds the choice of pregnancy continuation. Instead of addressing the legality of the topic, we must turn our attention to equally supporting the mental, spiritual, and physical health of women who chose to seek abortion care and to women who do not. The discussion of family planning and abortion care must be re-centered to the patient.



Patricia Moscicki is a third-year medical student at Rutgers Robert Wood Johnson Medical School. She graduated from Colgate University in 2018 as a cellular neuroscience major with a minor in religious studies. In her free time, she enjoys spending time with family and friends, and getting fresh air by running.

Prenatal Care Among Incarcerated Women

By Smriti Nair

This review examined various facets of prenatal care in incarceration in order to identify areas where improvement is needed, and to highlight key areas of a pregnant incarcerated woman's health that should be emphasized during prenatal care. The information in this review was conducted from October to December of 2020, through several database searches regarding prenatal care during incarceration.

By analyzing existing literature, it was found that incarcerated prenatal care lacks a federal standard of care that could otherwise be beneficial to inmates. Banning the practice of shackling is a humanitarian issue that the United States must address, along with the creation of a defined standard of care regarding prenatal diet and availability of opioid use disorder treatment. Furthermore, correctional facilities must be prepared to treat mental illness and trauma. After birth, the implementation of Mother–Baby Units can improve maternal–fetal bonding, and reduce readmittance rates.

While prison seems to improve access to treatment of mental health illnesses and is generally associated with better pregnancy outcomes when compared to similar groups that are not incarcerated, there are several ways that prenatal care can be improved in incarceration. State and federal legislation is needed to not only enforce a higher standard of prenatal care but also to encourage the reporting of data regarding pregnancy outcome and prenatal care in correctional facilities. This will facilitate further studies regarding the effect of incarceration on pregnancy.



Smriti Nair is a first–year medical student at Rutgers New Jersey Medical School. She received her bachelor's degree in biology at the New Jersey Institute of Technology, and enjoys reading, playing tennis, and playing the guitar in her free time.

Reducing Maternal Mortality

By Catherine Nyajure

According to a study carried out by the Centers for Disease Control and Prevention in 2014, close to 50,000 women in the United States encounter life–threatening impediments in the course of pregnancy and during childbirth (Phillip, 2020). The US is part of monumental medical developments. Nonetheless, pregnancy–associated risks are yet to go down. From a global perspective, there is no developed country with a shameful record as that of the US. As such, if there was one thing to change about maternal health in the US, then it is the rate of maternal mortality.

To make this change, governments at all levels need quality improvement for emergency obstetric care. According to the report from the CDC, some of the reasons that the US experiences a worrying rate of maternal mortality are missed or late diagnoses, health systems incapable of dealing with maternal emergencies, and substandard case management (Phillip, 2020). Improving the quality of emergency obstetric care means that a significant percentage of the mortality cases because of emergencies will reduce.

The best way to improve emergency obstetric care in health facilities across the US is by carrying out reviews and analyses (Engender Health, 2003). The first review is the client/family interview. Family members and clients offer valuable information concerning service quality. The second review is an EmOC assessment on guides concerning the Rights Framework for Quality Emergency Obstetric Care. The client flow analysis offers information on waiting time to analyze the reason for delays. The registers and records reviews to keep track of obstetric emergencies and maternal deaths. Briefcase review guidelines have health care providers discuss difficult cases to learn from patient results. The review guidelines also enable the health care providers to tell if a problematic system contributes to compromised quality care.



Catherine Nyajure is an honors student at Rutgers University pursuing a Bachelor of Science degree in Public Health and has maintained a place on the Dean's list her whole college career. She chose her major due to her passion for improving community health outcomes through prevention programs. Currently, she is an intern at the Women's Health Institute of the Robert Wood Johnson Medical School where she is conducting research on the role of music in healing victims of sexual assault. She is actively involved in volunteerism and has raised money for various organizations in Kenya such as, Homabay Orphanage which educates and houses children whose parents have died as a result of HIV/AIDS and Fountain of Hope which provides an annual supply of sanitary towels to girls from low–income families, so that they can attend school uninterrupted. After her graduation in January 2020, she would like to work in the field of public health for a local or international organization and eventually pursue a graduate degree in global health or Epidemiology.

Maternal Mental Health Care Intervention for Underserved Mothers

By Mudia Ogbevire

“No voice is too soft when that voice speaks for others.”– Janna Cachola

When I decided to study public health at Rutgers University, I knew I was making a conscious decision to become an advocate for improving the health of at–risk populations. The vulnerable populations in maternal health include economically disadvantaged women, women of color, and mothers in the LGBTQ community. Pregnancy can take a major toll on a woman's physical health, but the burden it takes on their mental health needs to be the focal point of conversation as well. Some mothers do not have the proper resources to adequately take care of their mental well–being throughout this transformative life experience.

It is important to recognize that pregnant or postpartum women can experience mental complications such as postpartum depression and perinatal distress. Mothers who suffer from these conditions often blame themselves and express guilt for not feeling joyous after giving birth to their child. However, these mothers may be unaware of the complex physiological effects that pregnancy has on their body. Hormones such as estrogen, progesterone, and cortisol drop dramatically after delivery which can contribute to mood disturbances and depression onset. Some women are more sensitive to these drastic hormonal fluctuations than others. I believe that all new mothers should be informed of their body’s hormonal changes, and access to comprehensive resources that help with mental health complications during pregnancy must be improved.

The conclusion of multiple research studies indicate that a lack of social and emotional support is an important risk factor for pregnancy related depression. Vulnerable mothers (i.e., mothers living in poverty, women of color) may be more likely to neglect their mental health due to barriers in access to health care during or after pregnancy. In the future, I desire to create an organization that is focused on improving access to mental health support for underserved mothers. It is my hope that these mothers have the opportunity to prioritize their mental health during pregnancy and that they feel no shame in doing so. The organization would offer free health education and mental health resources to mothers in underprivileged areas. With enough resources, I would arrange for workshops to be held by various health professionals, educators, therapists and doulas.

The workshops will focus on providing these mothers with self-care practices, one-on-one counseling and emotional support throughout their journey. My greatest hope is that with this organization, women can take charge of their mental health during pregnancy and receive the social, emotional and professional support that they deserve. I am hopeful that this health intervention will improve the lives of many women who may feel overwhelmed during their pregnancy.



Mudia Ogbevire is an undergraduate senior at Rutgers University pursuing a Bachelors of Science degree in public health. She decided to study public health due to her passion for combating health disparities that inordinately impacts marginalized populations. Mudia is currently an intern with the Women's Health Institute where she is researching hormonal fluctuations that contribute to pregnancy related depression. Outside of her academics, she enjoys exercising, reading and actively advocating for health equity in low-income communities.

Overuse of C-sections is a Rising Public Health Concern

By Mugdha Parulekar

Cesarean deliveries, aka C-sections, have become increasingly common over the past few decades. Since the early 1970s, C-section frequency has increased by over 500%. Today, nearly one in three mothers get a C-section delivery. This has not translated to better health outcomes for mothers. C-sections are complicated procedures that provide additional risks for mother and baby. Though the causes surrounding this alarming rise is unclear, addressing subconscious factors that affect physician decision-making might be the key to reducing the number of C-sections performed.

In many circumstances, performing a C-section is the correct decision to make. If the surgery is performed during conditions like placenta previa or cord prolapse, C-sections can be life-saving. However, the extreme rise in prevalence of C-section deliveries over the past few decades cannot be explained by these conditions. There is a wide range of circumstances that indicate a C-section should be used, including subjective conditions. According to a 2011 study that analyzed documented reasons for C-section deliveries between 2003 and 2009, subjective indications are the main reasons why C-section births are increasing. In particular, non-reassuring fetal heart tracings and protracted labor accounted for 50% of the increase in C-section cases. Both of these causes require a subjective decision to be made by the physician, and thus subconscious factors may influence the decision to deliver via C-section. Protracted labor increases risk for neurological disorders in the child, such as cerebral palsy and seizures. Fetal heart tracings have been employed since the 1970s to monitor risk of the baby being asphyxiated during delivery. Several studies have since shown that fetal heart tracings do not have a significant positive predictive value4. The 2011 study also shows that elective C-sections by request of the mother contribute to 8% of the increase in C-sections. Physicians may feel pressured to practice "defensive medicine" in order to avoid malpractice suits. There is evidence to support that an increase in malpractice litigation pressure has led to an increase in C-sections performed. It is understandable why physicians employ a "better safe than sorry" approach when deciding the method of delivery, but a large number of C-section deliveries are unnecessary and are made using faulty information. Furthermore, it is important to acknowledge that a C-section delivery is not without its own risks and downsides.

C–section deliveries pose both long term and short–term risks to the mother and baby. For the mother, the procedure increases the likelihood of complications such as infection and hemorrhaging, and it jeopardizes future vaginal deliveries. Babies born via C–section are more likely to have breathing problems during the first few days after birth. One potential effect of C–sections that researchers are still learning more about is an increase in immune mediated disorders. There has been recent research that shows a baby's microbiome is significantly different based on mode of delivery. Babies born via vaginal delivery receive gut microbiota from the mother because the birth canal is close to the rectum. C–section babies do not have this same exposure, so their gut microbiome ends up favoring bacterial strains present on the skin. The longterm health effects of this difference is still unclear, but one study shows that C–section babies are more likely to have immune mediated diseases such as asthma, allergic rhinitis, celiac disease, and gastroenteritis8. The first step in decreasing unnecessary C–section deliveries is to first establish that these procedures do in fact have negative repercussions for the mother and baby. This would encourage physicians to weigh risks more carefully before opting to perform a C–section. Making this information more widely available will increase public awareness of the risks involved. This may reduce the number of elective C–sections performed by maternal request.

Beyond educating physicians and the public about the risks of C–section deliveries, subconscious factors need to be addressed. As mentioned earlier, the main documented causes that have led to an increase in C–sections are subjective indications. While these indications do present valid concerns, external pressures may cause a physician to choose C–section delivery when they otherwise would not. One such factor is the hospital environment. Depending on the hospital, beds or staff may not be readily available. This can put pressure to choose the delivery method that takes the least amount of time. The rate of C–section deliveries varies widely by hospital9, supporting the point that the hospital environment contributes to the decision–making process. Other factors that influence this decision can be time of day or financial incentives. A study observing 72 hospitals across 16 states showed that physicians are more likely to perform C–sections on weekdays just before and after clinic, and during lunch time10. Another study found that implementing a blended payment model that made compensation for vaginal and C–section deliveries more equal did decrease the amount of C–sections performed over time. This data does not mean that physicians are deliberately choosing the more "convenient" or "profitable" delivery option.

However, it does demonstrate that underlying pressures may cause the physician to choose an option that is not beneficial for the mother and child. In general, non-clinical interventions such as blended payment models and giving doctors feedback about their delivery numbers has been shown to decrease the number of C-sections while maintaining maternal health outcomes. This is an optimistic finding that shows addressing the subconscious contributing factors can rectify overuse of C-sections. C-section delivery can be a life-saving intervention in the correct circumstances. However, the rate of C-sections performed in the United States has increased too dramatically in the past few decades. Performing unnecessary C-sections has public health ramifications, because the surgery can lead to post-delivery complications and long term health effects. Implementing blended payment models, incorporating feedback, and increasing public awareness can help combat the subconscious causes that lead physicians to perform C-sections. Researchers have only just begun to explore how to limit the inflated number of C-section deliveries. Understanding this important issue further will improve health outcomes for many mothers and children.



Mugdha Parulekar is a senior at Rutgers University New Brunswick majoring in Genetics. She is passionate about social determinants of health and how public policy can shape health outcomes for minority populations. On campus, Mugdha is Advocacy Chair for Douglass Governing Council, where she has led a committee to achieve free menstrual hygiene products for Rutgers students and is now working on creating affordable childcare options by expanding the Baby Friendly Space program. Mugdha is also interested in the impact climate change and the environment has on human health, which led her to found the undergraduate One Health Club at Rutgers University New Brunswick. Mugdha is an intern at the Women's Health Institute at Robert Wood Johnson University Hospital and a student member of the New Jersey One Health Steering Committee.

Fighting Maternal Mortality

By Krishna Patel

Maternal mortality is rising around the world. In the US, 14 deaths per 100,000 maternal mothers were recorded. How could this be? With medical science advancing at such an astonishing rate, how could affluent countries like the United States face such problems? Well, the answer is not easy. Although medical science is far more advanced now than in the past, it has not been made equally accessible to everyone. Medical care is drastically different for people based on factors such as socioeconomic status, race, and gender. And when we take a look at maternal mortality rates, we find that women, especially those encompassing minority groups, do not get the same quality of medical care that men would otherwise get.

Diving further into the statistics of maternal mortality rates, we uncover that in black women, there is an average of 40 deaths in 100,000 maternal mothers. That is more than double the average rate seen in white women, which is 12.4 deaths in 100,000. These statistics reveal that not only is there a difference between genders, but race is also a major factor in the ability to receive proper medical care and that it cannot simply be ignored. We see that minority groups face far more struggles when it comes to accessing proper medical care because they are oftentimes not able to afford it. In addition to financial reasons, we see that the women of minority groups are oftentimes not educated on how to treat common medical conditions such as hypertension and diabetes.

So, what can we do? Well, first off, we need to provide better maternity health care to mothers. Providing adequate medical checkups and evaluations during the pregnancy are crucial to ensure that both the mother and child are stable. In addition, we would need to make such health care more accessible to women of lower socioeconomic status. By providing funding, we would need to ensure that they receive the same quality of care that other women would. And while increasing the quality of material health care would have a huge impact on maternal mortality rates, I believe that the most important thing that we can do is shed light on the importance of acknowledging women's health. Myths that state that men are more prone to health conditions are wrong. Due to these myths men oftentimes receive more medical attention when it comes to measures such as preventative care.

I believe that in order to make a difference, we have to acknowledge that many women face similar health issues that men do. We have to increase the quality of medical care that women, especially those in minority groups, receive. By providing and educating women of lower socioeconomic classes on the importance of preventive care, we can improve their health by lessening the risk of common medical conditions. In turn, such changes would not only help keep women healthy during pregnancy, but also ensure that they are healthy before and after.



Krishna Patel is a recent graduate of Rutgers University with a B.A. in Biology and minor in Health and Society. As an undergrad, he partook in research at the Cancer Institute of NJ, studying the role of p53 in tumor development. He is currently working as a medical scribe and is applying to medical school with hopes to specialize in surgery.

RUNNING HEAD: HEALTH EQUITY

By Mansi Patel

To commence, there are a lot of issues within the healthcare system, like health equity. This issue is important to understand because there are groups of people that do not receive the same treatment of healthcare compared to those who are able to access great healthcare services. Moreover, the people that are discriminated against are always people who are either disenfranchised by the societal structures we have in place, like hospitals which are supposed to provide equitable healthcare to everyone. Hence, we will be able to learn throughout this journal as to what health equity means, how various groups of people are affected through the discrepancies of care and programs that are able to make sure that people are able to receive equitable care.

Before we can understand how health equity affects people, we need to be able to understand what health equity means. In order to further explain the term health equity, there is an article from the US National Library of Medicine and National Institutes of Health titled "What Are Health Disparities and Health Equity? We Need to Be Clear," it mentions "health equity means striving for the highest possible standard of health for all people and giving special attention to the needs of those at greatest risk of poor health, based on social condition" (Braveman 2014). As living beings, we all go through pain, and when we are in insufferable pain, we go to hospitals because we know that hospitals are able to cure us of the insufferable pains we have. We expect the hospital staff like the nurses, interns and doctors to make sure that we are able to get the proper medical care once we go to these hospitals because the sole purpose of hospitals is to give great medical care to patients, especially those who urgently could use the help. However, due to the biases that exists within the healthcare system towards certain groups of people, sometimes the proper medical care is not provided to all which causes a strain within people to nor visit or depend on hospitals, especially those groups of people that are heavily disenfranchised by society which includes the treatment of patients by the medical staff.

That being said, now that we have learned the definition of health equity, we need to understand who are the people that are disenfranchised by the healthcare system. In order to be able to understand who these people are, I would like to highlight the same article mentioned above and it mentions "low income or lack of wealth, and the consequent inability to purchase goods, services" (Braveman 2014). In a system where we are supposed to have equitable financial funds for everyone no matter what kind of socioeconomic statuses they come from, that same system is the sole reason why people who come from financial backgrounds that do not live in families with average working class salaries and higher are always the first group of people to be disenfranchised by receiving services of any kind, due to the fact that they are unable to afford the basic necessities like accessing great health insurance and equitable care. Moreover, the same system does not give them enough opportunities for them to be able afford these vital services, instead it discriminates against treating them due to them originating from poor socioeconomic backgrounds.

Furthermore, now that we have understood the meaning of health equity and the first group of people that are disenfranchised by the healthcare system, we need to understand other groups of people that are also incredibly disenfranchised as well. To deepen our understanding, there is an article I would like to highlight. The article is from the US National Library of Medicine, and National Institutes of Health titled "Health Disparities and Health Equity: The Issue Is Justice," which elaborates "[w]hite (hereafter "White") women over age 40 have higher incidence of breast cancer than …. Black (hereafter "Black") women" (Braveman, Kumanyika, Fielding, LaVeist, Borrell, Manderscheid & Troutman 2011). We are all aware of the system that is set in place that only benefits people that look a certain type, and the type translates to how they are treated by their own and society at large. There is a system that is in place that benefits white people much more than it does people of color, especially Black people. Black people have always felt disenfranchised by the system, including the healthcare system where their medical concerns and history are not taken as seriously, due to the biases that exist within the healthcare system. It truly does not make sense that a system that was supposed to be built upon benefitting all turned out to benefit those who look a certain way or have higher financial funds to afford basic human rights, like being able to afford great medical care.

Then again, we cannot expect much from a societal system where money is the main language that people know how to speak. Money is incredibly essential, and in order to understand how essential it is, the same article mentions “groups rank in social hierarchies, are indicated by measures reflecting the extent of wealth, political or economic influence” (Braveman, Kumanyika, Fielding, LaVeist, Borrell, Manderscheid & Troutman 2011). There are groups like people in the one–ten percent who own an incredible amount of wealth within the United States, and these people are the same people who are able to afford great medical care, while completely ignoring those who are not in the same tax bracket as theirs. Not only are these people benefited by the system from looking a certain way which is also considered as white privilege, but also they are benefited due to the wealth they have in order to gain basic necessities and wants. The wealth they have acquired helps them gain access to positions where they are able to use and exploit anyone and everyone for their own benefit, while continuously ignoring who they are stepping on to reach the positions they wish to. They are able to successfully do this due to the fact they are fully aware of those who are disenfranchised by society, and they truly could care less due to the fact that they are able to afford anyone and anything they wish to financially acquire for their gain.

While this is the case, we have to be able to initiate and fund programs that are able to provide equitable healthcare access to everyone. In order to further our comprehension, there is an article from the Centers for Disease Control and Prevention titled “Reaching for Health Equity,” which mentions “OMHHE advances health equity and women’s health issues across the nation through CDC’s science and programs” (“Reaching for Health Equity” 2020). It is undoubtedly tough that there are not enough equitable and affordable health care programs that can truly be beneficial to everyone, so the fact that there are programs that are making sure that everyone is able to afford equitable and affordable health care is basic but phenomenal, because this is what needs to be done. Programs that make sure that disenfranchised people are gaining more equitable health care access need to continue doing their job to make sure that they continue receiving the most basic human right that should be affordable and accessible to all. They also need to make sure that they hold people accountable for trying to exploit their services, because there will be such people, but never cease to continue providing equitable health care services.

The pursuit of health equity should be continued to make sure that all people are able to receive equitable health care services, because this is a human right. This includes recognizing those who exploit the system for their gain. If we are unable to be in this pursuit of health equity, we are unable to be concerned about health and equity, because it ceases to be about both. Hence, as a society we need to make sure that everyone is able to access equitable care within healthcare services, because health equity should be about treating everyone's health with equitable, affordable and great care, because it is our human right.

The Overlooked Maternal Health Needs of Indigenous Women

By Likhitha Patlolla and Amy Li

Many would be shocked to hear that home births still occur relatively frequently in America in a population of women that is largely unable to access prenatal care and consequently suffer from high rates of pregnancy and labor complications.

The US has the highest maternal mortality rate among developed nations (17.4 per 100,000 in 2018), predominantly due to inadequate health care access and insurance coverage.1 Although there is abundant research surrounding how these factors interact with systemic racism and poor socioeconomic conditions for Black Americans, comparatively little attention is offered towards the similar plight suffered by American Indians or Alaskan Natives (AIAN). As of 2017, there are approximately 5.6 million AIAN residing in the US. AIAN women are over three times more likely to die of pregnancy or childbirth related complications, and two times more likely to experience preterm labor and obstetrical hemorrhage rates than white women. The true rates are likely much higher, but are masked due to racial misreporting and miscalculation, which disproportionately occurs with AIAN patients. Native American data is also often dropped from national surveys and analyses due to their small population size.

The causes of maternal health disparities for Native women are rooted deep within the long history of trauma faced by the group: colonization, genocide, forced migration, reproductive coercion, cultural erasure. Its effects are carried through generations biologically, psychologically, and socially. Experiencing more adverse childhood experiences (ACEs) has been linked to a greater risk of developing chronic health conditions such as hypertension, diabetes, and liver disease. Generations' worth of hardship at the hands of the federal government and the lack of solutions to help break the cycle result in poverty, housing challenges, job discrimination, and social isolation result from — more stressors affecting a pregnant woman's health.

AIAN women, many still living in rural areas and on reservations, are more likely to encounter barriers to quality medical services than white women. For example, many Alaskan Native women must travel hundreds of miles to reach the nearest health facility which can easily become inaccessible due to weather conditions. Even if these women overcame physical barriers to medical care, or already live in urban areas, 41 percent of AIAN women are still unable to receive the recommended number of prenatal care visits due to financial restrictions

Many AIAN are additionally apprehensive of utilizing western medical facilities due to generational distrust and previous negative experiences with healthcare providers. A history of state-mandated sterilizations and forced infant separation policies has caused Native mothers to regard western facilities with wariness. Even when Native mothers visit these facilities, they are more likely to receive lower quality care than do white women. Due to chronic underfunding of healthcare services targeted towards the AIAN population, the quality of care is often inconsistent and degrades physician-patient relationships. Hospitals run by the Indian Health Service (IHS) are often older, smaller, understaffed, and provide limited inpatient services with fewer high-technology services.

Cultural misunderstandings and implicit bias against them has also deterred many Native women from willingly seeking out Western medical establishments. They frequently encounter offensive assumptions about AIAN drug and alcohol use, disrespect for their pregnancy/birthing traditions and home remedies, and poor communication with white providers as indigenous patients who are, by culture, more reserved and stoic.

When she was pregnant with her first child, Abigail Echo-Hawk said she felt "deep shame and anxiety" when she faced such treatment with a non-Native provider, and did not return for further care until late in her pregnancy.

Aside from advocating for legislation providing better healthcare access for indigenous people and improved research, initiatives at the local level have the potential to improve AIAN maternal health outcomes. Community centered care models can provide care that is high-quality, safe, accessible, and culturally relevant, appropriate, and respectful. These programs would allow AIAN women to access maternal health resources within their own environments, instead of forcing them to receive care in distant, unfamiliar facilities. Community-based models of care could entail the organization of a community birth center with access to birth companions or midwives.

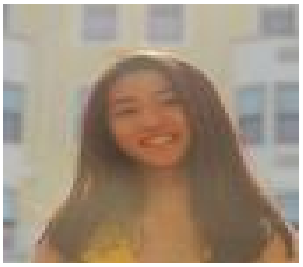
At healthcare facilities, having Native staff present during appointments can help Native women feel more comfortable and welcome. Allowing AIAN women to incorporate their own traditions during the birthing process will also help them feel more empowered, safe, and willing to travel to a hospital in lieu of a home birth. For example, many Native customs involve herbal teas, burning sage, and traditional songs sung by family members during labor. Allowing AIAN to embrace their culture while accessing necessary medical care is essential to improving their maternal health experiences and outcomes

Increasing access to pertinent health information is also crucial in improving AIAN maternal health outcomes. Partnerships between IHS physicians and local AIAN healers are necessary to promote trust and the effective dissemination of accurate health information. Previously, public health educators have provided more information than the audience can process in a meaningful way, leading to confusion and inattention. Future attempts should strive to convey the most important pieces of information in simple graphical representations, which have been found to be the most comprehensible and effective method to communicate risk information. Again, these educators should strive to be culturally sensitive to build positive relationships and trust.

For too long, indigenous people have been mistreated and marginalized despite their notably poor health outcomes and low socioeconomic status. Addressing maternal health outcomes in America means addressing the needs of every population, no matter how small. Beyond the public health infrastructure and insurance coverage models that need improvement across the nation, each healthcare provider, medical facility, and community must also do their role to reduce implicit bias and address cultural needs. Until healthcare in the US properly caters to its diverse populations, there cannot be progress in improving our maternal health outcomes.



Likhitha Patlolla is a sophomore at Rutgers University New Brunswick majoring in Biochemistry with a minor in Public Health. With a passion for global health and social justice, she is the Community Outreach Director for Rutgers GlobeMed, where she works to advocate and support projects for sexual health rights and HIV/AIDS awareness and prevention for Ugandan youth. She works locally with Prevent Child Abuse NJ to promote healthy and safe childhoods by providing resources to new and low-income parents around the state. Likhitha is also interested in the multisectoral approach to public health, combining efforts of human, animal, and environmental experts to guide research, policy, and decision-making to achieve optimal health outcomes. This led her to serve as the Advocacy Chair for the newly founded undergraduate One Health Club.



Amy Li is a sophomore at Rutgers University New Brunswick majoring in Cell Biology and Neuroscience with a minor in Public Health. She is interested in examining the social determinants of health in order to holistically improve health outcomes for marginalized communities. On campus, her involvement in the One Health Club has allowed her to further her understanding of the intricately intertwined relationship between human, animal, and environmental health. As Social Media chair, she is able to share pertinent health information and spread awareness of various public health issues to the broader Rutgers community.

The Mommavan Drives Mothers-To-Be to the Hub of Health

By Erini Papas and Kayla Peña

In 1996, a group of physicians at The George Washington University (GWU), realized the need for expansive and comprehensive health care services for women. Together, they created The Mammovan, a traveling mammogram machine that provided screening services where women lived and worked, without regarding their ability to pay. Today, the Mammovan continues to break down barriers to lifesaving mammography access by partnering with community leaders and alleviating financial constraints1. But the van was just the tip of the iceberg. Increasing breast cancer screening in medically underserved communities allowed women to establish long–term care and regain trust. While the Mammovan is not the sole answer to improving maternal and child health, it provides an excellent example of how expanding screening services beyond the clinical setting benefits women with barriers to care. We believe that this paradigm would benefit the women and children in our medical community. Therefore, with the goal of improving maternal and child health, we propose to establish a mobile screening unit with the ability to provide prenatal screening and a conduit for establishing long term care. We call it: The Mommavan to Hub of Health healthcare service.

What if the answer to solving maternal and child health was as simple as using a model like The Mammovan? Well, it's not and we'll get that, but for now we will focus on the preliminary steps. Creating a self–contained mobile unit that can travel to community centers, corporate sites, and even schools could well be the start to expanding prenatal screening and care. Thus our first goal is to implement a mobile unit with the ability to provide prenatal screening and family planning education services for women with limited access to care or an inability to pay. Specifically, the mobile unit would offer services such as screening questionnaires, prenatal ultrasounds, pregnancy tests, and family planning education. But more importantly, the Mommavan would be able to achieve something that has become increasingly rare in the medical community –trust. A recent literature review on mobile health clinics concluded that "[by] driving directly into communities and opening their doors on the steps of their target clients, mobile clinics have been shown to engage and gain the trust of vulnerable populations.2" It's clear that mobile clinics and screening services can overcome many of the health barriers that exacerbate poor health outcomes. When it comes to addressing maternal morbidity and mortality, a mobile prenatal care unit will serve as a stepping–stone between the clinic and the community, while addressing both medical and social determinants of health.

It is important to recognize that the prenatal screening is more involved than mammography, and that the van may not be able to provide the comprehensive prenatal care that all women deserve. In light of these limitations, we propose using the Mommavan to connect these women to a Hub of Health. There are several studies implicating individual factors that contribute to, but do not fully explain, how social determinants of health affect pregnancy. These factors include socioeconomic status, community health, as well as environmental exposures, which include both pollutants, as well as stress. However, no study has identified one specific factor in explaining why maternal health outcomes differ based upon race, healthcare access, and socioeconomic status.3 We believe that it is the interconnectedness of these factors that determine maternal health, and as such, propose a solution that attempts to address these factors as a whole, rather than individually.

The Hub of Health could function as an independent entity, or in affiliation with several Ob/Gyn practices with existing infrastructure to support the complex maternal health needs and specifically address certain aspects of social determinants of health. The Hub of Health would serve as a center with educational classes, taught in an accessible language to the mothers, and would include wellness and support classes that extend beyond the birth with the hope of creating a community of support for mothers. For each prenatal or postnatal appointment or educational class attended, mothers would earn points that would be used to purchase necessities for the baby following birth. These would include formula, diapers, clothing, or educational resources including books and toys. This model is largely predicated on the idea of The Stork's Nest, which is supported by March of Dimes. The Stork's Nest is "an incentive–based prenatal health promotion program for low–income pregnant women."

Having previously volunteered in a children's practice in Baltimore, MD that was affiliated with Stork's Nest, I can attest to the success of the program. Earning points through their actions allow women to be active participants in all aspects of their health, including the social determinants of health. Allowing women to shop for their child's needs, rather than being handed a generic package, restores a sense of dignity and a feeling of excitement and joy.

The creators of the original Mammovan and Stork's Nest all had two very important things in common: adequate support and substantial resources. That is why we feel that by partnering with a medical school we would be able to provide invaluable resources to the Hub and the women it serves. Participating medical students would not only be able to lead family planning education sessions, wellness seminars, and patient advocacy workshops, but also be able to learn from participating providers. By working together, we can all grow while helping medically underserved patients in our community. In conclusion, the ultimate goal of The Hub of Health is to empower women and implement a long-standing, sustainable system that will help identify high-risk patients, and provide education and support. While maternal and child health is a multifaceted problem, evidence shows that an easily accessible prenatal screening service combined with long-term care could be the beginning of the end of high maternal and child mortality in our community, and perhaps provide a model that can be expanded to the rest of the country.



Erini Papas is a first-year medical student at Rutgers Robert Wood Johnson Medical School. She graduated from The Johns Hopkins University in Baltimore, MD in 2018 with a B.S. in Molecular and Cellular Biology. While in Baltimore, she volunteered as an advocate and Program Coordinator for Hopkins Health Connection at Children's Medical Practice at Johns Hopkins Bayview, formerly Health Leads, an organization that believes that the social determinants of health should be an integral part of every doctor's appointment. Since starting medical school, she has become an active member of the American Medical Women's Association, and is currently on Operations of Promise Clinic, the free clinic run by RWJMS students. In her free time, she is an avid bookworm, amateur baker and cook, and enjoys spending time outside, particularly at the beach.

Kayla Peña is a first-year medical student at Rutgers Robert Wood Johnson Medical School. She graduated from Boston University in 2018 as a Public Health Major and received her Master's in Medical Science at Brown University in 2019. In her free time, she volunteers as a Spanish-English interpreter at the Eric B Chandler Health Clinic, and enjoys hiking, climbing, and spending time with family and friends.



The Lucky One

By Kayla Peña

Our patient was admitted around 4:30 a.m. 32-year-old non-Hispanic white pregnant female, 24 weeks gestation, 170 pounds. Blood pressure 188/100. Moderate and diffuse upper abdominal pain. Presents with blurred vision and becoming increasingly confused. No history on file and reports no prenatal care.

Though we may be led to think otherwise, this patient vignette is not uncommon. In fact, approximately 700 women across the United States die each year as a result of pregnancy or pregnancy-related complications. In 2018, the maternal mortality review committee estimated that over 60% of pregnancy-related deaths were preventable. The most common factors attributing to death were lack of knowledge on warning signs and inability to seek care. According to this report, nearly 50% of all pregnancy-related deaths were caused by hemorrhage, cardiovascular and coronary conditions, cardiomyopathy, or infection. Again, all preventable with early identification.

At 10:00 am our patient suffered a seizure which was attributed to high blood pressure. IV magnesium sulfate and oxygen were administered and labor was induced. Diagnosis: preeclampsia, a pregnancy complication that is life-threatening to both mother and child.

This is a perfect example of how a lack of prenatal screening and early prevention can lead to harmful consequences and in too many cases death. Our patient's story represents the root of the problem, that is the need for expansive prenatal screening to provide preventative care for women that need it the most. To understand how screening and prevention may positively impact maternal and child health, we must first examine the story of a young British doctor and his quest to improve women's mental health. In 1984, Dr. John Lee Cox decided to deviate from the popular psychiatric research at the time and dedicate his academic career to addressing postpartum depression and suicide. At the time, mental health screening tools were either non-existent or riddled with limitations. Thus, in an attempt to improve accurate diagnoses and treatment, Cox developed the Edinburgh Postnatal Depression Scale (EPDS). This five-minute survey revolutionized how healthcare providers identified, treated, and prevented perinatal and postpartum depression.

The EPDS is still used today to accurately and efficiently identify perinatal and postpartum depression, allowing women to receive adequate treatment and mental health support. Cox had simply taken a screening model that already existed, perfected it, and used it to promote early identification and preventive care for women living with crippling postpartum depression. It may come as no surprise that Cox was not the first to recognize the benefits of screening. In the early 1950s, American doctors developed some of the first prenatal screening tools – among them the prenatal ultrasound and maternal serum markers. Like the screening tool for depression, these tests provided clinical data that allowed health care workers to implement preventive measures. Screening for maternal serum AFP, for example, identified women with folic acid deficiency, a condition that was shown to cause neural tube defects, like spina bifida. In response to these findings, public health officials created a national prevention program that called for folate enrichment in common household foods and prenatal vitamins. Today, it is thought that prenatal screening is routine for most pregnant women. It has even broadened to include pregnancy complications such as preeclampsia which can be prevented using soluble low–dose aspirin treatment. Which would most likely have been prescribed to our patient, if she had had access to screening and prenatal care. Dr. Cox, and his American predecessors, saw the potential in identifying risk factors and disease sooner rather than later. The wide use of screening led to an increase in preventative care and has greatly improved maternal and child health, but perhaps not as much as we had hoped.

The hundreds of British women who filled out Cox's survey and the millions of American women who continue to undergo routine prenatal screening have two things in common: access to affordable healthcare and more importantly a lack of barriers to care. Not all women are as lucky. According to the CDC, as of 2016, only 77% of pregnant women in the United States received prenatal care (and therefore screening) in their first trimester. Women who are undocumented, medically underserved, socioeconomic disadvantaged, living with a substance abuse disorder, struggling with their gender identity or sexuality represent the remaining 23%. These are the women that fall through the cracks of screening and preventative care. Our patient is one of these women.

For a long time, doctors have stressed the benefits of social determinants of health screening tools on maternal and child health care. Historically social factors have been classified as either internal or external barriers to care. The internal are attitudes associated with things like fear, fatigue, and poor health literacy

The external are factors linked to circumstances such as low income, lack of transportation, and lack of support. Not only do these issues disproportionately impede women from seeking care, but they also exacerbate poor health outcomes. Pregnancies with the most barriers receive the least amount of prenatal care while having the highest risk of developing life–threatening conditions because they have the most barriers. It's a vicious cycle. We know that it takes an enormous amount of time, money, and effort to deconstruct internal and external barriers. The problem is that without coming in contact with the health care system it becomes nearly impossible to screen the women that need it the most. But, what if instead of trying to get patients to their prenatal screenings, we brought the prenatal screenings to them?

In 1996, a group of physicians at The George Washington University (GWU), came together to address an important issue in women's health: breast cancer. With the same goal in mind, they created The Mammovan, a traveling mammogram machine that provided screening services where women lived and worked, without regarding their ability to pay. Today, the Mammovan continues to break down barriers to lifesaving mammography access by partnering with community leaders and alleviating financial constraints8. In doing so, The Mammovan has been able to prevent thousands of deaths. It would take years to see results, but the physicians at GWU managed to do what no other group of physicians had been able to– expand screening beyond the clinical setting.

We saw how Cox perfected an existing model to create the groundbreaking EPDS, so what if the answer is as simple as using something like The Mammovan as a model for expanding prenatal screening? Creating a self–contained mobile unit that could travel to community centers, corporate sites, and even schools would provide a one–stop–shop for prenatal screening for women with limited access to care or an inability to pay. It is worth noting that prenatal screening is more involved than mammography, and in many cases, the van would not be able to provide the full service of a routine prenatal visit. However, surveys, ultrasounds, and blood tests can all be performed on a van, and as we know these tools all help prevent maternal and child morbidity. A program like this would identify medically underserved women at high risk and allow them to establish a continuity of care. While this may not be a perfect solution to a multifaceted problem, an easily accessible prenatal screening tool could be the beginning of the end of high maternal and child mortality in this country.

The truth is that solving all the issues that impact maternal and child health is complicated. To really eliminate maternal and child mortality and morbidity we would need to rebuild an entire system –eliminate poverty, provide free healthcare, increase social services, abolish racism, and so much more. How can we take such a deeply rooted issue and break it down into more bite-size pieces? The emerging answer might be where Dr. John Cox, the groundbreaking doctors of the 1950s, and the creators of the Mammovan all found their answers to solving their patient's health problems – screening.

If we could go back to before our patient was admitted or even before she started experiencing symptoms perhaps we could have prevented her preeclampsia. At a routine prenatal screening, she would have been flagged for high blood pressure. Her provider could have educated her on the dangers of hypertension and prescribed a low dose of Aspirin. At her next visit her physician could have performed an ultrasound and blood test. She might even have filled out a survey or two. The information gleaned from a routine prenatal screening could have helped prevent our patient's condition from threatening her and her baby's life. That is why it is so important to expand prenatal screening services to medically underserved patients, in addition to enhancing existing methods.

Until screening and preventive care become the norm, we must rely on the advancement of medicine, rather than societal improvements, to enhance maternal and child health. It is because of these medical advancements that our patient is currently visiting her baby in the NICU. Our patient is one of the lucky ones.

Maternal Outcomes and Autism

By Evan Perkiss

Melanie was 26 and pregnant for the first time. At age 17, she had officially been diagnosed with Asperger's Syndrome (AS), which created issues at her hospital. "I was doing extremely well with the pregnancy until that hospital got their hands on me and then I deteriorated rapidly" (Rogers et al., 2017). Melanie's negative experiences are common for mothers with Autism Spectrum Disorders (ASD). Autism Spectrum Disorders, defined under DSM–V, hinder social interaction and communication, and, in some cases, include intellectual disabilities. AS, an ASD previously defined in DSM–IV, does not affect communication or intelligence (Oltmanns & Emery, 2015). Autistic mothers experience an increased prevalence of medical, sensory, and psychosocial issues associated with pregnancy.

Compared to neurotypical mothers, autistic mothers are likely to have prenatal depression (Pohl et al., 2020) and a higher prevalence of preeclampsia (Sundelin et al., 2018). Additionally, some autistic mothers experience sensory issues associated with pregnancy. For example, one woman reported that fluorescent lights cause dizziness, and many autistic mothers avoid crowded areas due to an increased sensitivity to sound (Gardner et al., 2016).

Mothers with ASD also have an increased risk of medically indicated preterm birth between the 32nd and 37th weeks of pregnancy. The risk of medically indicated induction of labor and elective cesarean sections also are likelier for autistic mothers (Sundelin et al., 2018). Additionally, hospital staff might not understand the needs of mothers with ASD. Melanie frequently tried to explain to the midwives that their actions exacerbated her AS; however, the midwives ignored her. Melanie also reported that she believed the hospital staff and midwives considered her incompetent due to her being on the autism spectrum (Rogers et al., 2017). Furthermore, women with ASD feel obligated to be the ideal mother. Unfortunately, healthcare professionals stigmatize mothers with ASD as bad parents due to their disability. Both the perceived pressure and stigmatization cause stress. Autistic mothers are likelier to experience postpartum depression, possibly due to the stress (Pohl et al., 2020).

Improving outcomes for mothers with ASD includes treating them with respect and decreasing the sensory issues related to pregnancy. I would teach personnel to treat patients according to their individual needs and to provide clear instructions to autistic patients (Gardner et al., 2016). To address sensory issues, I would educate clinicians and hospital staff on ASD and sensory processing difficulties and would recommend that autistic mothers dim the lights and keep their homes quiet to help with these issues (Gardner et al., 2016). These changes would accommodate individual needs.

Pregnant autistic women are significantly likelier to have preeclampsia, require preterm birth, and experience sensory processing difficulties. Furthermore, hospitals frequently treat autistic women as incompetent due to their disability. Teaching hospitals to address patients as individuals with different needs and to accommodate sensory processing issues will improve maternal outcomes for autistic mothers.



Evan Perkiss expects to complete his BSPH with a concentration in health promotion and education through Kent State University in May 2021. His academic interests include public health issues related to health disparities. In his spare time, Evan enjoys reading, playing board games, traveling, and ice skating.

Maternal Outcomes and Racism

By Evan Perkiss

The United States has a higher maternal mortality rate than other high–income countries. Each year, 700–900 women die from pregnancy complications, and black women are 3–4 times more likely to die from these complications. According to the CDC, this is the largest disparity across all population perinatal health measurements (Howell, 2018). This significant health disparity stems from racism. Studies report that increases in racism have led to a 9% increase in a woman's risk of premature birth and low birthweight, and that black women are 50% likelier to have a premature birth than white women (Chae et al., 2018; McLemore, 2018).

In the United States, structural racism produces chronic stress in black individuals. Structural racism occurs in everyday life and in hospitals. In hospitals, structural racism can include feeling ignored or given poorer treatment based on race; staff members lacking empathy; and staff withholding information (McLemore et al., 2018). Additionally, black women frequently give birth in specific hospitals that typically have poorer outcomes (Howell, 2018).

Chronic stress can redirect energy from nonessential functions, such as pregnancy, and gradually damage the body. As a result of the stress, cells divide faster, causing premature aging in the form of early organ deterioration. Additionally, some black women might use unhealthy coping mechanisms such as smoking or drinking to deal with structural racism (Roeder, 2019).

The increased maternal mortality rate in the US is a significant problem. Ensuring that all hospitals provide high quality of care to all of their patients will improve maternal outcomes. Because ¾ of black women use specific hospitals that few white women use (Howell, 2018), helping these hospitals improve the quality of care will decrease the maternal mortality rate and the resulting health disparity. This would involve instructing hospitals on what precautions to take to decrease maternal mortality. For example, administering necessary medications to pregnant women with hypertension could prevent seizures from occurring. Additionally, accurately monitoring blood loss would help hospitals anticipate and prevent hemorrhages (Howell, 2018).

The most important aspect of improving the quality of care is informing hospitals that they cannot dismiss the concerns of pregnant women (Howell, 2018; Roeder, 2019).Implementing these measures could help decrease the United States maternal mortality rate to levels similar to those of other high–income countries.

After reading the literature and listening to a TED talk on this topic, I believe that it is necessary to improve the quality of care given to women at most risk of an adverse outcome and instruct the health care team to treat all patients according to their individual needs. Additionally, the health care system should be sure that structural racism is eradicated, and that all hospital staff should get ongoing education to treat all patients with respect. This includes not using disrespectful language, honoring the patient's wishes, and providing information that the patient requests (McLemore, 2018). Improving maternal outcomes requires quality care for all women

The Case for an On-Site Prison Nursery Program in New Jersey

By Mugdha Parulekar and Zoe Reich

The creation of a new life should be a joyous moment for any parent. Unfortunately, for many women in prisons, this special time is fraught with injustice and humiliation. As recently as 2018, women in New Jersey were shackled to hospital beds during labor, resulting in an undignified and unnecessarily difficult labor process. This barbaric practice was finally outlawed in January of 2020 when Governor Phil Murphy signed into law the Dignity for Incarcerated Primary Caretaker Parents Act. The law also banned solitary confinement for pregnant women and made it easier for parents to contact family members. Nonetheless, many challenges abound for new mothers who are incarcerated, particularly the issue of maintaining a connection with their children while imprisoned. On–prison nursery programs are an approach that can address the ethical issue of separating mother from child during the critical early months of child development. If implemented correctly, this solution can improve the traumatic experience of pregnancy in prisons and set families up for long term success by reducing recidivism rates. Establishing an on–prison nursery program at the Edna Mahan Correctional Facility for Women in New Jersey should be the next step in reforms for incarcerated mothers.

The Dignity Act initiated a transition to better conditions for incarcerated parents. This Act required correctional facilities around New Jersey to keep primary caretakers in facilities closest to their children, ban solitary confinement and restraints during labor, include parenting and trauma education for inmates, and create mentorship between former inmates and incarcerated parents to help with re–entry . With the Dignity Act, incarcerated parents can now spend more time with their children alone. Education for parenting and trauma paves the way for inmates to stay away from damaging habits and rebuild their lives after prison. However, pregnant women are still forced to disconnect from their newborns after birth and return to prison. There, the time primary caregivers can spend with their children is relatively limited. This Act provides the springboard for new legislation allowing for stronger connections between parents and children, education for correction officers, and on prison nursery programs. Future reform should address the inhumane practice of separating a mother from her baby.

Mother–infant bonding through skin–to–skin contact, breastfeeding, and time spent together plays a critical role in healthy development of the child. Skin–to–skin contact, or holding a naked baby against the parent's chest, has several benefits including a feeling of competence in parents and a decrease in postpartum depression for mothers of babies born before 37 weeks. For the mother, breastfeeding can reduce the risk of breast cancer, ovarian cancer, type 2 diabetes, and postnatal depression. As for the child, there is reduced risk of type 1 and type 2 diabetes, obesity, childhood leukemia, childhood asthma, high blood pressure, and more. Unfortunately, in correctional facilities, incarcerated mothers are hindered by visitation hours for the time available to spend with their children. If a mother is not able to create a bond with her baby, this can create long term emotional and behavioral issues in the child. Breastfeeding is also a challenge for many women in prison as they are forced to express or hope for their infant to breastfeed during visitation hours. Expressing is itself a difficult act, because breast milk has strict storage requirements, and storage space may not be available. Expressed milk may not end up reaching the baby at all. On–prison nursery programs mitigate this instability as the child is placed on site with the mother. Mothers can spend far more time bonding with their children, and they can have greater access to breastfeeding's benefits.
On–prison nursery programs incorporate the benefits of mother–infant bonding and breastfeeding into a prison setting. As of 2018, there are 11 states with on–site nursery programs, and each one operates differently.

Generally, mothers with newborns are placed in a separate wing. These brightly decorated wings have toys available, and trained caretakers watch the babies when the mothers must leave for work or rehabilitation programs. The rising number of women imprisoned nationwide has resulted in an increased push for the expansion of these prison nursery programs. 14,000 women are imprisoned in New Jersey alone.

Considering that the vast number of women are incarcerated for nonviolent offenses, coupling an on–site nursery program with other substance abuse rehabilitation and mental health programs may be the best way to help women regain control of their lives once they leave prison.

A 2013 study by Gershin et al followed 139 women participating in a prison nursery program who were convicted for nonviolent crimes and had multiple prior arrests. Three years after release, 86.3% of mothers remained in the community and only 4% had returned to prison. Clearly, participation in the program was beneficial for the mothers. In addition to being able to bond with their children, participating mothers are more likely to provide stable homes for their children after release from prison. There are, however, a few considerations that must be taken into account when designing a humane on-prison nursery program. Of course, it is not ideal to raise a baby behind bars. This is a dilemma that women in the on-prison nurseries grapple with: their child is incarcerated as well, through no fault of the baby. The baby spends the first year or more of its life in a high-stress environment, rarely being exposed to the outside world. Prisons are not well equipped to handle the health of a baby. If health issues arise, babies are often abruptly separated from their mothers when transferred to a medical facility, while the mother remains in prison. Additionally, children who stay in these nursery programs until they are three years or older remember their times in prison. This can damage the child's self-identity, and familiarization with a prison environment may increase likelihood of the child being imprisoned later in life. If an on-prison nursery program is to be implemented, it should be designed in such a way that these risks are mitigated.

While on-prison nursery programs provide an opportunity for a mother and child to successfully overcome the obstacles that prison presents, they require careful preparation and continued maintenance. In order to maintain the safety of the children, mothers involved in the program should not have a history of violent crime or abuse, except in the case of self-defense. When a mother is assigned to the program, the intent should be to keep the child with her for at least the first 3 years of life. Attachment to a single primary caregiver is vital for children to develop secure relationships, and sudden separations or being shuffled around in the foster care system can hamper development. Rather than a zero-tolerance policy where an argument between inmates can be enough to have a mother removed from the program, the goal should be to keep the mother and baby together without abrupt and long-term separations. Furthermore, a mother should have visiting privileges if her child is hospitalized for an extended period of time. A board of professionals with backgrounds in prison, maternal and child health care, design, and psychology should be involved in the conception and continuation of the prison nursery program to create an environment best suited to the child's development.

Alongside the board, the community surrounding Edna Mahan Correctional Facility for Women could become involved in the success of the on-prison nursery through the Lion P.R.I.D.E Academy already running at North Hunterdon High School, a nearby high school.

Incarcerated new mothers face an impossible situation. To be with their child is to imprison an innocent life. To be apart is to damage a critical part of the child's development and bond with their caregiver. Although the Dignity Act for Incarcerated Parents formed new protections for incarcerated parents, there are still deficiencies present, including the treatment of new mothers. On-prison nurseries offer the opportunity for imprisoned moms to change the course of their life and their children's lives by providing space for them to raise their children. The environment is not perfect for a child but getting the focused attention of the mother can be a boon beyond mention. By strengthening the mother-child bond and providing rehabilitation resources, on-prison nurseries offer transformative opportunities for the mother and child.



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Maternal Mortality App

By Zoe Reich

My favorite Spanish phrase is "dar a luz," meaning to give birth. Referencing the gift of light from one human to another forms a beautiful string of words that matches the beauty of creating life. Giving birth is far from a simple process for anyone involved. It typically involves high levels of stress and medical help; however, most people will say it is more than worth it when they meet the new human. Birth is a process that requires careful observation, no matter who gives birth. Unfortunately, many birth givers are put in the periphery post–birth as health professionals focus on the newborn (Roeder).

This neglect can work in medical complications that, in some cases, can be deadly. To prevent these medical complications from occurring after the labor and delivery, I will create an app with essential information for birth givers, illuminating the process of pregnancy and possible complications.

Apps are an essential aspect of the technology we use in the United States. They help us generate our life interface by showcasing where we spend our time. I explored the other apps available on the app store to determine if there were apps on maternal mortality education. At the moment, most apps illuminate the prenatal process when babies are in the mother's wombs. This prevalence of apps results in a deficit for apps illustrating the before and after pregnancy and the other medical complications and chronic illnesses that can influence that period. However, there is the app Zero Mothers Die on google play for disseminating information on lowering maternal mortality and infant mortality in countries like Ghana and Nigeria (ZMD). Although the United States' maternal mortality is much less than those countries, it has the highest rates for a developed country (Roeder).

Besides, there are serious racial inequities within the United States, resulting in women of color dying from pregnancy complications at three times the rate of white women (Roeder). The increased rates of black maternal mortality derive from multiple factors, including connections between aging and chronic conditions such as diabetes (Roeder). The application would provide an interface to deliver information similar to this in a digestible manner.

The app center would have a timeline of the pregnancy, focusing on pregnancy's maternal mortality aspect. With a minimalist style, the essential information in an easy to manage layout. Each section would include information from scientific journals streamlined into understandable ideas. The first section would be people interested in becoming pregnant; they will learn the importance of living healthy today to produce a healthy pregnancy. There will be a section on illnesses impacting many US citizens, such as Crohn's Disease and Diabetes, which would be integral for informing the new mother or mother about their issues, which could impact their birth.

The second section will be a blend of caring for the child during pregnancy, and the other would be about caring for the mother herself, who is actively pregnant. The third section would be about being a new mother who should extend beyond how to best care for a child even though that is the instinctual reaction. The mother also needs to prioritize herself and her child because if she isn't healthy, the baby loses one of their primary providers. Therefore, adding the facts for possible complications such as hemorrhaging would forge the necessary balance of health.

The maternal mortality app holds the potential to educate Americans about the time surrounding birth and what they can do to make it as smooth as possible. Spreading these ideas in a reasonable and straightforward style can resolve pregnancy complications that grow from racial inequity. Information is accessible, but not everyone has the same education or amount of time to comb through journal articles for the sake of health.

Some United States citizens need to spend their time surviving from today. The maternal mortality app could serve as an equalizer for this imbalance of information, resulting in the first step in remediating racism, which is helping those alive today. Next, we have to make it better for those alive tomorrow through changes in policy, lifestyle, and more. We can make a world where we take advantage of today's technology and protect mothers.

Improving Overall Healthcare for Transgender Men During Pregnancy

By Eliana Schach

Transgender individuals have to make difficult decisions about hormonal therapy, affirmation surgery and social adjustment. Although they are increasingly being more accepted by society, they still face discrimination and a lack of resources in healthcare. Family planning, overall pregnancy care and counseling is often overlooked in the trans men population. I believe reproductive care can be improved and further researched for transgender men. This calls for a change to break down barriers to reproductive healthcare services and provide more specialized care to these patients. Every patient wants to be heard and feel respected. Healthcare staff should be provided resources to evaluate trans men's needs and reproductive options.

As the trans men begin to receive gender affirming hormones such as testosterone, this has the potential to increase their risk of future infertility. This can be a problem for those who would like to have biological children later on. For some transgender men, oocyte cryopreservation is an option before starting hormone therapy, however there is a large financial cost associated with it. Patients have the right to be fully informed about their future conceiving options by fertility counselors. This involves a lot of support from medical staff as family planning can be a critical and personal consideration.

Several transgender individuals are facing mental health challenges from the psychological stress of going through pregnancy, which is traditionally a feminine role. According to a study, they found that the participants underwent persistent loneliness and struggled to navigate gender identity during pregnancy. They felt that there was a “a lack of clear role models of what a positive, well integrated, gender–variant parental role might look like". Another study conducted at Rutgers University addresses that the risk of suicide can be elevated as these men can have undesirable physical changes after giving birth. Postpartum depression is also a potential factor that transmen have an increased risk for as well due to the possible lack of societal support and healthcare provider awareness. These findings urge that there is the need for more counseling and personalized attention to trans men during and post pregnancy, as pregnancy can be a scary experience, but in fact it should be a rewarding one.

As mentioned earlier, navigating gender identity can be challenging during pregnancy as pregnancy could remind the trans men that they have female reproductive organs leading to increased gender dysphoria. Some trans men prefer to have a cesarean birth as they do not feel comfortable having their genitals exposed for a long period of time. No one should ever feel judged or unnerved, during birth or pregnancy. To alleviate this stress for the trans men community, physicians should be trained to understand gender affirming behaviors and to properly care for pregnant trans men. The disconnect between physicians and these patients may cause the patients to avoid obstetrician care settings and seek care from nurse midwives instead, which according to a finding shows that about 44 percent of trans men do. All people should be encouraged to seek physician care, especially during pregnancy, to ensure that checkups and delivery is provided safely. That is a disproportionately large percent of trans men who seek reproductive care outside of physician settings. This is a critical time to have a turning point in these healthcare settings.

To address all these issues, many programs at medical schools and other health professional schools are integrating transgender healthcare into their curriculum. The earlier that healthcare professionals are aware and educated on transgender health, this could lead to more positive experiences for the trans population. Counseling that is readily available throughout pregnancy is essential to help lower the risk for mental health struggles that trans men may face. In addition to that, to improve overall pregnant trans men healthcare physicians should be educated with more visibility to transgender needs and this topic should be brought up at national conferences in order to encourage more research and a widespread change. Trans men need a specialized type of care and everyone deserves the same high quality of personalized care regardless of gender identity. The goal is to meet their expectations of the care they would like to receive and encourage them to feel comfortable when seeking reproductive healthcare in physician settings throughout their pregnancy and afterwards as well. Healthcare professionals not only should provide the proper care, but also be compassionate towards any patient as empathy can go a long way in potentially alleviating patent frustration and improve patient–doctor communications.



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Tackling Maternal Mortality and Creating an Equitable Health Care System

By Ciera Torney

The CDC reports that in 2018, the maternal mortality rate was 17.4 deaths per 100,000 live births in the United States (ranking higher than Finland presenting 3 deaths per 100,000) (CDC.gov). To improve maternal health, I believe creating a more equitable health care system is the first course of action to decrease the number of maternal deaths. Through a political lens, the difference between equality and equity is ingrained in the resources available for women of different ethnic backgrounds. The problem with having a health care system that operates on the basis of equality is that not everyone will benefit from the resources provided. To expand, imagine there is a bike race taking place. There are many different types of competitors in the race (tall, short, disabled, etc.) and everyone is given the same exact bike to compete. The chances of each person having an equal opportunity to succeed are slim, even though they were all given the same resource (which is thought to be fair) because each competitor requires a different need. However, if each person is given a bike that is tailored to their individual needs, the chances of them having a fair shot to win the race increases. This is not to say one person has an advantage over another, but instead it creates an equitable chance for all participants to be able to succeed from the start. The same principles can be applied to healthcare. By providing more individualized patient care plans, it is not putting one woman at a disadvantage compared to another. Instead, it is creating opportunities for every woman to reach optimal health based on their individual situations.

According to the World Health Organization, the main factors that prevent women from receiving or seeking care during pregnancy and childbirth include poverty, distance to facilities, lack of information, inadequate and poor–quality services, and cultural beliefs and practices (Who.int). Most of these setbacks can be addressed by public health and governmental officials in order to improve the quality of conditions for pregnant women and the barriers they may face. It is imperative to understand reproductive justice and the ability to integrate multi–racial, multi–generational, and multi–class issues in order to build an empowering framework for women and girls across multiple areas. Reproductive justice and health should be seen in all policies to create better lives for women, healthier families, and sustainable communities. A woman's ability to seek care is directly associated with the conditions of her environment, which can be beyond her individual control, so if she does not have adequate support available, her health is likely to decline. It is up to policymakers, physicians, governmental and public health officials, and the public to collaborate and determine what the prime resources for individual communities are.

A woman's ability to seek care is directly associated with the conditions of her environment, which can be beyond her individual control, so if she does not have adequate support available, her health is likely to decline. It is up to policymakers, physicians, governmental and public health officials, and the public to collaborate and determine what the prime resources for individual communities are.

Moreover, women in low-income areas may not be able to receive certain treatments due to complications such as transportation issues, the inability to pay for treatments, language barriers, and more. Additionally, the social determinants of health such as social and communal support, one's environment, education access and quality, health care, food and housing access, and economic stability are important components of reaching optimal health especially while pregnant. Without certain policies in place to address these areas of concern, women of all backgrounds will continue to be another statistic of a very preventable circumstance.

Among previous factors mentioned, racial and ethnic injustices also contribute to the rising maternal mortality rates. According to Howell (2018), "Black women are three to four times more likely to die a pregnancy-related death as compared to white women…Further, hospitals that disproportionately cared for black deliveries had higher risk-adjusted severe maternal morbidity rates for both black and white women in those hospitals." This represents a decline in the quality-of-care black women are receiving during childbirth, which leads to higher rates of death. Underlying biases from physicians and other essential personnel can contribute to the disparities we observe in minorities. I believe hiring a more diverse field of physicians is one of the many ways to tackle the rising maternal mortality rates. Having a representation of physicians from different ethnic and racial backgrounds, as well as those who can speak other languages, can allow patients to feel heard, recognized, and safe. Patients may also feel more comfortable confiding in someone they feel they can identify with, which as a result will allow for better diagnoses of potential complications and decrease maternal mortality rates. Also, it would be interesting to study the rates of implementing diversity and equity training within hospitals in accordance with maternal mortality rates.

Likewise, policymakers should focus on creating a widespread policy that addresses how to reach low-income women in order to provide them with fair and individualized programs that aid them in a safe and healthy pregnancy. This can include preconception counseling and education, prenatal care resources, mentoring, and assessment of improving lower quality facilities. As previously mentioned, transportation can be a barrier that many women may encounter.

To combat this, a budget should be implemented that outlines a universal transportation system that includes a better routing structure so that more patients can reach their physicians. In this case, it would not only benefit the women that need to visit their OB/GYNs, but target other citizens, making it easier to reach destinations, such as primary care offices, and decreases the stress associated with traveling.

In conclusion, the shift towards an equitable health care system could display better health outcomes for women, especially in minority communities. Shaping the way policymakers and physicians approach the topic of maternal mortality through policy reform and proper diversity training could be a solution to the growing complexity of the rising rates of maternal mortality. While focusing on the social determinants of health and individual patient plans, it will permit patients to receive the proper health care they need during pregnancy and potentially decrease the chances of adverse health outcomes.



Ciera Torney is a junior at Rutgers University-New Brunswick majoring in Public Health on a pre-med track. Her passions include advocacy and public policy in healthcare related settings, as well as the importance of mental health in minority communities. On campus, Ciera participated in the Collaborative Mentoring Program, where she closely mentored economically disadvantaged youth in New Brunswick public schools by aiding in academic tutoring and integrity development. Ciera is also keen on topics such as reproductive justice, the link between socioeconomic status and toxic stress, equity in health policy, and the interconnectedness of human, environmental, and animal health, which has led her to serve as the Treasurer of the One Health Club

A “Difficult” Patient

By Ijeoma Unachukwu

When the OBGYN resident I was following for the day pulled me aside and said, “Look, you're going to see me be a little bit harsh when we go into this patient room. I've dealt with her before and she can be…difficult. Don't judge me for it", I was instantly hooked. It was the first week of my very first third year rotation. “Difficult”, complicated, and crazy situations like this is what every medical student secretly dreamed of witnessing.

The resident knocks on the door and we enter the room. Sitting in the too-small plastic chair was an anxious Arabic woman with a wild mane of hair, tied back in a messy bun, eyebrows furrowed, creating craters across the parts of her face we could see. She wore a long sleeve shirt with a shawl on top, a colorful ankle- length skirt with leggings underneath. She was on the phone with someone, and she promptly hung up once we entered the room that seemed very cramped all of a sudden. Her anxiety seemed to take up a space of its own.

"Finally you're here", she exhaled as she began wringing her hands together.

"What brings you in today", the intern asked. I wondered what his expression was underneath his mask.

She spoke English in a thick Arabic accent, "I keep bleeding. After I give birth, I just keep bleeding. Sometimes I wake up and it all just-," and she made a sweeping motion from her groin moving out "Gushes out. I have to change pad so many times a day. I feel faint when I bleed. I cannot live like this. I'm worried".

The resident sighed, like a mother explaining something elementary to her child. " We discussed this. Bleeding, even a lot of bleeding is very normal after you give birth, for up to a month even. This is normal"

She cut him off. "You don't understand. I have 3 other children at home. This never happened with them. When I stand, everything comes gushing out. This is bad.”

"How many pads do you go through in a day?"

"Like 4. Sometimes 6. Maybe it can be more!"

"And are these pads completely full? Or do you throw them away before they get full?"

"I don't…I don't know what you mean. I bleed. A lot of bleeding. Look, I will do anything you ask. Do you need tests? I will do all the tests. I want MRI, X–ray, CAT scan, blood tests, you can operate if you need to. It is fine. I will take transfusion. I need to take drugs? I will take drugs. I got a prescription. Anything you ask." She rambled. Desperate for absolution.

"I'm sure that won't be necessary"

I was intrigued. Why would that not be necessary? My mind was going through the differential diagnosis and thinking of the worst possible scenarios. Why could the resident not see that this woman was bleeding, basically hemorrhaging. She could be anemic. She could have an undiagnosed coagulopathy. She needed to be screened immediately! What if she wasn't breastfeeding and she had anterior pituitary ischemia? She needed an MRI! Her uterus was obviously still relaxed. She needed oxytocin to contract it! The resident obviously did not feel the same way.

"Let's have you up on the examination table for a physical exam. This way we can see if anything is wrong and we can see how much you're bleeding", the resident conceded.

In my head, she would try to get up and walk to the exam table, but she would faint, too anemic and hypotensive to function. We would lift up her skirt to find her leggings soaked with blood. The resident would gasp, run to the door, and call a code I had never heard of before and they would whisk her to the emergency room for an emergency transfusion and uterine artery ligation, or something equally as.

None of that happened because when she lay on the exam table and we examined her pad, there was barely any blood. A nickel–sized amount of blood at the most. About as much blood as the last day of your period. She was not hemorrhaging; she was not some emergent case. She was spotting, at best.

The resident looked at me as if to say, "See? Told you". After doing a brief pelvic exam, he sat her up and said, "I understand this may be difficult for you to hear, but there's nothing wrong here. The amount of blood you have is normal. It's not bad. Your labs came back. You're not anemic. Your blood pressure is fine. You just gave birth 7 days ago and everything is normal, exactly how it should be"

One would assume this would be good news to a patient, but this patient seemed even more exasperated. "You don't understand. Today is just light. I bleed! I bleed all the time!", she was adamant.

The resident needed an out. "Okay, let me go discuss this with my attending and I will get back to you okay?" She nodded, grateful somebody was finally taking her seriously.

When the resident, attending, and I went to the conference room to discuss the case, the resident filled us in on the patient's backstory. She was admitted to the hospital at 41 weeks for post–term induction. She was anxious and in distress. At her pre–partum appointments at the clinic, she had been complaining about bleeding, how she used to bleed so much and they needed to evaluate her for bleeding. In the hospital at 41 weeks, they ran routine blood and urine labs and found a strange substance in her urine. Upon further investigation, the resident discovered she had very high levels of Vitamin K in her urine. You don't see those findings every day, so the resident asked the patient if she knew what this was about. The patient admitted that she had been buying boxes of Vitamin K shots from Mexico and injecting herself daily – she had to stop the bleeding. The resident tried to explain to her that this was very harmful for herself and the baby. She could get blood clots, she could cause liver damage in herself and her baby. Social work was called in. A psych consult was called in. A neonatologist was on stand–by in case there were any complications.

Thankfully, there were none. The woman swore to stop taking the injections. She swore she would prioritize the health of her and her baby. She scheduled her one–week postpartum appointment. And here she was. With the same story, and none of the symptoms to show for it. We looked to the attending for guidance. She shrugged. There was really nothing we could do. The mother was physically healthy, as was the baby. A social worker went to her house for a wellness check and everything was in order. The patient probably needed to see a psychiatrist or a therapist regularly, but she was an adult, we could not force her. They screened her for intimate partner violence and depression, and for all intents and purposes, she was fine. There was really not much to do.

"Unfortunately, we cannot treat social issues", said the attending.

The patient seemed heartbroken at the confirmation that she was in fact, healthy. She wanted tests. She practically begged us to admit her. She called her husband and put him on speaker phone so we could explain to him as well, that she was healthy and safe. He seemed relieved, as he should be. Everybody was content, but her. When she left, the resident let out a sigh of relief.

"What do you think is going to happen to her? Do you think something's wrong at home?", I asked. Something still felt off.

"There's no way to know for sure in these cases. And I know it's tough, but we can't fix every issue in someone's life," he admitted. "She probably has something like factitious or psychosomatic disorder or something. There's just nothing we can do about it unfortunately". And that was that.

For me though, it was not "just that". I looked up Factitious Disorder and she seemed to fit the bill exactly. The patient's medical history did not make sense. There was no viable reason to believe that she had a bleeding disorder or a clotting disorder. She was caught red handed causing herself harm by injecting herself with Vitamin K shots. Her story of pathological bleeding did not line up with the compulsive vitamin injections, and most importantly, she was practically begging for extensive labs and tests. I wondered if she had any other comorbidities like anxiety or depression. Did she exhibit these behaviors for her other pregnancies, or just this one? There was no way to know.

There's a growing body of research in pregnancy related mental health issues. Postpartum depression, what used to be called, "The Baby Blues", is now a recognized condition that gynecologists are trained to look out for. But what about the rest? In the 9 months a woman is pregnant, her body adjusts to support the development of another human life. She undergoes intense physiological and hormonal changes. Women develop faster heart rates, faster respiratory rates, and higher cardiac outputs. Estrogen, progesterone, and human placental lactation hormone levels rise almost 10–20–fold as beta–hCG levels rise and fall. A pregnant woman is in a constant state of physiological change, while the world around her changes as well. It should be no surprise that a pregnant woman's mental health is very sensitive at this time.

So how do we support pregnant women before, during, and after their pregnancy? How do we support a mother's mental health when it's more than the traditional presentation of anxiety and depression? What happens to the women who fall in between the cracks of physical, social, and mental health issues? Like many scenarios in healthcare, there are too many women living in the shadows, and too many grey areas to count. It’s up to the provider to shine the light.

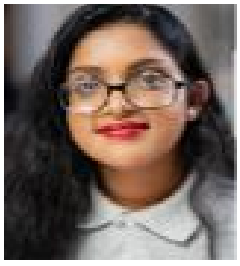


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Healthcare System on Childbirth

By Aysha Zaher

The healthcare system is dictated by social, cultural acceptability, and the law. Similarly, the world is dictated by men, where women thoughts and actions are seemingly inferior. A feminist approach to our current healthcare system is necessary as there is a sense of dominance in areas where there should be unity. Understanding childbirth and ways of improvement around women's treatment in the healthcare system are one of those areas. Women are restricted within healthcare facilities to what position of birth they should assume, have very little unbiased perspectives to ensure a healthy birth, and are subjected to hospital policies that require women to proceed with surgical intervention within a particular time frame– despite no indication of risk to the mother or the baby. Historically, women used the laws of gravity and the supine or recumbent position by laying on their back and forcefully pushing as indicated by caregivers. However, research suggests that these practices are not supported. Research discusses that upright positioning provides many advantages to the mother and child, but caregivers are not moving away from the historical approach of childbirth despite the many disadvantages. Women are being deprived of being in control and having self–confidence when giving birth. Decisions are only made for women– without their personal ideas and stance. This is not right because childbirth is sensitive, it is personal, and it should require complete knowledge of the positives, negatives, and not hold restrictions based on the convenience of caregivers. Women have their own mind and should be allowed to use it. Due to this, it is crucial to discuss the extent of cultural politics and economics within the United States that have dictated a woman's birthing experience during labor. Changing how we hire and promote maternal health policy makers may change the expectation and broaden our understanding of maternal health. It is vitally important to implement the freedom of choice for birthing positions and move away from enforcement that is not truly beneficial to the mother or child. Further research is necessary to understand why a change in childbirth approaches continues to be ignored.



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Maternal Health from Texas to New Jersey

By Michelle Zhao

Today is January 11th, 2020, which marks the first day of the 87th Texas Legislative Session. Texas, just like New Jersey, has some of the worst maternal health outcomes in the United States, which holds a top spot for the worst maternal health outcomes out of the wealthiest countries in the world. I have been fortunate (or rather, unfortunate in this context) enough to live in both of these states as a public health and medical student.

Many of the maternal health bills for this 87th Texas Legislative reflect the same kinds of problems that mothers in this country are facing in this staggering maternal health crisis. The maternal mortality rate in the U.S. during 2018 was 17.4 maternal deaths per 100,000 live births.

One factor that plays into this is the lack of quality healthcare access that women have for maternal health services. One way to address this is by extending Medicaid coverage for women after pregnancy, as well as providing and extending Medicaid coverage for doula services. Doulas have been shown to yield better maternal health outcomes and may also alleviate the problem of lack of healthcare access in certain parts of the country like rural areas.

It would be ignorant to discuss maternal mortality in the U.S. without acknowledging the significant racial disparities associated with maternal complications and deaths. Non–Hispanic Black women are three times as likely to die from pregnancy (43.5 per 100,000 live births) compared to non–Hispanic white women (12.7) in this country. This health disparity can be attributed to the social determinants of health, including racially competent training and access to quality and nondiscriminatory healthcare. Black women are overwhelmingly undertreated and taken less seriously for their symptoms, and this problem continues to add to their increasing maternal mortality rates. As a result, it is crucial that we establish evidence–based, collaborative task forces and standardized training for health students and professionals. Education and training about cultural competency and racial bias must begin as early as the first year of health professional school and continue on throughout the rest of one's professional career.

In terms of social determinants of health, Black women are four times more likely to live in a neighborhood with violent crime and high air pollution, which may put them at further risk for maternal health complications. Being in such a stressful and dangerous environment can yield both negative physical and mental effects on pregnant women, which can also compromise their children's health.

As much as every health professional wishes to eliminate every social determinant of health away, it is more practical to focus on community health interventions through education and resource support instead. These community interventions may not only empower women to be more knowledgeable about their health, but it may also grow to empower the entire community (and beyond) to improve the environmental and educational aspects of their home. Community health can be a long, arduous process, but it is a first–line way to work with these underserved women and directly impact their health.

If you would like to learn more about the current maternal health Texas bills going into the legislature as well as ways to advocate for them, please go to https://linktr.ee/womenshealth.mcgovern

Section C:

Strong Voices

Support for Prenatal Mental Health of Expectant Moms

By Carmen Castro

I had my first child three weeks shy of my 21st birthday. When I learned I was pregnant, I was a first-generation college student with no health insurance and a disappointed family. During my first trimester, I disengaged from my friends and classes while experiencing severe morning sickness and feelings of uncertainty. My support system was very small at the time and I felt a great sense of isolation. I struggled to find joy during my early pregnancy, and I felt no one was asking if I was ok. Looking back now many years later, I recognize that there was a lack of mental health screening during my regular prenatal care. There was great attention placed on the health of the baby and my own physical health, but I don't recall much else in the way of my mental health and well-being. I desperately needed this extra layer of support during my pregnancy, particularly as a first-time mom. This was my experience more than 20 years ago and I hope that today's prenatal care includes a more holistic approach to the well-being of the expectant mom.



Carmen Castro is a Senior Program Coordinator at Rutgers University. Her focus areas include faculty mentoring and postdoctoral affairs. She is passionate about advancing a culture of mentoring and promoting personal and professional development while prioritizing health and well-being. She holds a bachelor's degree in Sociology from Rutgers University and is pursuing a master's in adult and continuing education. As a Latina and mother of three, she has a personal interest in advocating for the maternal health of women of color.

Improving Maternal Healthcare

By Gina Howard

Maternal health is the health of women during pregnancy, childbirth and postpartum. As a mother of four who has had very different pregnancies, I am keenly aware of the importance of complete maternal healthcare, that is all encompassing for the variation of needs for different people.

Statistics show between 700–900 women in the US die from Pregnancy Related causes each year. The US's maternal mortality rate is higher than other high–income countries. Our rates are far worse for women of color. Unfortunately, these rates have increased in the last decade in the US while other countries are decreasing. Yet we spend more on healthcare than any other country in the world! My belief is the way to combat this issue and save lives is to invest in the health of women by subsidizing healthcare costs and educating and elevating education on maternal health for the general public.

Advocating awareness and action in progressive programs for effective family planning and wellness check–ups for women and children would be a major step across the board. Life starts with a mother and a growing child in her womb, Maternal Health Improved is a vital & basic human need and the primary way to ensure a continued future.



Gina Howard is a Seeker of Truth, A Bio Mama to four Amazing Humans & a surrogate to countless more, A Wife, Sister, Friend, Musician , Writer & Light Worker! I Love Great Food & Even Better Company & want to leave the world better than I found it by transformation of self & helping others!

Improving maternal health--what would you do?

By Abby Nash

Maternal health Improvement initiatives require transformational thought leadership and funding from diverse community leaders, all committed to advancing racial equity in America. As a nation, we must acknowledge and address the toxic effects of systemic racism which have been visibly exposed during the COVID–19 pandemic. To be effective, maternal health programs must include diverse stakeholders, including current and future mothers and providers of all race, gender identity and income bracket––from senior leadership to administrative staff. We must expand and integrate easily accessible physical and mental health treatment of all patients, including––but not limited to––expectant new mothers and their supports. Because cultural competence is vital to reducing the infant mortality rates, expanding the number of black, brown and LGBTQ providers and influencers would yield improved health outcomes.

To tackle social determinants of health, my teams would study the successes and failures of maternal health programs in countries of similar economic scale to the U.S. and, over time, create comprehensive economic, criminal, education and environmental justice reform packages. Building stronger support systems for black, brown and LGBTQ+patients, and establishing stakeholder groups committed to eradicating implicit and explicit bias would be a top priority. Cultural competency lessons should be included throughout medical school and all health care providers programs. Without addressing the underlying bias, we won't see significant maternal health improvements.

Trust and effective communication are also paramount. Addressing such a monumental shift will require collaboration not only among policy makers but community organizations, philanthropists, private equity funders, educators, healthcare providers and transportation companies. To further address systemic problems caused by racial and sexual orientation and gender dysphoria bias, we must thoughtfully and continually hold "small group chats" where people are comfortable, like barber shops and beauty salons, to identify ongoing personal and community wide needs.

Including people of color and all gender identities in clinical trials and policy discussions and responding to their needs will foster a more effective and just system. Those patients who feel unheard when they begin their treatment must advocate for proper health services because not receiving appropriate care––including failure to have regular prenatal visits based on the stress caused by discriminatory practices––will continue to result in poor outcomes for the parent and/or the child.

When expectant parents are seen by a doctor or perinatal specialist, questions regarding housing; safe home environments; food and job insecurity; and environmental risks should be asked, and referrals promptly made as needed. Support should immediately be provided for expectant and new parents who consume tobacco, alcohol, opioids or other drugs that may harm the fetus or the mother, and those who suffer from domestic violence. For those individuals who lack family support systems—including those with incarcerated family members—regular home care visits should continually be provided. Perinatal specialists, who advocate for the expectant parents needs and partner with the provider when appointments are missed, could be very effective.

Value based pricing or bundled payment arrangements that include coverage for perinatal specialists who can be by the patients' side during pregnancy, throughout the childbirth at the hospital, and postpartum would be an effective use of funds. Pilot projects approved under Medicaid waivers or conducted by commercial insurance plans would be good vehicles to test various service and support combinations. Investments in reducing harm based on air pollution and lead poisoning and other environmental factors could also reduce the number of infants born with low birth weights. Ensuring continuous Medicaid coverage with active case managers for children and their parents in low-income areas would also likely result in increased academic success and financial security.

Across the country, young women should be empowered by receiving quality health and wellness benefits, and programs focused on addressing self-limiting behaviors. Whether through telehealth services, wellness apps or regular calls from a caseworker, holistic physical and behavioral health care should begin during childhood so the next generation— including black, brown and LGBTQ□ and low-income patients--is comfortable and confident advocating for the services and programs they need and deserve before, during and post pregnancy.

Some low hanging fruit might include easy access to effective contraception to prevent unwanted pregnancies, and educational programs and policy changes to ensure those with high-risk pregnancies receive continuous care from qualified providers. Appointment reminders and transportation to and from appointments, and a strong cohesive support network could result in reduced stress, improved treatment and better maternal health outcomes. A hotline available 24/7 could be up and running faster than a sufficient perinatal specialist network could be created.

Services for expectant parents and those suffering from drug or alcohol addiction should be treated with compassion, and providers with implicit and explicit bias treated firmly, but initially with understanding. From anti-bias training, to telehealth and virtual ultrasound visits, to electronic health systems that make communication with providers and record-sharing seamless, it would be exciting to work with diverse teams to build and continually revamp culturally competent person-centered care before, during and post pregnancy. Initial short-term wins would drive significant long-term successes.



Abby Nash is a health care attorney and policy advisor with 15+ years of experience. Her practice focuses on working with clients and business partners in matrixed environments to develop effective, efficient, enterprise-wide solutions to complex policy challenges. She is passionate about working with lawmakers and stakeholders to develop laws, rules, and healthcare budgets that spur innovation and drive holistic health practices.

Breasts are not obscene

By Amy Papi

Women breast– feeding in public is a natural part of motherhood. We encourage life to go on and the beauty of birth. Breast–feeding is as important to life as food is to our survival.

Studies have shown how babies benefit from mother's milk. Here is one natural substance that does not need to be perfected or medically researched. Laws are written in order to enjoy the benefits it provides.

Our society has authorized changes to improve life and how can we forbid a mother to feed her child by placing restrictions as to where she can or can't perform this act. She must do whatever it takes to properly feed her child is what God intended for her to do.

This is to provide for her baby the natural food to nurture her in becoming a healthy and happy adult.

And:
In 2020 we have had to address how covid–19 affects breast milk.

Many questions are asked such as "can breast milk spread the virus to babies"? However, evidence suggest that it isn't likely to spread to babies, rather "breast milk provides protection against illnesses and is the best source of nutrition for most babies".

Another question regarding covid–19 and breastfeeding is how will the vaccine effect breastfed infant or milk production/excretion? "Mrna VACCINES ARE NOT THOUGHT TO BE A RISK TO THE BREASTFEEDING INFANT"

I will conclude with my expression on the importance of breast–feeding, breast milk is to a newborn. No better cure than a mother's milk!



Amy Papi has held the position of registered governmental affairs agent for the state of NJ as an Associate Advisor for Political Strategy, as Executive Director for NJ Advisory Council on Safety and Health, representing WC Petitioner Attorneys, Labor & Physicians. She has served as Chief of Staff to both Senator Barbara Buono and Assemblyman Peter J. Barnes, Jr. and in this capacity oversaw the drafting of legislation, organizing public appearances, coordinating community activities and overseeing office staff. Amy is currently Office Manager for Assemblyman Sterley Stanley, LD18. She is active in many community organizations including the Coalition for Healthy Communities (Wellspring Center for Prevention). At Rutgers Robert Wood Johnson Medical School (RWJMS) she is a Women's Health Institute (WHI) member and Gender Center of NJ. Through her efforts, the bill legislating Maternal Health Awareness Day every January 23rd was passed. She is now instrumental in legislation that was signed into law June 24th 2021 creation of the NJ One Health Task Force. She also is an Auxiliary Board Member of Robert Wood Johnson University Hospital, a licensed Property, Casualty and Health Insurance Producer, Secretary of the East Brunswick Zoning Board and a member of the East Brunswick Commission on Aging. She has been honored by the NJ General Assembly Women's Caucus during "Women's History Month" Received joint resolutions from the Senate and Assembly, Commendations from Congressman Pallone, Middlesex County Board of Chosen Commissioners, Resolution from Senator Patrick Diegnan and several advocacy recognition awards including WHI Recognition Award.

My Maternal Health Experience

By Kazumi Pestka

Maternal health involves the terrific teamwork of healthcare providers in collaboration with expectant mothers, their family members, and the communities they live in.

We were expecting our second child while in the middle of our move from New York City to New Brunswick. When I went in for a routine second-trimester ultrasound at the hospital I was planning to give birth at, the doctor saw that the cervix was beginning to open and admitted me on the spot. The ultrasound caught this condition, called "incompetent cervix." While I was lying bored in my hospital bed, my husband drove to NJ and back for work, organized childcare for our 14-month-old son, recruited friends to help pack all the boxes (I had only packed a single box prior to my hospital admission!), oversaw the move out of our New York apartment, and managed to fit our most important belongings into his car for the midnight trip to New Jersey: our son, dog, two cats, valuables, and a big yuzu tree.

After we convinced the New York doctors to discharge me, my husband drove me to New Jersey, where I saw the Maternal-Fetal Medicine team at then-RWJUH. I was again admitted on the spot to their newly completed hospital ward and spent another two weeks in hospital bed. There were times I felt anxious and sad, especially when I could see or talk to my son for only brief periods. But what I remember most from this time was positive energy I received from my healthcare professionals. I spent most of November and December as an in-patient, and around the holidays the nurses on the floor made me a beautiful holiday quilt which I still have.

After I was discharged from RWJUH, I did three months of bedrest at home, sending fetal monitoring data to the Maternal-Fetal Medicine team with the help of a monitoring device. At the end of March, I made it to full term and my second child was born! He is an active, healthy teenager now.
A person wearing glasses

I was fortunate to receive the best care in both states. By following recommendations for routine pre-natal checkups, my healthcare providers could identify my particular risk before it was too late. At both hospitals I was cared for by highly trained professionals in state-of-the-art facilities. Most of my expenses were covered by insurance, and the support I received from my family was indispensable. It does take a village to bring a child into this world!



Kazumi Pestka is a translator and Japanese language instructor, who resides in Highland Park with her husband, two sons, and cat.

Dancing into Motherhood

By Renuka Srinivasan

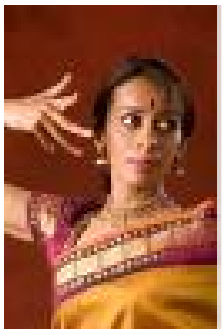
Indian Classical Dance performances are normally based on stories from the ancient traditions of India. One such performance that I had to train for as a Bharatanatyam dancer is the story of a child who was born to a demon king but eschewed all demonic traits and finally was responsible for the destruction of his own father who was wreaking havoc in society. The reason for the child's saintly traits is traced back to the time when he was in the womb of his mother. Apparently, during her pregnancy, the mother was often visited by a sage who would narrate stories that always skewed towards "goodness." This is perhaps one of the earliest recorded examples of how maternal habits can influence the child in the womb.

Today, our storytellers are not visiting sages, but rather the smartphone we hold in our hands, or the television set in the family room. While there is a lot of research on how television viewing affects young children, there is little research on what impact consumption of media has on a mother, either during pregnancy or after childbirth. When there is research available, it normally deals with sedentary habits encouraged by mass media consumption and how it affects maternal health. It would be really interesting to see what the psychological effects are on both the mother and the child, if any. We know that whatever the mother eats impacts the child in the womb; we also know that many of our mental states affect our own physical health. By extension, therefore, it is reasonable to assume that mental states influenced by external stimuli (mass media, in this case) will likely impact the health of the mother, and possibly that of the fetus.

When I was pregnant with my first boy, I was living in London and working as a make-up artist and fashion consultant. I did not have the opportunity to practice my dance on a regular basis, except for a few performances over the four years I lived and worked in London.

Once I was pregnant, it was virtually impossible to even perform sporadically. The dancer in me was yearning for even those few performances. A typical Bharatanatyam dance involves complex footwork, with graceful hand gestures and facial expressions. Therefore, I did the next best thing: sitting on my bed, I would practice the hand gestures and facial expression, while imagining the movements of the legs. This naturally made me recollect the various stories and songs I would have typically danced to, including the story I referred to in the beginning – providing me mental comfort, and grounding me in a spiritual refuge. I am sure all classical dancers of any kind will relate to this. When I was pregnant with my second boy in Delaware, I already knew what I had to do. For the next seven years or so, while I decided to stay at home to be a mother, I often found solace in the storytelling that dance had taught me.

Today, I am a full-time dance teacher, with a dance studio in New Jersey. Over the course of almost 30 years I have trained numerous students, some of whom are young mothers now, or mothers-to-be. I am sure they will find the same refuge in dance that I did.



Renuka Srinivasan is the founder and Artistic Director of Tala Shruti School of Dance, based in Fords, New Jersey. An accomplished Bharatanatyam dancer, Renuka has conducted dance workshops at private schools and colleges in the U.S, including teaching at Rutgers University. In 2019, she collaborated with a women's physician group from Robert Wood Johnson Hospital, to conduct sessions that involved movement and its connection to body, mind and soul. She has worked with Western-style dancers to fuse techniques from the East and West. One such collaboration was for a production of Kipling's Jungle Book, titled Jangala. Renuka received a special recognition and a certificate from the National Foundation for the Endowment of the Arts, specifically for her mentorship of her students that has resulted in some of them being recognized as emerging, talented artists. Additionally, Renuka is a make-up artist and fashion consultant with a special focus on ethnic complexions and has worked in New York and London. Her latest venture is an arts gallery aimed at promoting fair trade and the work of weavers and artisans from around the world

Motherhood

By Marlene Tedeschi

Motherhood is a definite game changer. It's a crazy quilt of contradictions and conundrums equal to no other state of being. In the course of a day, we can go from calm to chaos, or from joy to anger in the blink of an eye. We multitask times ten, and slow down only after everyone else's needs have been satisfied. This insane pace goes on seemingly "ad infinitum" –And then, another game changer; the day when you are holding back tears as you deposit your "little boy" in front of his new home, a beautiful verdant ivy–covered college dorm. "Is there anything you need?", "Did we forget anything?". The questions erupt in an effort to slow down the inevitable. A last hug, and you both are off to a new chapter.

On the ride home your mind is flooded with memories of a beautiful, precocious, curly headed little boy, bursting with questions and wonder at everything in his world. A little boy who filled my days with endless energy and love. Now, this young man is beginning his own journey of self–discovery, and you can only hope that you have taught him well. That you have given him the courage, strength, and wisdom he will need in the days and years to come.



Marlene Tedeschi is a writer and editor. She is overseeing the team who are editing the WHI Journal, maternal health edition.

Fourth Degree Tear (4DT)

By Caroline Tilli

One week before the world shut down for this historic pandemic, I had my daughter, Scarlett. I had been, what seemed like to me, pushing for hours with no progress. I was getting exhausted and frustrated. We decided to take a break and I was asked if I wanted help getting her out. Did I want forceps to help get her out? We discussed what that would mean for Scarlett, what the risks were for her, but we never talked about what it could mean for me. I decided to have an assisted delivery and pop, my daughter was born. While my daughter was taken to the NICU because I had a fever when she was born, I was sewn up for over an hour for my fourth degree tear ("4DT"). My doctor told me the extent of my tear, and tried to assure me that my tearing was not the result of the forceps. I was so small I likely would have torn anyway. I want to be clear that I in no way blame any of the doctors or staff for my injuries; it was my decision and I do believe I still would have torn if I did not have an assisted delivery. However, given my size and my inability to push her out, why wasn't I told I was at a higher risk for tearing? Why wasn't I given the option to have a c-section?

The only time I had heard of a 4DT was during my birthing class and it was touched on in passing as one of the degrees of tearing a woman could have during childbirth. It was the worst but also incredibly rare, I was told. Vaginal deliveries are much better; c-sections are major abdominal surgery and have a much longer recovery time. Yeah, ok. What does the recovery of a 4DT look like, anyway? I couldn't walk for over a month. It hurt to sit and it hurt to stand. I went back to the emergency room three days after I was discharged because I was suffering from such bad fecal incontinence that I wasn't sure if my bowels were failing and/or if it was coming out of my vagina. Sex with my husband was non-existent for months, and to this day is still a hurdle I have to overcome. I was so hysterical and disconnected with my newborn that I was not able to breastfeed her. I was cleared for sex and working out at around 12-13 weeks pp, but mentally it has taken much longer to recovery. I still have panic attacks when I need to have a bowel movement. I have developed a grape sized cyst or scar tissue from the trauma of the delivery that is now blocking my vagina. I know I will need some type of repair surgery in the future when I'm older. My therapist believes I have PTSD from the birth, which I am inclined to believe. If given the choice, and now knowing what I do about 4DT's and their recovery, would I have rather had a c-section? I can say without hesitant abso-freakin-lutely yes.

I'm a member of a 4DT support group. These women from around the county, and even the world, have suffered even worse than I have. I'm one of the lucky ones. Some of these women have real, life-altering lasting issues resulting from their tears. I asked the group if they had an assisted delivery (forceps, vacuum, episiotomy) if they were given a choice to have the procedure or if their doctor had done it without their consent. Out of the 80 women who responded, 58% said they did not give consent. In addition, 68% of those women added that they were not educated on those procedures and what it could do to their bodies; they were only told (if even discussed) the risks associated with the baby. Finally, 70% of these women stated they would rather have had a c-section. In fact, many women stated they asked for c-sections during their deliveries but were told no. A large amount of these women went on to have c-sections for additional births and stated that the recovery for a c-section was vastly better than a 4DT. I am so thankful I had a team of doctors who took my tears and concerns seriously; a lot of women aren't as fortunate as I am. However, despite this "luck" I can't help but be a little bitter. We need to be better educated on decisions and what recovery of childbirth looks like. We need to have a voice in our deliveries because we are the ones who will have to live with these lasting consequences.



Caroline Tilli is a paralegal supervisor at an Am 50 law firm in Philadelphia, PA. She is a wife, mother, workaholic and 80's music lover. In her spare time, Caroline enjoys reading and practicing yoga.

Section D:

Family Building

BORN INSIDE OUR HEARTS

By Chitra Rao

I have heard that “Giving birth to a child and taking the infant in hands for the first time is the most blissful moment in any woman’s life”. I longed for that moment for almost 18 years. It was a very long wait, lots of disappointments and frustrations. We thought god heard our prayers and our dream was coming true, but unfortunately I had a miscarriage with twins. I was devastated and sad. I couldn’t handle the grief. I was very depressed. My husband had initiated the topic of the adoption process with me. We spoke about it a lot, did a lot of research. It made me think that as I am longing to have a child, there are lots of children out there in the orphanages looking out for family too. We decided to go for adoption to give a family to a child.

Adoption is not a simple process. The process takes a lot of time, expects lots of patience and prepares you to expect any surprises (could be good or bad) that might come with the child’s health or history. After finishing a bunch of paperwork, one fine day we received a picture of a cute little boy from India. I was nervous, curious and anxious; we opened the email and saw his picture. Oh my god! Not sure how to express the feeling of that moment. It was a good feeling; I/we made up our mind that he is the one for us. The adoption agency gave us a couple of choices. We didn’t even want to see any other baby pictures. It felt just right and comfortable when we saw his picture. He had a couple of health issues but we really didn’t mind. We signed the papers and submitted all the documents needed. I started to choose a name for him and decided to name him “Ishanth”.

The adoption process is very tedious, took us long time, we couldn’t wait, so we have decided to make a trip to India and visit our son at the orphanage. For the first time I was feeling nervous and happiness together just before meeting him. I had so many questions in my mind; mainly would he like me? Would he come to me? What would he call me? I heard a voice saying, “he is here”. I turned around, Ishanth was holding some lady’s hand and walking slowly into the room. I went close to him, I stretched my hands, looked into his eyes. I said, I am your mom! Do you want to come to me? He looked at me with his big eyes and came to me. Oh wow! I felt that moment, I was so happy and felt that blissful moment. He didn’t cry, he seemed to be very comfortable. It was a great feeling that I am not able to express in words. All I knew was, I just Love this kid so much. We spent almost 4 days with him. It was simply amazing how we have bonded with each other. It was time for us to say goodbye to him. I could not believe I have become so close with him and was very difficult to leave him back in India.

We waited 5 month and yet the adoption process did not move forward in India. So, we decided to go to India again. I fostered Ishanth for 4 months until all the court process were finished. Although I was enjoying every minute with Ishanth, I found it was very difficult to be away from my husband. Finally, the adoption process was completed in an Indian court. We applied for Ishanth's passport and brought him back home to New Jersey, USA.

It took us almost a year and half to finish all the formalities from beginning to end. It was the end of one amazing journey and the beginning of another….. The love continues, I promised myself that I will keep him safe and happy for the rest of my life. He is the apple of my eyes and my sweetheart. It was the best decision I/we made in our life. I strongly believe that we are meant to be together that's why we came together as one family!



Young Women and Family Building

By Dwayla Carty

According to the dictionary, Family is defined as a basic social unit consisting of parents and their children, considered as a group, whether dwelling together or not. Another definition states, a group of people who are generally not blood relations but who share common attitudes, interests, or goals, and live together.[3] Families come in many forms and are different by their economic status, culture, social status, and other factors.[2]

Health Problems / Infertility

Not all women are blessed to give birth and start building their families due to various health issues such as infertility. Infertility means not being able to get pregnant usually after one year of trying or for women who are older and decided to have children later in life, it becomes more challenging. According to the CDC about 10% of women, 6.1 million in the United States between the ages of 15 to 44 can have a difficult time conceiving and staying pregnant. Other problems women are faced with when dealing with infertility is not ovulating normally, eggs are not being fertilized, unusual menstrual cycle or missing a cycle. Ovulation problems are frequently caused by polycystic ovarian syndrome or PCOS. It causes an imbalance in hormones which can interfere with normal ovulation. PCOS is the most common cause of infertility in female ovarian insufficiency. Primary ovarian insufficiency problem women have with ovulation, this happens when a woman's ovaries are not working properly before she reaches the age of 40. When the fallopian tubes are blocked because of pelvic inflammatory disease, endometriosis, or surgery for an Ectopic pregnancy.

Adoption

There are many reasons why people choose to adopt a child. Although the most basic reason is a desire to build or expand a family, the specific reasons that motivate each adoption vary. Some adoptive parents choose to adopt a child because they are infertile medically unable to bear a child as mentioned above, also one or both parents in an adoptive family may be infertile.[1] Another reason for adoption is a woman who choose to put off having a family until she has an established career, it might be too late because of her age and she will be less fertile. Couples may adopt instead of giving birth naturally because one or both parents are at risk for passing on severe genetic or any other medical condition to their unborn child.

Alternatively, a potential birth mother may not be able to risk a natural pregnancy due to her own health complications and choose adoption over the risk of pregnancy. Some couples choose to save a child's life by adoption because a child who otherwise would not grow up with the benefits of a loving and supportive family, believe they are saving a child's life! Such a belief in the goodness of saving a child through adoption even if only for a single child or a few children. In this case, adoption is a means of saving the world, one child at a time. Another example of building a family through adoption is a mother, and her partner may be young parent and are not able to care and raise a baby on their own so the best thing for the young parents to do is find the right foster care agency and put the baby up for adoption; where the baby will be able to grow up in a loving and safe environment.

LGBTQ

Another way to build a family is through the LGBTQ community. A lesbian couple who are starting to build a family, will go to a reproductive clinic to provide the genetic material (eggs) or choose a surrogate to carry their baby.[5] Another option a couple will have is artificial insemination or IVF with a sperm donor, the procedure performed during fertility tests will ensure that a woman does not have female infertility.[5] The reason for the tests is to specify if a woman's body can carry a pregnancy, this is especially important if one or both partners choose to carry their own pregnancy rather than using a surrogate.[5]

Conclusion

Family is the core foundation of an individual's life; family is a support system in good times and bad times. It is the people that help shape and mold you into the person you become, whether it be through DNA or adoption. All families have traditions, beliefs, values, and a legacy that is passed down to each generation from elder members of the family to the younger members. In closing one does not always have to share DNA to be part of a family; it can be formed through love from the heart of a couple or an individual who genuinely chooses to take on the responsibility of raising a child or children as their own and sharing their beliefs and traditions.



Dwayla M. Carty is currently taking a gap year off from school but will be returning in the fall to finish her undergrad as a bio/pre- med student to become a doctor (Pediatric Neurosurgeon or Pediatric Psychiatrist. While attending Middlesex County College, she was part of the Empower program that mentored middle and high school students with their homework until graduation. As part of the Bonner program, she collected coats and canned foods for people in need, as well as serving meals at Elijah's Promise in New Brunswick. She also has had the great honor in helping build a home for a family in need through the Habitat for Humanity / MCC. Lastly, she was a mentor for the M.O.B (Minding Our Business) a non-profit organization designed to meet community needs by advancing the personal and vocational development of urban youth through entrepreneurship, education and coaching/mentoring.

Section E:

Healthcare Team Voices

The Importance of Listening to Patients When You Are Not One

By Ron Bochner MD

I was fortunate to learn the importance of listening to patients early in my medical training. Although I knew the importance of doing so would help diagnose their condition, I didn't realize the full importance of doing so until I became an OBGYN physician.

On day one of my internship, a young patient asked me what labor pain felt like. I was at a momentary loss of words, yet the young patient clearly needed to know. My immediate response was, "You do realize I am a guy", to which she laughed and replied she was aware of that. Clearly, she wanted a response, so I responded that many women had told me their labor pain felt a lot like a menstrual cramp. I waited to see if my response would resonate and satisfy the woman's question. When I saw her smile and nod up and down, I could tell that it did.

I have used that analogy over the decades, and it seems to help patients every time. I have never and will never have a menstrual cramp or other gynecology related pain so I learned to listen to patients describe a sensation I could never have. Not just with uterine contractions but also with the pain, pressure or other symptoms that accompany a Gynecologic condition. Over the years I learned to ask patients specific questions about their symptoms that help cement the diagnosis most of the time.

The importance of listening can be extrapolated to any field in medicine. Patients come to us with conditions we will never have yet we have to take care of them. The inability to personally identify with a patient's symptoms does not diminish a practitioner's ability to care for that patient. I always tell my students to learn to listen. Not just hear but listen.



Ron Bochner MD is an OB/Gyn with 35 years of experience in the field. Although he is in private practice, he holds a teaching position at Rutgers Robert Wood Johnson Medical School. He has been teaching residents for his entire career and he has learned from them as well.

Improve Communication

By Mary Gastrich, PhD

As a Scientist and Educator, I would recommend that those in the medical profession, who understand medicine and statistics surrounding the issues of women's health, and who are knowledgeable about lifestyle and medicine, should work closely with medical educators to develop unique programs designed to increase knowledge of women's health among patients. The purpose of these programs would be to provide an interactive format among physicians, medical educators and patients to increase communication among these patients to improve women's health. These programs would involve necessary interaction among medical personnel, medical educators and patients. This type of interaction can focus awareness of medical conditions among patients and help translate these concepts to patients, with follow-up, in order to actively improve maternal health.

The key here is an interactive medical education that should begin in grammar school and proceed throughout a woman's life. The translation of medical concepts and treatment to the patient is not an easy task. This educational effort should include medical-educational programs that commute understanding of medicine and lifestyle to women patients pertaining to the medical aspects of their lives, how it affects their everyday behavior and how patients can improve maternal health. The program should have numerous types of formats that successfully translate this information and facilitate this interaction. The ultimate goal of improving maternal health is to increase the awareness of the patient to improve their lifestyle and health – this is a team effort!!

The following questions should be answered and ways to improve communication need to be addressed among physicians administering medicine, the medical educators, and the patient:

1) Do patients fully understand everything a doctor is saying to them in the relatively short time, perhaps 15 minutes, in the office?;

2). Did the patient relate to the physician all their concerns and understand the language of medicine as it relates to the specific patient? The language of medicine needs translation to the patient and patient interaction;

3). Is the physician fully aware of the patient's understanding through adequate question and answer time?;

4). Does the physician fully understand the lifestyle of the patient and problems the patient is experiencing? If not, is there a venue in place to increase this understanding?;

5). Does the patient understand the diagnosis and ways to prevent further illness in order to increase maternal health?

6). Is the physician fully aware of the fact that many patients do not comprehend steps that can be taken to improve maternal health?

7). What "educational" steps or programs can be developed to increase the dialogue between patients and physicians and how professionals could facilitate this interaction. So often, the only other person who is in the office with the physician and patient is a family member and/or a medical student or new doctor – this may not engender much verbal interaction in terms of a "medical educator".

These questions must be answered before an effective program can be developed between the medical profession, educators and patients. In many cases, the task of educating the patient and follow–up may need to fall on the shoulders of medical educators



Dr. Mary Downes Gastrich, PhD, EdD, was an Adjunct Associate Professor at Robert Wood Johnson Medical School. She was also a Principal Investigator at the Cardiovascular Institute of New Jersey.

Working in L&D in the early 70s

By Diane Dawicki

I started my career as an L&D nurse in 1972 until 1999. I have seen many changes take place in practice and procedures during those 27 years. When I started, Moms were in Labor beds with 3 foot tall side rails, as we medicated most of the patients with a Hypnotic (Scopolamine) and demerol and vistaril. Patients were not allowed to have their spouses or partners with them. The women labored alone (other than the nurse checking in on her) until the birth. Patients were moved from the labor suite to the delivery room where they gave birth oftentimes with an anesthesia mask giving them twilight sleep intermittently. IV and IM medications for pain were readily available. If labor was slowing down patients received buccal Pitocin which was placed under their tongue or under their upper lip. Over the next few years many changes came about. IV monitors were developed to control the desired amount of the Oxytocin. Significant others were allowed in the labor rooms as well as in the delivery room if the parents took prenatal classes. Moving forward, fetal monitors came into use, we started out with one Fetal monitor machine and moved it from patient to patient depending on need and patient load. We began using epidurals for pain management and multiple fetal monitors were readily available. All IV medications were administered via an IV pump. It was a wonder to see how natural childbirth evolved over the years. If I could have changed one thing, starting in 1972 I would have liked to see more patient information and education regarding the childbirth process. I worked in a multicultural area and we could not communicate with many of our patients. If, from the onset of pregnancy education was more vigorous much anxiety and fear could have been eliminated. Many of our patients had never been in a hospital or spoken to an American nurse. They really had no clue what induction of labor was, or the different stages of labor are, why pushing was required. Of course all this changed for the better over the years but back in the 70's it was not so.



Diane Dawicki, LPN, Research Coordinator is the Clinical Research Coordinator for the Department of Obstetrics, Gynecology, and Reproductive Sciences at Rutgers RWJMS. Prior to Rutgers, Ms. Dawicki was a LPN in Labor and Delivery at St. Elizabeth's Hospital in Elizabeth, New Jersey for twenty-seven years. Ms. Dawicki earned her LPN from the Jersey City Board of Education. In addition to her wealth of experience, Ms. Dawicki brings a deep commitment to women's health needs, kindness and warmth to each interaction with a study volunteer.

Improving Maternal Health: What Would You Do?

By Margarita Orlova

Millions of children are born every year. These children are the future. They could be the next generation's great scientists, artists, musicians and possibly even change the world as we know it. All the while, their mothers are equally as important. During pregnancy, childbirth and the postpartum period, women have a lot depending on them. Women in our modern age, often must balance full–time jobs along with the majority of household responsibilities. According to the Bureau of Labor Statistics, on an average day 19% of men reported doing housework like laundry, cleaning, and other tasks, compared to 49% of women. In additional to both types of work and looking after their baby, it is critical that women take care of their health before and after childbirth.

The best way to improve maternal health is to make healthcare more accessible to a wider variety of women. First and foremost, complications before and after pregnancy must be handled as quickly and most efficiently as possible. Alongside increased accessibility to care, policies that advocate for paid parental leave and affordable childcare can make a substantial impact in our society. If a woman knows that she is at risk of losing her job for taking too much time off, despite needing it to recover, she is likely to get back to work sooner than what may be medically recommended. We need policies that allow postpartum women to prioritize their health prior to readding the stressors of everyday life. Ultimately, women and their families need a breather that leaves room for them to learn to navigate life with a newborn.

Important questions about how to look after their new family member will come up, which will inevitably result in substantial lifestyle changes. Above all, it takes time to adjust to these changes and make a dependable plan for moving forward. If women are thrown into the fire too quickly these sudden changes can impact both their mental and physical health. Even in women who have no complications post–childbirth, their mental health must be looked after to not have stress translate into physical symptoms from overlooking their health. After all, people are not machines that can go from one stressful event to another – they need time off to do efficient work and more importantly to be their most healthy selves. Moreover, paid parental leave has been shown in a number of research studies12 to lead to better health outcomes for children and mothers.

In summary, with our ever-changing world and gender equality landscape, it is important to implement action from both the policy and health-accessibility side that will allow maternal health to be prioritized and improved in the years to come. When there is change to societal responsibilities in terms of workload, there must be corresponding changes made to increase maternal health outcomes. Ultimately, when mothers are healthy, their children have a greater opportunity to fulfill that very potential to become those scientists, artists, musicians, and pillars of future change



Margarita Orlova is a Research Associate in the Cell Biology Department at Harvard Medical School. She is currently working on the vast BioPlex Interactome Project, which has the goal of mapping all the interactions in available human proteins. She graduated with a Bachelor of Science in Engineering (B.S.E) degree in Chemical and Biological Engineering from Princeton University. In the fall of 2021, Margarita will return to Princeton to pursue a Masters of Engineering (M.Eng) degree in the same field. Additionally, Margarita is a Princeton Project 55 (P55) Fellow for the 2020-2021 year. She had also been selected as a Reiner G. Stoll Fellow during her undergraduate career. Margarita has held a variety of internship and fellowship positions in the past, one being at Hyacinth AIDS Foundation in New Jersey. The internship at Hyacinth through the Program for Community Engaged Scholarship (ProCES) allowed her to investigate the structure of the organization and nourish her interest in healthcare. Additionally, Margarita has kept up with scientific preprints as a reviewer for the Rapid Reviews: COVID-19 (RR:C19) Medical Sciences Team, a collaboration between UC Berkeley and the MIT Press.

Maternal Health Awareness Day

By Rachael Sampson, MD

Maternal Health Awareness Day signifies our nation's recognition that women's lives matter. For centuries, maternal health was mystified. The gravid female was whispered about in hushed voices using gallant euphemisms:

"She is in a family way."

"When is her date of confinement?"

"On account of her delicate condition…"

There was but a small and quiet voice for maternal health because it was deemed too unpleasant and too embarrassing to speak of openly, transparently, or even medically. Historically entrenched and less-than-kind obstetrical terms continue to appear in medical practice even today: the "inadequate" pelvis, the "incompetent" cervix, the "unfavorable" induction," and the "hostile" uterus. Were these words meant to pass judgement on the woman in possession of them?

No matter the answer, our history highlights the enormity of the issue of maternal health awareness here and now. Having a strong voice is the only way to improve our healthcare system. Women's health has long been tamped down in the basement. Evidence-based practices in prenatal care, labor, delivery, the peri- and post-partum lag behind their clinical counterparts in other medical disciplines. For instance, the lack of clinical trials inclusive of pregnant and lactating individuals has been brought into sharp focus by the novel coronavirus pandemic. Maternal Health Awareness Day highlights the collaborative approach that must occur in health systems across our nation. This team venture to amplify the voice of our women is the only way to champion maternal health and wellness. And when mothers are healthy, communities thrive.



Dr. Rachael Sampson is board certified in Obstetrics & Gynecology. She is a graduate of the University of Connecticut and completed her medical education training at New York Medical College. Dr. Sampson is a member of the Gold Humanism Honor Society. Her passion for women's health and wellness encompasses patient care, scholarship, and community involvement.

Section F:

Editor Team Voices

Improving Maternal Health – Make Pregnancy a Priority

By Nancy Phillips, MD

Improving maternal health requires not only accessible health care, but readily available and timely health care. Pregnancy, for the most part, is forty weeks long. These forty weeks impart intense physical, emotional and physiologic change to a mother and have profound implications for a baby, not only while in–utero, but after birth and even throughout life. These forty weeks require health care, and our health care system should make pregnancy a priority.

This means upon diagnosis of pregnancy a woman has access to care within the first trimester and earlier as needed. This means that appointments for blood work, ultrasounds, genetic testing as needed be not only available, but available at the proper time during pregnancy. A missed test may be forever missed because the appropriate timing has passed. A medical problem which is either diagnosed or worsens in pregnancy needs prompt evaluation and intervention. A forty–week window of care does not forgive long waits for consultations or delays in initiation of care.

Health care for pregnancy should be available. It should be accessible. It should be a priority.



Nancy Phillips, MD is a Board-certified obstetrician/gynecologist, Associate Professor and Director of the Center for Vulvovaginal Health in the Department of Obstetrics, Gynecology & Reproductive Science at Rutgers-Robert Wood Johnson Medical School in New Brunswick. Dr Phillips' clinical interest is in vulvovaginal health, with an emphasis on vulvodynia. Other areas of interest include menopause and hormone therapy and pelvic pain. She has authored and co-authored many peer-reviewed articles and book chapters in this field, including an on-line Prologue teaching review on vulvovaginal atrophy for the American College of Obstetrics and Gynecology. Dr. Phillips is also involved in clinical research in areas of vulvodynia, vulvovaginal atrophy and the vaginal microbiome. She serves on Rutgers-Robert Wood Johnson Internal Review Board for clinical research, and is a reviewer for UptoDate and several journals, including the Journal for Sexual Medicine and the "Grey Journal."
Nancy Phillips completed a Residency in Obstetrics and Gynecology at George Washington University, Washington, DC, (1992); a Medical Degree from Rutgers-Robert Wood Johnson Medical School (1988) and a Bachelor of Science (summa cum laude) from Villanova University (1984).

Maternal Health & Gender Bias

By Heather Turock

In 2010, I went into labor with my first child, after 20 hours I began to feel something wasn't right. I told the nurse several times I thought something was wrong but was chided for not pushing "correctly". When the doctor entered my room, it became clear the baby was not in the correct position for delivery and I was taken for an emergency cesarean section, which was complicated by a hemorrhage, likely brought on by the long labor. Luckily, I was able to narrowly avoid a blood transfusion and deliver a healthy baby.

Unfortunately, the US has one of the highest maternal death rates in the industrialized world, with 17.4 maternal deaths per 100,000 live births. A woman of color is three to four times more likely to die of pregnancy–related complications then a white woman. Reasons for these deadly statistics vary from inconsistent medical care, to a higher prevalence of chronic illness in the US. Less often reported is the gender bias that is present in the healthcare system that trivializes the healthcare complaints of women, resulting in serious consequences. Research has shown that women are taken less seriously than men when reporting pain symptoms and more often than men, tend to be diagnosed with psychosomatic issues, when they actually have a physical ailment.

Compounding this problem, research has shown women are more likely themselves to rationalize and dismiss symptoms of serious problems. It is important to trust your own instincts and report any symptoms you find suspect to your doctor. If you feel something is wrong and you are not being heard, it's okay to respectfully insist on having the issue explored further. If all else fails, seek a second opinion.



Heather Turock holds a Masters of Liberal Arts in Psychology and a graduate certificate in Human Behavior from Harvard University. She is passionate about gender equality.
In addition to her educational pursuits, she holds a CFRE certification and has over 10 years of fundraising experience.

STATE OF NEW JERSEY
EXECUTIVE DEPARTMENT

Proclamation

WHEREAS, the number of pregnancy-related deaths in the United States (the number of women who die during pregnancy, or within one year after childbirth, from any cause that is related to, or aggravated by, the pregnancy) has continued to rise, despite recent advances in medical science and technology; and

WHEREAS, in 1986, the federal Centers for Disease Control and Prevention (CDC) implemented a Pregnancy Mortality Surveillance System to obtain information about the frequency and causes of pregnancy-related death in the United States; and

WHEREAS, despite declines in maternal deaths in other parts of the world, the data collected under the Pregnancy Mortality Surveillance System has shown a steady increase in the number of reported pregnancy-related deaths in the United States, from a low of 7.2 deaths per 100,000 live births in 1987, to a high of 18 deaths per 100,000 live births in 2009 and 2013; and

WHEREAS, in 2013, the most recent year for which surveillance data is available, there were approximately 13.7 pregnancy-related deaths per every 100,000 live births in the United States; and

WHEREAS, the Pregnancy Mortality Surveillance System indicates that the rate of pregnancy-related deaths varies by race, ethnicity, and age, with the highest mortality rate being evidenced among black women, who suffered an average of 46.5 deaths per every 100,000 live births in 2013; and

WHEREAS, the most recent State-level data available on this issue indicates that, from 2009 to 2013, the average pregnancy-related mortality rate in New Jersey was 14.8 deaths per 100,000 births across all racial and ethnic subgroups, with a significantly higher rate of death for black women in the State, which is consistent with national statistics; and

WHEREAS, a number of initiatives have been developed over the years to address the issue of pregnancy-related mortality, and while most of these initiatives have failed to effectuate a reduction in the rate of pregnancy-related deaths, some more recently-developed initiatives in this area are showing promise; and

WHEREAS, these promising initiatives include the Safe Motherhood Initiative, which was developed by the American College of Obstetricians and Gynecologists (ACOG); the Postpartum Hemorrhage Project, which was developed by the Association of Women's Health, Obstetric, and Neonatal Nurses (AWHONN); the "Stop, Look, and Listen!" educational maternal safety campaign, which was developed by the Tara Hansen Foundation, the Rutgers Robert Wood Johnson Medical School, and Robert Wood Johnson University Hospital, and is supported and promoted by Rutgers New Jersey Medical School; and the Alliance for Innovation on Maternal Health (AIM), which is a national partnership of organizations that is poised to reduce severe maternal morbidity through initiatives that are being implemented in New Jersey and other states; and

WHEREAS, on a Statewide basis, the New Jersey Section of ACOG, the New Jersey Obstetrical and Gynecological Society, the New Jersey Section of AWHONN, and the New Jersey Affiliate of the American College of Nurse Midwives, have each indicated their full support for these initiatives; and

WHEREAS, the mission of the Tara Hansen Foundation's "Stop, Look, and Listen!" campaign is to increase public and professional awareness of pregnancy-related deaths, empower and encourage women to more readily report pregnancy-related medical issues, and increase the awareness and responsiveness of health care practitioners and medical teams in association with potentially fatal pregnancy-related medical issues; and

WHEREAS, the Tara Hansen Foundation was established in 2012 in response to the death of Tara Hansen, a young special education teacher and citizen of New Jersey who died only six days after the birth of her first child as a result of undiagnosed pregnancy-related complications, despite having a low-risk pregnancy; and

WHEREAS, the "Stop, Look, and Listen!" campaign is specifically designed to educate patients and health care practitioners about the importance of using a deliberative stop, look, and listen approach in response to maternal health complaints or other indications of maternal distress, as a means to prevent maternal deaths like Tara's; and

WHEREAS, the AIM program, which is being implemented in New Jersey, is a four-year national program that is being funded through a cooperative agreement between the Maternal and Child Health Bureau and the Health Resources and Services Administration; and

WHEREAS, the stated goal of the AIM program is to reduce severe maternal morbidity by preventing 100,000 severe complications during labor and delivery, and preventing 1,000 maternal deaths, through the year 2018; and

WHEREAS, the AIM program aligns national, state, and local efforts to improve maternal health and safety; develops maternal safety bundles; and promotes the implementation of these bundles in all birth facilities, in order to better ensure consistency in maternal care; and

WHEREAS, the AIM program's maternal safety bundles address such issues as obstetric hemorrhage; severe hypertension/preeclampsia; maternal prevention of venous thromboembolism; the safe reduction of primary cesarean births and increase of support for intended vaginal births; the reduction of peripartum racial disparities; postpartum care basics for maternal safety; patient, family, and staff support after a severe maternal event; and obstetric management of women with opioid dependence; and

WHEREAS, the AIM Program facilitates multidisciplinary and interagency collaboration between states and hospitals; supports continuous and harmonized data-driven quality improvement processes; and provides evidence-based resources to streamline bundle implementation; and

WHEREAS, the core partners of the AIM Program in New Jersey include the New Jersey Section of ACOG, the New Jersey Obstetrical and Gynecological Society, the New Jersey Section of AWHONN, and the New Jersey Affiliate of the American College of Nurse Midwives; and

WHEREAS, in order to improve public and professional awareness of the issues related to maternal health and mortality, and promote the various promising initiatives that are being undertaken to reduce maternal mortality, it is both reasonable and appropriate to establish "Maternal Health Awareness Day" in the State and annually invite community members and health care professionals, on that day, to participate in appropriate activities relating to maternal health, safety, and mortality; now, therefore,

NOW, THEREFORE, I, Philip D. Murphy, Governor of the State of New Jersey, do hereby proclaim:

JANUARY 23, 2018

AS

MATERNAL HEALTH AWARENESS DAY

in New Jersey.

GIVEN, under my hand and the Great Seal of the State of New Jersey, this twenty-second day of January in the year two thousand eighteen, the two hundred forty-second year of the Independence of the United States.

Lt. GOVERNOR

GOVERNOR