Women’s Health


The United States faces an alarmingly high rate of maternal morbidity and mortality, distinguishing it from other high-income countries that have achieved decreases in these rates in recent years. U.S. maternal morbidity and mortality rates are disproportionate across racial, ethnic, socioeconomic, and geographic groups. Statistics on maternal health outcomes reveal that there are challenges to protecting both the lives and future health of birthing people and their children.

**Birth Settings in America: Outcomes, Quality, Access, and Choice** (2020)

The delivery of high quality and equitable care for both mothers and newborns is complex and requires efforts across many sectors. The United States spends more on childbirth than any other country in the world, yet outcomes are worse than other high-resource countries, and even worse for Black and Native American women. There are a variety of factors that influence childbirth, including social determinants such as income, educational levels, access to care, financing, transportation, structural racism and geographic variability in birth settings. It is important to reevaluate the United States’ approach to maternal and newborn care through the lens of these factors across multiple disciplines.

**Challenges in the Provision of Lifesaving Care for Pregnant Patients Following the Overturn of Roe v. Wade: Proceedings of a Workshop—in Brief** (2023)

State laws restricting abortion often contain some degree of exception to save the life of the pregnant person, but varying legal interpretations of those exceptions may create a confusing legal landscape for clinicians and lead to delays providing lifesaving treatment. The National Academies Standing Committee on Reproductive Health, Equity, and Society held a public workshop in an After Roe series to explore the current challenges of, and potential solutions to, delays in the provision of lifesaving care for people experiencing pregnancy complications or serious illness or injury while pregnant. Speakers considered the myriad of legal, policy, and provider challenges and the effect of these challenges on the delivery of care and clinician well-being. This Proceedings of a Workshop—in Brief summarizes the discussions held during the workshop.

A 2-day public workshop on estimating the prevalence of human trafficking in the United States was held by the Committee on National Statistics in collaboration with the Committee on Population April 8-9, 2019. The workshop explored current and innovative sampling methods, technological approaches, and analytical strategies for estimating the prevalence of sex and labor trafficking in vulnerable populations. The workshop, sponsored by the Office on Women's Health at the Department of Health and Human Services (HHS), brought together statisticians, survey methodologists, researchers, public health practitioners, and other experts who work closely with human trafficking data or with the survivors of trafficking.

**Inclusion of Pregnant and Lactating Persons in Clinical Trials: Proceedings of a Workshop (2023)**

Approximately 4 million pregnant people in the United States give birth annually, and 70 percent of these individuals take at least one prescription medication during their pregnancy. Yet, due to a number of historical, ethical, legal, scientific, and societal issues, pregnant and lactating persons are often excluded from clinical trials. As a result, pregnant and lactating persons are often taking drugs based on limited information about the benefits and risks to themselves and their developing or newborn baby.


The National Academies of Sciences, Engineering, and Medicine last reviewed the state of the science on nutrition during pregnancy and lactation 30 years ago. The resulting consensus study reports from the Institute of Medicine—Nutrition During Pregnancy (IOM, 1990) and Nutrition During Lactation (IOM, 1991)—summarized the scientific evidence and provided nutrient recommendations. In the decades since the release of these two reports, the body of evidence on the relationships between nutrition during pregnancy and lactation and maternal and infant health and chronic disease has continued to grow and evolve. At the same time, the demographics of the population have shifted, giving rise to new considerations. To explore the evidence that has emerged, the National Academies conducted a 2-day workshop in January 2020. This publication summarizes the presentations and discussions from the workshop.

**Physician Perspectives and Workforce Implications Following the Repeal of Roe v. Wade: Proceedings of a Workshop–in Brief (2023)**

The National Academies Standing Committee on Reproductive Health, Equity, and Society and the National Academy of Medicine, committed to equitable access to quality reproductive
health, hosted a webinar, After Roe: Physician Perspectives and Workforce Implications, in May 2023. Discussions increased awareness and promoted dialogue in the medical, public health, societal, and general population. Speakers explored clinician workforce impacts of legal restrictions on the provision of reproductive health services in the U.S. Practicing physicians from obstetrics-gynecology, maternal-fetal medicine, family medicine, emergency medicine, and oncology provided their perspectives on the effects of the legal limitations on their well-being (e.g., moral distress), professional futures, and institutional supports. Perspectives included individuals from a range of states with varying legal restrictions. This proceedings document summarizes the discussions held during the webinar.


Pregnant and lactating persons are frequently excluded from clinical research, and often have to make treatment decisions without an adequate understanding of the benefits and risks to themselves and their developing or newborn baby. The National Academies Committee on Developing a Framework to Address Legal, Ethical, Regulatory, and Policy Issues for Research Specific to Pregnant and Lactating Persons held a workshop in March 2023 as part of a consensus study to discuss how institutions and organizations make risk-benefit decisions regarding the inclusion and exclusion of pregnant and lactating persons in clinical research, and the role of real and perceived liability considerations, health equity, risk management, and trial insurance in those decisions. The workshop reviewed existing approaches to manage and mitigate risks relevant to the inclusion of pregnant and lactating persons in clinical research. This Proceedings of a Workshop–in Brief summarizes the discussions held during the workshop.

The Effects of Incarceration and Reentry on Community Health and Well-Being: Proceedings of a Workshop (2020)

The high rate of incarceration in the United States contributes significantly to the nation’s health inequities, extending beyond those who are imprisoned to families, communities, and the entire society. Since the 1970s, there has been a seven-fold increase in incarceration. This increase and the effects of the post-incarceration reentry disproportionately affect low-income families and communities of color. It is critical to examine the criminal justice system through a new lens and explore opportunities for meaningful improvements that will promote health equity in the United States.


The National Academies of Sciences, Engineering, and Medicine convened a workshop on March 7, 2018, to help inform research, programs, and policies to better meet the mental health needs
of women in the United States. Participants examined trends in mental health as well as risk and protective factors for diverse populations of women, and they considered the research needed for a better understanding of women’s mental health. Important issues of practice and policy also were discussed. Experts explored these topics from a life-course perspective and at biological, behavioral, social/cultural, and societal levels of analysis. This publication briefly summarizes the presentations and discussions from the workshop.

**Indigenous Peoples’ Health**

*Contact Tracing and the Challenges of Health Equity in Vulnerable Latino and Native American Communities: Proceedings of a Workshop—in Brief* (2021)

Communities of color are experiencing significantly higher rates of COVID-19 infection and significantly higher mortality rates when compared to white Americans. It is critical that contact tracing efforts are executed in ways that are appropriate to those communities experiencing a greater burden of COVID-19. In some cases these efforts should take into account the distrust some communities have in health care systems and providers. Other issues relevant to contact tracing include language, cultural competency, health literacy, stigma, and privacy concerns, particularly in multigenerational households. Furthermore, contact tracers may identify individuals who lack access to care and/or health insurance, or the supportive services needed to isolate if they test positive, and some individuals will be residents without documentation. Recruiting and building a new cadre of contact tracers should meet the immediate goal of addressing the pandemic, but attention could also be paid to building a public health infrastructure in communities that supports health equity.


Communities of color experience significantly higher rates of COVID-19 infection compared to White Americans, but have gotten vaccinated at a slower pace. The National Academies of Sciences, Engineering, and Medicine’s Roundtable on the Promotion of Health Equity hosted a public webinar to discuss lessons learned from the COVID-19 pandemic and previous vaccination efforts that could improve vaccination rates among communities of color. Five participants including Indigenous tribal authorities, state public health workers, labor advocates, and academics discussed the history of vaccination and disease control efforts for minority populations during and before the COVID-19 pandemic. This Proceedings of a Workshop-In Brief summarizes the content of the workshop discussions.
Federal Policy to Advance Racial, Ethnic, and Tribal Health Equity (2023)

Racially and ethnically minoritized populations and tribal communities often face preventable inequities in health outcomes due to structural disadvantages and diminished opportunities around health care, employment, education, and more. Federal Policy to Advance Racial, Ethnic, and Tribal Health Equity analyzes how past and current federal policies may create, maintain, and/or amplify racial, ethnic, and tribal health inequities. This report identifies key features of policies that have served to reduce inequities and makes recommendations to help achieve racial, ethnic, and tribal health equity.


Roadway fatalities and serious injuries are a significant public health concern in rural and tribal settings. Creating a coalition of interested individuals is part of the Safe System Approach that addresses the high rates of these fatalities and serious injuries. BTSCRCP Research Report 8: Highway Safety Behavioral Strategies for Rural and Tribal Areas: A Guide, from TRB's Behavioral Transportation Safety Cooperative Research Program, details this approach, which includes strategies for safer people, safer roads, safer vehicles, safer speeds, and post-crash care.

Improving Representation in Clinical Trials and Research: Building Research Equity for Women and Underrepresented Groups (2022)

The United States has long made substantial investments in clinical research with the goal of improving the health and well-being of our nation. There is no doubt that these investments have contributed significantly to treating and preventing disease and extending human life. Nevertheless, clinical research faces a critical shortcoming. Currently, large swaths of the U.S. population, and those that often face the greatest health challenges, are less able to benefit from these discoveries because they are not adequately represented in clinical research studies. While progress has been made with representation of white women in clinical trials and clinical research, there has been little progress in the last three decades to increase participation of racial and ethnic minority population groups. This underrepresentation is compounding health disparities, with serious consequences for underrepresented groups and for the nation.

Intergenerational Poverty and Mobility Among Native Americans in the United States: Proceedings of a Workshop (2023)

Experiencing poverty during childhood can lead to lasting harmful effects in which poverty is passed on to future generations - a cycle that disproportionately affects Native American families. To identify policies and programs that can reduce long-term, intergenerational poverty among Native Americans in the United States, the Board on Children, Youth, and Families held information-gathering sessions on July 22, 2022 and July 25, 2022. In these sessions, key
historical and structural factors that lead to entrenched poverty were examined as well as promising interventions for addressing them. Importantly, these sessions included a conversation with community leaders on their experiences with and work on intergenerational poverty as well as key data and trends on this topic.

**Integrating Public and Ecosystem Health Systems to Foster Resilience: A Workshop to Identify Research to Bridge the Knowledge-to-Action Gap: Proceedings of a Workshop** (2023)

Ecosystems form the foundation upon which society can survive and thrive, providing food, water, air, materials, and recreation. These connections between people and their environments are under stress from human-driven climate change, pollution, resource exploitation, and other actions that may have implications for public health. The integral connection between nature and human health is recognized and has been explored through different bodies of work; however, because of the breadth of this issue, many implications regarding public health are not well characterized. This has created a gap in understanding the interconnections between public health and ecosystem health systems and how ecosystem resiliency may affect public health.

**Review of the Draft Fifth National Climate Assessment** (2023)

Roughly every four years, the U.S. Global Change Research Program produces a congressionally mandated assessment of global change science and the impacts, adaptation, and mitigation of climate change in the United States. The draft Fifth National Climate Assessment (NCA5), released publicly in November 2022, covers a wide range of U.S. impacts, from human health and community well-being to the built environment, businesses and economies, and ecosystems and water resources. NCA5 had the largest scale of collaboration to date in the series, with input from hundreds of experts from all levels of governments, academia, non-government organizations, the private sector, and the public. The National Academies report provides an independent, comprehensive review and makes recommendations to strengthen the accuracy, credibility, and accessibility of the draft NCA5 report.

**Strengthening Equitable Community Resilience: Criteria and Guiding Principles for the Gulf Research Program’s Enhancing Community Resilience (EnCoRe) Initiative** (2023)

The Gulf Research Program of the National Academies of Sciences, Engineering, and Medicine has developed a program to strengthen community resilience, the Enhancing Community Resilience (EnCoRe) initiative. EnCoRe aims to reduce inequities in health and community resilience; advance research and practice in health and community resilience; and build the capacity of communities for addressing the impacts of climate change and disasters on at-risk populations. To achieve these goals, EnCoRe will support long-term, multiyear community
engagement projects that partner directly with select communities across the Gulf region and Alaska.

**Suicide Prevention in Indigenous Communities: Proceedings of a Workshop** (2022)

Indigenous communities experience higher risks for suicide compared to the general U.S. population, with suicide as the second-leading cause of death among Indigenous children and young adults in North America. To reduce this trend, it is essential for prevention and intervention efforts to build on scientific evidence; cultural and local knowledge; and the best community, family, and institutional practices to reduce risk and increase protection. The Forum on Mental Health and Substance Use Disorders and the Forum for Children's Well-Being at the National Academies of Sciences, Engineering, and Medicine convened a three-part virtual public workshop on April 26, 2022, May 13, 2022, and June 10, 2022, to examine suicide risk and protective factors in Indigenous populations, discuss culturally appropriate and effective suicide prevention policies and programs, explore existing data systems and how data can be used for tracking suicide rates, and consider opportunities for action. This Proceedings highlights presentations and discussions from the workshop.

**Women's and Indigenous People's Health**

**Improving Representation in Clinical Trials and Research: Building Research Equity for Women and Underrepresented Groups** (2022)

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