



THEGOVLAB

EU R&I and Health
Policy to Tackle
Global Challenges

Women's health innovation: topic map narrative

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CONTENTS

ACKNOWLEDGEMENTS	2
BILINGUAL CONTRIBUTORS	2
FUNDING & DISCLAIMER	4
1. INTRODUCTION AND RATIONALE	1
2. ORGANISATION OF THE TOPIC MAP.....	2
2.1. TOPIC MAPPING	3
3. KEY DOMAINS.....	4
3.1. SEXUAL AND REPRODUCTIVE HEALTH:	4
3.2. MENTAL HEALTH:	5
3.3. PERIMENOPAUSE, MENOPAUSE, & POST MENOPAUSE	6
3.4. WOMEN’S HEALTH ACROSS THE LIFESPAN (AGING):.....	8
3.5. BREAST HEALTH.....	9
3.6. ENVIRONMENTAL AND OCCUPATIONAL HEALTH:	10
3.7. ADOLESCENT HEALTH:	11
3.8. CANCER:	11
3.9. CHRONIC & AUTOIMMUNE DISEASES:	13
4. DETERMINANTS & BARRIERS TO WOMEN’S HEALTH AND INNOVATION	17
4.1. CROSS CUTTING DETERMINANTS AND BARRIERS	17
4.2. GENDER-BASED VIOLENCE	21
4.3. HEALTH EQUITY & ACCESS	26
4.4. HEALTH SYSTEMS, POLICY & LEGAL ISSUES.....	29
5. RESEARCH AND EVIDENCE GAPS.....	33
6. TECHNOLOGY & INNOVATION IN WOMEN’S HEALTH	36
7. REFERENCES.....	43

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1. INTRODUCTION AND RATIONALE

There is an urgent need for innovation to address persistent gender-specific health challenges and unlock new opportunities for improved health outcomes. The topic mapping below seeks to chart the broader field of women's health, with the aim to lay the groundwork for exploring women's health innovation to identify gaps, needs, and potential for investment, solutions, policies, technologies, or research for the greatest impact.

The mapping contributes to our efforts to identify key questions that, if answered, could significantly advance both women's health innovation in the sector. It spans critical domains across the life course—from adolescence and reproductive years to menopause and older age—encompassing reproductive and maternal health, gynaecological conditions, cancers such as breast and cervical, mental health, cardiovascular disease, and emerging digital health solutions tailored to women's needs.

Advancing women's health is not only essential for addressing entrenched health disparities but also for catalysing economic and societal progress. For instance, improved access to reproductive health services enhances family well-being and boosts women's participation in the workforce. Addressing chronic and mental health issues reduces healthcare costs and strengthens community resilience. Ultimately, as the topic mapping shows, women's health innovation is not a niche—it is a foundational pillar of public and global health that demands coordinated attention across healthcare systems, policy frameworks, and society at large.

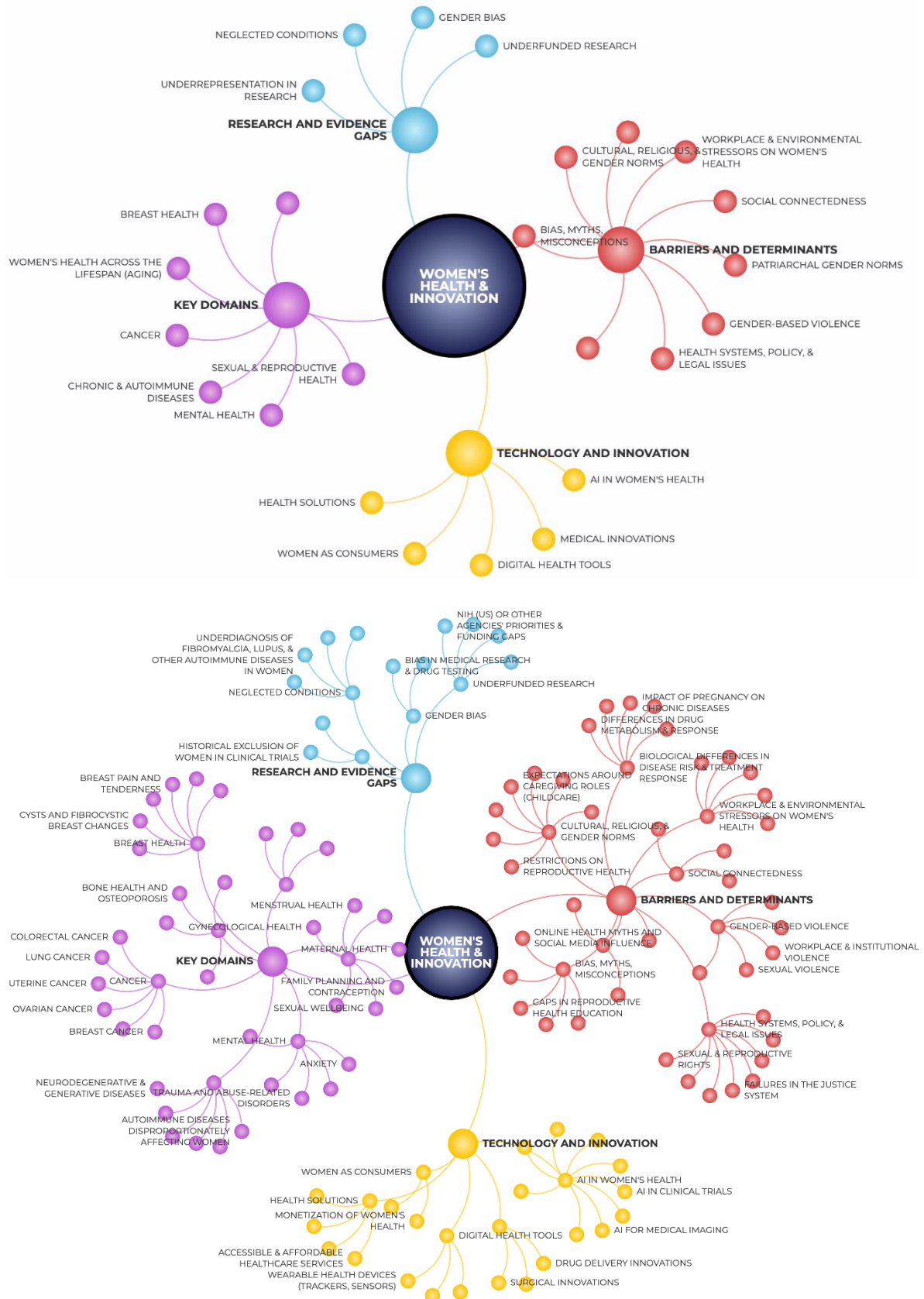
Innovation as a focus

The topic map offers a comprehensive overview of the broad and interconnected dimensions of women's health, serving as a foundational framework for guiding future efforts in research and innovation. It functions as an initial reference point that will be integrated with other strategic tools—such as the Opportunity Map—to help identify critical and timely questions necessary for driving progress in women's health innovation. By highlighting the current state of women's health, as well as existing gaps, emerging priorities, and areas of opportunity, the topic map plays a key role in shaping a forward-looking innovation agenda. It provides a high-level perspective that allows stakeholders to take stock of where we are, with the intention of reframing this understanding around innovation as the central pillar for the 100 Question methodology and in defining recommended future actions and investments for the EU and globally.

2. ORGANISATION OF THE TOPIC MAP

1. **Key domains:** This section explores the fundamental areas of women's health innovation, focusing on critical aspects such as sexual and reproductive health, mental health, aging, cancer, and chronic diseases. It covers both the biological and social factors influencing women's health outcomes across the lifespan.
2. **Determinants & barriers:** This section addresses the various social, cultural, and systemic barriers that impact women's health and women's health innovation. It examines how gender norms, cultural expectations, and inequities in access to care shape women's ability to make informed health decisions and receive adequate care.
3. **Technology & innovation:** Focusing on the role of technology, this section highlights the innovations transforming women's healthcare. It discusses advancements in digital health, AI, and FemTech, as well as challenges related to commercialisation, gendered pricing, and access to essential health services.
4. **Research & evidence gaps:** This section emphasises the gaps in women's health research, particularly in areas that disproportionately affect women. It explores the underrepresentation of women in clinical trials, the lack of gender-specific research, and the need for more targeted funding to address overlooked health conditions.

2.1. TOPIC MAPPING



3. KEY DOMAINS

3.1. SEXUAL AND REPRODUCTIVE HEALTH:

Sexual and reproductive health encompasses a broad spectrum of health matters across the lifespan, including reproductive, gynaecologic, and sexual health. Ensuring full access to reproductive and sexual healthcare is critical for both individual well-being and broader social and economic development.

- **Reproductive health:** This includes maternal health, family planning and contraception, menstrual health, fertility and infertility care, menopause management, and gynaecological health. Maternal health covers prenatal care, labour and delivery, postnatal care, and the prevention and treatment of maternal mortality and morbidity. Complications in pregnancy and childbirth remain a leading cause of death for women of childbearing age in some regions, and improving maternal health is central to public health progress.¹ Access to skilled prenatal care and safe childbirth services significantly reduces maternal and infant mortality rates.² Evidence links investments in reproductive health to broader societal benefits – for example, enabling deliberate options for contraception and supporting healthy mothers before, during, and after childbirth can catalyse a cycle of positive societal development, improving outcomes for women and their children.³ The lack of innovation and progress in the contraception landscape and market for men and women limits options and highlights gaps in investment and barriers to entry globally. Maternal health is also tightly linked to economic and social outcomes; healthy women are better able to participate in education and the workforce, and their children are more likely to thrive, creating intergenerational benefits.⁴ Menstrual health is another important topic, managing menstruation with dignity and without stigma is essential for girls' and women's well-being⁵. Innovations in the FemTech industry in digital tracking of

¹ *Maternal Mortality*. World Health Organization, 26 Apr. 2024, <https://www.who.int/news-room/fact-sheets/detail/maternal-mortality>.

² Wymelenberg, Suzanne, and Institute of Medicine (US). 'Prenatal Care: Having Healthy Babies.' *Science and Babies: Private Decisions, Public Dilemmas*, National Academies Press (US), 1990. [www.ncbi.nlm.nih.gov, https://www.ncbi.nlm.nih.gov/books/NBK235274/](https://www.ncbi.nlm.nih.gov/books/NBK235274/).

³ Onarheim, Kristine Husøy, et al. 'Economic Benefits of Investing in Women's Health: A Systematic Review.' *PLoS ONE*, vol. 11, no. 3, Mar. 2016. *PubMed Central*, <https://doi.org/10.1371/journal.pone.0150120>.

⁴ Remme, Michelle, et al. 'Investing in the Health of Girls and Women: A Best Buy for Sustainable Development.' *The BMJ*, vol. 369, June 2020, p. m1175. *PubMed Central*, <https://doi.org/10.1136/bmj.m1175>.

⁵ Kirkegaard, Dana. 'Left in the Dark: How Period Taboos Put Women and Girls at Risk.' *USA for UNFPA*, UNFPA, 14 Feb. 2020, <https://www.usaforunfpa.org/left-in-the-dark-how-period-taboos-put-women-and-girls-at-risk/>.

menstruation, fertility, and pregnancy offer potential for empowerment, education, and agency in SRH among girls and women, while the need to collect and understand evidence-informed interventions remains. Taboos or lack of menstrual hygiene can lead to health issues and school or work absenteeism⁶. Fertility and infertility care are also crucial components, providing medical and emotional support to those seeking to conceive. Gynaecological health includes the prevention, diagnosis, and management of conditions affecting the female reproductive system, including gynaecologic cancers, uterine fibroids, and other chronic conditions.

- **Sexual health:** This includes STI prevention and treatment, sexual education and counselling, and sexual rights and consent. Women's sexual health includes screenings for sexually transmitted infections, cervical cancer prevention, and sex education, all of which impact overall health outcomes. Innovations in diagnostics and screening for STIs common in women include point of care options, self-testing options, as well as AI-based testing that can increase accessibility and utilisation to facilitate timely identification and referrals for care. Safe and accurate sexual health education empowers girls and women with knowledge about their bodies and reproductive choices. Sexual rights ensure that women have autonomy over their reproductive decisions and are protected from coercion, violence, and discrimination. Equitable access to sexual and reproductive healthcare is essential for promoting gender equity, improving public health outcomes, and fostering economic and social benefits that extend across generations.

3.2. MENTAL HEALTH:

Mental health is a cross-cutting issue that intersects with every stage of a woman's life—from adolescence through reproductive years, menopause, and older age—and is closely connected to other domains such as sexual and reproductive health, chronic illness, and social determinants. Women are more likely than men to experience certain mental health conditions. For instance, women are about 50% more likely to suffer from depression, with 6% of women globally affected in a given year compared to approximately 4% of men.⁷ Around 10% of women experience mental health disorders during pregnancy, and 13% face similar challenges after childbirth—most commonly

⁶ Shah, Vishna, et al. 'Effects of Menstrual Health and Hygiene on School Absenteeism and Drop-Out among Adolescent Girls in Rural Gambia.' *International Journal of Environmental Research and Public Health*, vol. 19, no. 6, Mar. 2022, p. 3337. *PubMed Central*, <https://doi.org/10.3390/ijerph19063337>.

⁷ *Depressive Disorder (Depression)*. World Health Organization, 31 Mar. 2023, <https://www.who.int/news-room/fact-sheets/detail/depression>.

depression. These figures are even higher in low-resource settings, where 15.6% of pregnant women and 19.8% of postpartum women are affected.⁸ Mental health issues such as postpartum depression, anxiety, trauma-related disorders, and eating disorders are shaped by a combination of biological, social, and structural factors—including hormonal changes, caregiving burdens, body image pressures, and gender-based violence. For example, eating disorders, while often resulting in physical complications like heart failure, are fundamentally mental health conditions rooted in psychological distress and social expectations around appearance.⁹ These conditions are frequently underdiagnosed, misclassified, or stigmatised—leading to gaps in care and treatment. Despite their high prevalence and serious implications, women’s mental health needs remain historically under-recognised in both research and policy.

3.3. PERIMENOPAUSE, MENOPAUSE, & POST MENOPAUSE

Perimenopause, menopause, and post menopause represent one of the most significant—and historically under recognised—biological transitions in a woman’s life. Affecting all women to varying degrees, this transition is far more than a byproduct of aging. It marks a systemic shift in hormonal and physiological function that impacts nearly every organ system, with consequences for cardiovascular, bone, metabolic, cognitive, and mental health. Despite its scale and significance, menopause is often minimised or conflated with general aging, which undermines both the urgency and the opportunity for innovation in care, research, and policy. Across all three phases, women face consistent structural barriers, including diagnostic delays, lack of provider education, poor representation in data systems, and limited clinical guidelines or biomarkers to track and manage symptoms effectively.

- **Perimenopause:** This can begin in a woman’s late 30s or early 40s and may last up to 10 years. It is marked by fluctuating hormone levels that trigger a range of symptoms, including mood swings, anxiety, brain fog, sleep disturbances, irregular cycles, sexual health shifts, and more.¹⁰ This life stage coincides with peak working and caregiving years, making its physical and emotional toll particularly disruptive. Yet perimenopause remains poorly understood, inconsistently diagnosed, and largely invisible within clinical guidelines and health

⁸ *Maternal Mental Health*. World Health Organization, <https://www.who.int/teams/mental-health-and-substance-use/promotion-prevention/maternal-mental-health>.

⁹ Holland, Lauren A., Lindsay P. Bodell, and Pamela K. Keel. 2013. ‘Psychological Factors Predict Eating Disorder Onset and Maintenance at 10-Year Follow-Up.’ *European Eating Disorders Review: The Journal of the Eating Disorders Association* 21 (5): 405–10. <https://doi.org/10.1002/erv.2241>.

¹⁰ Harvard Health. 2022. ‘Perimenopause: Rocky Road to Menopause.’ August 9. <https://www.health.harvard.edu/womens-health/perimenopause-rocky-road-to-menopause>.

systems. Many women describe feeling caught in a liminal space—experiencing real, destabilising symptoms without clinical validation, often left to seek support through informal networks rather than healthcare providers.¹¹ Like adolescence, perimenopause represents a profound biological transition and deserves comparable levels of attention, research, and investment.

- **Menopause:** It is defined as 12 consecutive months without menstruation, is a biological inflection point—not just for reproductive capacity, but for long-term health. It is associated with systemic effects that can include reduced bone density, cardiovascular strain, cognitive changes, genitourinary symptoms, and metabolic shifts.¹² While often linked to aging, menopause is not strictly chronological. Many women undergo menopause earlier due to surgery or cancer treatment.¹³ In fact, Premature Ovarian Insufficiency (POI) affects an estimated 3.7% of women, and early menopause before age 45 affects around 12%.¹⁴ These conditions are associated with reduced quality of life and increased all-cause mortality, underscoring the need to recognise menopause as a distinct, systemic transition deserving of proactive care models and dedicated research. Hormone replacement therapy (HRT), though effective for many, remains stigmatised and inconsistently accessible, with care pathways often shaped by provider bias and outdated information.¹⁵
- **Post menopause:** The longest of the three stages, can span one-third to one-half of a woman's life. This phase is often marked by continued symptoms related to hormonal change, alongside elevated risks of chronic diseases such as osteoporosis, cardiovascular disease, and neurodegenerative conditions.¹⁶ Despite its long duration and serious implications, postmenopausal health is

¹¹ Cunningham, Adam C., Yella Hewings-Martin, Aidan P. Wickham, Carley Prentice, Jennifer L. Payne, and Liudmila Zhaunova. 2025. 'Perimenopause Symptoms, Severity, and Healthcare Seeking in Women in the US.' *Npj Women's Health* 3 (1): 1–8. <https://doi.org/10.1038/s44294-025-00061-3>.

¹² 'Menopause.' 2024. World Health Organization, October 16. <https://www.who.int/news-room/fact-sheets/detail/menopause>.

¹³ Rocca, Walter A., Liliana Gazzuola Rocca, Carin Y. Smith, Ekta Kapoor, Stephanie S. Faubion, and Elizabeth A. Stewart. 2023. 'Frequency and Type of Premature or Early Menopause in a Geographically Defined American Population.' *Maturitas* 170 (April): 22–30. <https://doi.org/10.1016/j.maturitas.2023.01.012>.

¹⁴ Ting Guo, Hongyuan Liu, Bingying Xu, Yu Qi, Keyan Xu, Xinyi Wu, Xinmiao He, Yingying Qin, Zi-Jiang Chen, Epidemiology, Genetic Etiology, and Intervention of Premature Ovarian Insufficiency, *Endocrine Reviews*, 2025;; bna011, <https://doi.org/10.1210/endrev/bnaf011>.

¹⁵ Barber, Katie, and Alexandra Charles. 2023. 'Barriers to Accessing Effective Treatment and Support for Menopausal Symptoms: A Qualitative Study Capturing the Behaviours, Beliefs and Experiences of Key Stakeholders.' *Patient Preference and Adherence* 17 (November): 2971–80. <https://doi.org/10.2147/PPA.S430203>.

¹⁶ Dalal, Pronob K., and Manu Agarwal. 2015. 'Postmenopausal Syndrome.' *Indian Journal of Psychiatry* 57 (Suppl 2): S222–32. <https://doi.org/10.4103/0019-5545.161483>.

frequently overlooked in medical research, policy design, and care delivery. Women navigating this stage often report inadequate guidance, fragmented care, and limited access to mental health and sexual health resources. The lack of workplace accommodations, persistent stigma, and racial and socioeconomic disparities further compound these challenges.

3.4. WOMEN'S HEALTH ACROSS THE LIFESPAN (AGING):

As women age, they encounter a range of unique health challenges that require specialised medical attention, preventive care, and ongoing support. Aging women face a complex interplay of biological, psychological, and social factors that impact their overall health and well-being. The physiological changes that come with aging, particularly after menopause, significantly affect various body systems and increase the risk of chronic conditions.

- **Chronic disease management:** Aging women are at a higher risk for developing chronic conditions such as cardiovascular disease, diabetes, and hypertension.¹⁷ The proper management of these diseases through regular screenings, lifestyle modifications, and personalised medical interventions is crucial for maintaining long-term health and preventing complications. Early diagnosis and continuous care can reduce the burden of these diseases and help women manage their conditions more effectively, allowing them to maintain independence and engage in daily activities.
- **Bone health and osteoporosis:** Osteoporosis is a significant concern for aging women, particularly as oestrogen levels decline after menopause. This reduction in oestrogen leads to lower bone density and a higher risk of fractures.¹⁸ According to the International Osteoporosis Foundation, one in three women over the age of 50 will experience osteoporotic fractures.¹⁹ These fractures, often in the spine, hip, or wrist, can lead to long-term disability and affect a woman's ability to perform everyday tasks.
- **Cognitive health:** Cognitive health is another critical aspect of aging for women. Research shows that nearly two-thirds of Alzheimer's patients are women,

¹⁷ Mosca, Lori, Elizabeth Barrett-Connor, and Nanette Kass Wenger. 2011. 'Sex/Gender Differences in Cardiovascular Disease Prevention: What a Difference a Decade Makes.' *Circulation* 124 (19): 2145–54. <https://doi.org/10.1161/CIRCULATIONAHA.110.968792>.

¹⁸ *Menopause and Bone Loss*. Endocrine Society, 24 Jan. 2022, <https://www.endocrine.org/patient-engagement/endocrine-library/menopause-and-bone-loss>.

¹⁹ *What Is Osteoporosis?* International Osteoporosis Foundation, <https://www.osteoporosis.foundation/patients/about-osteoporosis>.

highlighting the gender disparity in neurodegenerative diseases.²⁰ Hormonal changes, particularly the decline in oestrogen, combined with genetic factors, contribute to women's increased susceptibility to Alzheimer's and other forms of dementia.²¹ As women live longer, the incidence of these diseases rises, and the need for comprehensive care and support systems becomes more pressing. Managing cognitive decline requires a holistic approach that integrates medical treatment with social, psychological, and caregiving support. However, gaps in healthcare training and access to specialised services for older women limit the quality and consistency of care.²²

- **Stress and life pressures:** Chronic stress is a significant, yet often underacknowledged, factor impacting women's health as they age. The cumulative effects of stress—shaped by lifelong caregiving responsibilities, economic insecurity, workplace pressures, and social expectations—can have profound physiological consequences. Research increasingly links chronic stress to a range of adverse health outcomes, including autoimmune disorders, cardiovascular disease, and mental health conditions such as anxiety and depression.²³ For many women, these stressors are compounded by intersecting concerns such as widowhood, caregiving for aging parents or spouses, or managing their own health while supporting others. The physiological impacts of stress are not isolated—they interact with hormonal changes, immune function, and metabolic processes, potentially accelerating disease progression or exacerbating preexisting conditions.

3.5. BREAST HEALTH

While breast cancer is often the focal point in conversations around women's health, a broader and more inclusive understanding of breast health is needed. Many women experience a range of non-cancerous breast conditions that significantly affect their

²⁰ Moutinho, Sofia. 'Women Twice as Likely to Develop Alzheimer's Disease as Men — but Scientists Do Not Know Why.' *Nature Medicine*, Mar. 2025, pp. 1–4. [www.nature.com, https://doi.org/10.1038/s41591-025-03564-3](https://doi.org/10.1038/s41591-025-03564-3).

²¹ Carrillo, Maria. *Why Does Alzheimer's Disease Affect More Women Than Men?* Alzheimer's Association, 11 Feb. 2016, <https://www.alz.org/blog/2016/why-does-alzheimer-s-disease-affect-more-women-than-men-new-alzheimer-s-association-grant-will-help>.

²² Abadir, Peter, Esther Oh, Rama Chellappa, Niteesh Choudhry, George Demiris, Deepak Ganesan, Jason Karlawish, et al. 'Artificial Intelligence and Technology Collaboratories: Innovating Aging Research and Alzheimer's Care.' *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* 20, no. 4 (April 2024): 3074–79. <https://doi.org/10.1002/alz.13710>.

²³ Shchaslyvyi, Aladdin Y., Svitlana V. Antonenko, and Gennadiy D. Telegeev. 2024. 'Comprehensive Review of Chronic Stress Pathways and the Efficacy of Behavioral Stress Reduction Programs (BSRPs) in Managing Diseases.' *International Journal of Environmental Research and Public Health* 21 (8): 1077. <https://doi.org/10.3390/ijerph21081077>.

physical and emotional well-being but remain under-discussed and underdiagnosed. Common issues include breast pain and tenderness, fibrocystic breast changes, non-cancerous lumps and nodules, and abscesses or infections such as mastitis and clogged ducts—particularly during pregnancy, postpartum, or breastfeeding.²⁴ Hormonal fluctuations throughout the menstrual cycle, perimenopause, or menopause can also cause changes in breast tissue, leading to discomfort or concern.

Despite the prevalence of these conditions, there are persistent gaps in diagnosis, care pathways, and provider awareness. Many symptoms are dismissed or misinterpreted, and care is often delayed until symptoms become painful or debilitating. These experiences can be compounded by significant anxiety and fear of breast cancer, as unfamiliar or painful symptoms are frequently—and understandably—associated with cancer by patients and their families.²⁵ This can lead to heightened emotional stress, even in cases where the condition is benign, and underscores the broader psychological burden of breast health issues. The topic of breast health spans biological, psychological, and social dimensions and is relevant across the reproductive life course, including adolescence, pregnancy, postpartum, perimenopause, and older age.

3.6. ENVIRONMENTAL AND OCCUPATIONAL HEALTH:

Women's health is also influenced by environmental and workplace factors. In many low and middle-income settings, women disproportionately face health risks from lack of clean water and sanitation (affecting menstrual hygiene, risk of experiencing violence, and increasing infectious disease risk) and from indoor air pollution (for example, smoke from cooking with solid fuels can cause respiratory illnesses).²⁶ Occupational hazards specific to women include exposures in industries where women predominate (such as textile or electronics manufacturing, which may involve contact with toxic substances) and the double burden of work and home responsibilities leading to chronic stress. Additionally, climate change and environmental toxins can have unique impacts on women – for instance, exposure to certain chemicals may affect reproductive health or pregnancy outcomes.²⁷ In connection to climate change, antimicrobial resistance (AMR))

²⁴ 'Breast Disorders | EBSCO Research Starters.' n.d. <https://www.ebsco.com/research-starters/consumer-health/breast-disorders>.

²⁵ Meechan, Geraldine, John Collins, and Keith J Petrie. 2003. 'The Relationship of Symptoms and Psychological Factors to Delay in Seeking Medical Care for Breast Symptoms.' *Preventive Medicine* 36 (3): 374–78. [https://doi.org/10.1016/S0091-7435\(02\)00053-1](https://doi.org/10.1016/S0091-7435(02)00053-1).

²⁶ Kayser, Georgia L., et al. 'Water, Sanitation and Hygiene: Measuring Gender Equality and Empowerment.' *Bulletin of the World Health Organization*, vol. 97, no. 6, June 2019, pp. 438–40. *PubMed Central*, <https://doi.org/10.2471/BLT.18.223305>.

²⁷ Papadiochou, Aggeliki, et al. 'Impact of Climate Change on Reproductive Health and Pregnancy Outcomes: A Systematic Review.' *Cureus*, vol. 16, no. 8, p. e68221. *PubMed Central*, <https://doi.org/10.7759/cureus.68221>.

for instance is an emerging global threat that affects women differently than men. Innovations and investment focused on gender specific and sensitive approaches to addressing AMR for women are urgently needed and increasingly being recognised.²⁸ An often overlooked but critical source of toxic exposure for women comes from beauty and personal care products. Items such as hair straighteners, skin lighteners, cosmetics, and scented lotions frequently contain endocrine-disrupting chemicals and carcinogens.²⁹ These substances have been linked to hormonal imbalances, reproductive harm, and increased risks of breast and uterine cancers. The cumulative effects of exposure are particularly significant for women of colour, who may be disproportionately targeted by marketing and cultural beauty norms that encourage frequent use of these high-risk products.³⁰ Despite their widespread use, regulation and transparency around the safety of these products remain limited, making this an important and urgent area of concern within environmental health.

3.7. ADOLESCENT HEALTH:

Adolescent girls often face significant health challenges, including the need for education on puberty, reproductive health, and HPV vaccination, alongside support to prevent teen pregnancies. Additionally, young women frequently encounter barriers³¹ to accessing menstrual health management, contraception, and safe abortion services (where legal). These obstacles can have profound effects on their education and economic prospects.³² Social media and health offer opportunities and challenges for innovation and engagement in health targeting this population.

3.8. CANCER:

Cancer remains one of the leading causes of death among women, with breast, cervical, and ovarian cancers being among the most prevalent. Early detection, advancements in screening, and improvements in treatment options have significantly increased survival

²⁸ Broeck, Els Van Den. 'Minding the Gender Gap – a Critical Omission in the EU's AMR Response - CEPS,' March 12, 2025. <https://www.ceps.eu/minding-the-gender-gap-a-critical-omission-in-the-eus-amr-response/>.

²⁹ Martín-Pozo, Laura, María del Carmen Gómez-Regalado, Inmaculada Moscoso-Ruiz, and Alberto Zafra-Gómez. 2021. 'Analytical Methods for the Determination of Endocrine Disrupting Chemicals in Cosmetics and Personal Care Products: A Review.' *Talanta* 234 (November): 122642. <https://doi.org/10.1016/j.talanta.2021.122642>.

³⁰ Zota, Ami R., and Bhavna Shamasunder. 2017. 'The Environmental Injustice of Beauty: Framing Chemical Exposures from Beauty Products as a Health Disparities Concern.' *American Journal of Obstetrics and Gynecology* 217 (4): 418.e1-418.e6. <https://doi.org/10.1016/j.ajog.2017.07.020>.

³¹ Janighorban, Mojgan, et al. 'Barriers to Vulnerable Adolescent Girls' Access to Sexual and Reproductive Health.' *BMC Public Health*, vol. 22, no. 1, Nov. 2022, p. 2212. *BioMed Central*, <https://doi.org/10.1186/s12889-022-14687-4>.

³² *Coming of Age: Adolescent Health*. World Health Organization, <https://www.who.int/news-room/spotlight/coming-of-age-adolescent-health>.

rates. However, disparities in healthcare access, particularly for vulnerable and marginalised populations, continue to impact outcomes, especially in low-resource settings.

- **Breast cancer** is the most commonly diagnosed cancer in women worldwide, accounting for nearly 1 in 4 cancer cases among women. The survival rate has improved significantly thanks to early detection methods such as mammography, along with emerging technologies that provide better accuracy in diagnosing the disease. Research into personalised treatment options and targeted therapies continues to expand, and genetic testing is helping to identify individuals at higher risk.³³
- **Cervical cancer:** Cervical cancer was once a leading cause of cancer death among women, but its incidence has significantly decreased in many countries due to the widespread use of pap smear screenings and the introduction of the HPV vaccine.³⁴ These prevention strategies have played a key role in reducing both the incidence and mortality of cervical cancer. However, the disease remains a major concern in low-resource settings where access to screening and vaccination programs may be limited, leading to higher rates of late-stage diagnoses and poorer outcomes.
- **Ovarian cancer:** Often referred to as a ‘silent killer,’ as it presents vague symptoms that are frequently misdiagnosed or detected at later stages.³⁵ Unlike breast and cervical cancer, there is currently no reliable early screening test for ovarian cancer, making awareness of symptoms such as bloating, abdominal pain, and changes in appetite.³⁶ Currently, there is no reliable early screening test for ovarian cancer, and as a result, the focus remains on awareness of symptoms and genetic testing for those at higher risk. Genetic predisposition, particularly mutations in BRCA genes, plays a significant role in ovarian cancer risk,

³³ Wilkinson, Louise, and Toral Gathani. ‘Understanding Breast Cancer as a Global Health Concern.’ *The British Journal of Radiology*, vol. 95, no. 1130, Feb. 2022, p. 20211033. *PubMed Central*, <https://doi.org/10.1259/bjr.20211033>.

³⁴ Hull, Rodney, et al. ‘Cervical Cancer in Low and Middle-Income Countries.’ *Oncology Letters*, vol. 20, no. 3, Sept. 2020, pp. 2058–74. *PubMed Central*, <https://doi.org/10.3892/ol.2020.11754>.

³⁵ May, Taymaa. *Understanding Ovarian Cancer*. Brigham and Women’s Hospital, <https://www.brighamandwomens.org/cancer/ovarian-cancer/understanding-ovarian-cancer>.

³⁶ *Ovarian Cancer Symptoms*. Willamette Valley Cancer Institute and Research Center, Dec. 2023, <https://www.oregoncancer.com/blog/ovarian-cancer-symptoms-you-shouldnt-miss>.

highlighting the importance of genetic counselling and testing for high-risk individuals.³⁷

- **Screening and prevention strategies:** For breast cancer, early detection is critical, and women are encouraged to undergo regular mammograms starting at an age recommended by healthcare providers, typically between 40-50 years. Emerging technologies, such as 3D mammography and AI-driven tools, are making breast cancer screenings more accurate and efficient. In the case of cervical cancer, regular pap smear screenings are essential for early detection, and HPV vaccination plays a significant role in preventing the disease. For ovarian cancer, there is no effective screening method yet, so awareness of the symptoms and genetic counselling for those with a family history of the disease are critical for identifying women who may be at higher risk. While significant advancements in screening, prevention, and treatment have improved survival rates, disparities in access to healthcare continue to affect outcomes, particularly in low-resource settings and among vulnerable and marginalised populations including migrants, displaced women and key populations.

3.9. CHRONIC & AUTOIMMUNE DISEASES:

Chronic and autoimmune diseases disproportionately affect women, impacting their health and quality of life. Autoimmune diseases, in particular, are significantly more prevalent among women, with approximately 80% of all diagnosed cases occurring in females.³⁸ Conditions such as lupus, multiple sclerosis, and rheumatoid arthritis not only occur more frequently in women but also tend to present with symptoms that differ from those seen in men. This gender discrepancy can lead to diagnostic delays, as healthcare providers may not always recognise the unique ways these diseases manifest in women.³⁹ Furthermore, the difference in disease presentation often results in challenges when it comes to treatment, as therapies may need to be tailored more specifically to address the distinct needs of women. These factors underscore the importance of gender-

³⁷ RCA Gene Changes: Cancer Risk and Genetic Testing Fact Sheet. National Cancer Institute, 19 July 2024, <https://www.cancer.gov/about-cancer/causes-prevention/genetics/brca-fact-sheet>.

³⁸ Goulmamine, Syreen, et al. 'Autoimmune Health Crisis: An Inclusive Approach to Addressing Disparities in Women in the United States.' *International Journal of Environmental Research and Public Health*, vol. 21, no. 10, Oct. 2024, p. 1339. *PubMed Central*, <https://doi.org/10.3390/ijerph21101339>.

³⁹ Voskuhl, Rhonda. 'Sex Differences in Autoimmune Diseases.' *Biology of Sex Differences*, vol. 2, Jan. 2011, p. 1. *PubMed Central*, <https://doi.org/10.1186/2042-6410-2-1>.

sensitive research and clinical approaches to ensure timely and accurate diagnoses, as well as effective management of chronic and autoimmune conditions in women.

- **Cardiovascular disease (CVD):** Cardiovascular disease (CVD) is the leading cause of death among women worldwide, surpassing deaths from all cancers combined.⁴⁰ Despite this, awareness and treatment of heart disease in women have been inadequate, as women often receive less aggressive preventive care and treatment compared to men. A significant gap in evidence-based care exists due to the underrepresentation of women in clinical trials, which limits the applicability of research findings. Furthermore, it was only in recent decades that the medical field recognised that women's heart attack symptoms can differ from men's, leading to many women being misdiagnosed or undertreated in the past.⁴¹
- **Neurodegenerative & generative diseases:** Neurodegenerative and generative diseases, including multiple sclerosis and certain forms of dementia, disproportionately affect women, with women being twice as likely as men to develop MS.⁴² Despite the significant impact of these diseases on women, there has been insufficient representation of women in clinical trials and research studies on these conditions. This underrepresentation has contributed to a gap in our understanding of how these diseases uniquely affect women and how they should be treated.
- **Lupus:** Lupus, an autoimmune disease that disproportionately affects women, particularly women of colour, is characterised by systemic inflammation that can affect various organs, including the heart, kidneys, skin, and joints. It is estimated that 90% of lupus cases occur in women, primarily those of childbearing age. Despite its prevalence, lupus remains underdiagnosed and misunderstood, with women often experiencing delays in diagnosis and inadequate treatment. The reasons for this delay are multifaceted, including gender biases in healthcare, a lack of awareness of lupus symptoms, and insufficient research on gender-specific treatment options.

⁴⁰ Garcia, Mariana, et al. 'cardiovascular disease in Women: Clinical Perspectives.' *Circulation Research*, vol. 118, no. 8, Apr. 2016, pp. 1273–93. *PubMed Central*, <https://doi.org/10.1161/CIRCRESAHA.116.307547>.

⁴¹ Vervoort, Dominique, et al. 'Addressing the Global Burden of Cardiovascular Disease in Women.' *Journal of the American College of Cardiology*, vol. 83, no. 25, June 2024, pp. 2690–707. *DOI.org (Crossref)*, <https://doi.org/10.1016/j.jacc.2024.04.028>.

⁴² Mowry, Ellen, and Peter Calabresi. *Multiple Sclerosis: Why Are Women More at Risk?* Johns Hopkins Medicine, 9 Feb. 2023, <https://www.hopkinsmedicine.org/health/conditions-and-diseases/multiple-sclerosis-ms/multiple-sclerosis-why-are-women-more-at-risk>.

- **Endometriosis:** Endometriosis, another chronic condition unique to women, affects an estimated 10% of reproductive-age women globally, causing severe pain, infertility, and significant impacts on daily life.⁴³ The symptoms of endometriosis, which include pelvic pain, heavy menstruation, and pain during intercourse, can be debilitating and significantly impact a woman's quality of life. Endometriosis is often misdiagnosed or undiagnosed for years, as its symptoms overlap with other conditions such as irritable bowel syndrome (IBS) and pelvic inflammatory disease (PID). As a result, women may suffer from chronic pain and infertility without proper medical intervention. Despite the high prevalence of endometriosis, research and treatment options remain limited, with many women relying on trial-and-error methods for managing symptoms.
- **Pain management:** Pain management is a critical issue for women living with chronic and autoimmune conditions. Women are more likely than men to experience chronic pain conditions such as fibromyalgia, migraines, and irritable bowel syndrome (IBS), yet these conditions are often undertreated or dismissed in clinical settings.⁴⁴ Studies show that women's pain is frequently perceived as less severe or more psychological in nature, which can result in inadequate pain management strategies. Additionally, women are more likely to face gender bias in healthcare, where their pain may be underestimated or misdiagnosed due to societal attitudes toward women's experiences of pain.
- **Dysautonomia:** Dysautonomia is an umbrella term for a group of disorders that affect the autonomic nervous system, which regulates involuntary functions such as heart rate, blood pressure, digestion, and temperature control.⁴⁵ These disorders disproportionately impact women, particularly those of childbearing age, and often present with a wide range of symptoms including dizziness, lightheadedness, fainting, rapid heart rate, low blood pressure upon standing, fatigue, and gastrointestinal disturbances. One of the most common forms of dysautonomia is Postural Orthostatic Tachycardia Syndrome (POTS), which has

⁴³ Backman, Isabella. 'Endometriosis.' *Yale Medicine Magazine*, no. 172, 2024, <https://medicine.yale.edu/news/yale-medicine-magazine/article/endometriosis/>.

⁴⁴ Casale, Roberto, et al. 'Pain in Women: A Perspective Review on a Relevant Clinical Issue That Deserves Prioritization.' *Pain and Therapy*, vol. 10, no. 1, June 2021, pp. 287–314. *PubMed Central*, <https://doi.org/10.1007/s40122-021-00244-1>.

⁴⁵ O'Dell, John A., Ash Walker, Andrew J. Latham, et al. 2025. 'The Diagnostic Journey of Dysautonomia Patients: Insights from a Patient-Reported Outcome Study.' *Journal of Patient Experience* 12 (January): 23743735251314651. <https://doi.org/10.1177/23743735251314651>.

also been linked to Long COVID.⁴⁶ Women with dysautonomia frequently face lengthy and complex diagnostic journeys, in part due to the variability of symptoms and the lack of clinical awareness. Despite its growing prevalence, dysautonomia remains underdiagnosed and poorly understood in both clinical practice and public discourse.⁴⁷ There is currently no cure, and management typically involves a combination of medication, physical therapy, dietary adjustments, and lifestyle modifications aimed at improving daily function and quality of life.⁴⁸

⁴⁶ Barizien, Nicolas, Morgan Le Guen, Stéphanie Russel, Pauline Touche, Florent Huang, and Alexandre Vallée. 2021. 'Clinical Characterization of Dysautonomia in Long COVID-19 Patients.' *Scientific Reports* 11 (1): 14042. <https://doi.org/10.1038/s41598-021-93546-5>.

⁴⁷ Verywell Health. n.d. 'Dysautonomia Is a Family of Misunderstood Disorders.' Accessed July 19, 2025. <https://www.verywellhealth.com/dysautonomia-1745423>.

⁴⁸ Kimbrell, Adam. 2023. 'Dysautonomia.' *The Dysautonomia Project*, June 1. <https://thedysautonomiaproject.org/dysautonomia/>.

4. DETERMINANTS & BARRIERS TO WOMEN'S HEALTH AND INNOVATION

Social determinants and systemic barriers play a crucial role in shaping women's health outcomes, often hindering progress toward health equity despite advancements in medical care. The challenges women face are not solely biological but stem from a complex web of social, cultural, economic, and political factors that intersect to influence their access to care, quality of treatment, and overall well-being. These barriers include gender bias in healthcare, disparities related to socioeconomic and racial factors, and cultural norms that restrict women's autonomy over their health. This topic map explores the various social determinants and systemic obstacles that women encounter, highlighting the profound impact these factors have on their health.

Below is an overview of key themes, barriers, and their effects on women's health and innovation:

4.1. CROSS CUTTING DETERMINANTS AND BARRIERS

1. **Health literacy and misinformation** Gaps in reproductive health education limit women's ability to make informed healthcare decisions, leading to delayed diagnoses and untreated conditions.⁴⁹ Misinformation and disinformation about women's health, particularly regarding reproductive health and fertility, are widespread, often fuelled by online health myths and social media influence.⁵⁰ Many women have limited awareness of preventive care, including screenings, vaccines, and nutrition, which can affect long-term health outcomes. Barriers to accessing credible health information, such as language and cultural differences in healthcare education, further contribute to disparities.⁵¹ The impact of education level on health outcomes is significant, with higher education correlating to better healthcare access, preventive care utilisation, and overall well-being.⁵² Additionally, digital health literacy, including the ability to navigate

⁴⁹ Moridi, Irene. 'Addressing Reproductive Healthcare Disparities: Strategies for Achieving Health Equity.' *Clinical Journal of Obstetrics and Gynecology* 6, no. 2 (May 8, 2023): 043–050. <https://doi.org/10.29328/journal.cjog.1001128>.

⁵⁰ John, Jennifer N., Sara Gorman, David Scales, and Jack Gorman. 'Online Misleading Information About Women's Reproductive Health: A Narrative Review.' *Journal of General Internal Medicine*, November 7, 2024. <https://doi.org/10.1007/s11606-024-09118-6>.

⁵¹ Lie, Désirée. 'Addressing Disparities in Healthcare: What Do Health Literacy and Cultural Competence Have in Common?' *Hawai'i Journal of Medicine & Public Health* 72, no. 8 Suppl 3 (August 2013): 7. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3727586/>.

⁵² 'Why Do More Educated Communities Have Better Health Outcomes?' National Bureau of Economic Research, July 8, 2024. <https://www.nber.org/bh/20242/why-do-more-educated-communities-have-better-health-outcomes>.

telehealth, health apps, and online medical advice, has become increasingly important in modern healthcare access and decision-making.

2. **Cultural, religious, and gender norms:** Cultural, religious, and gender norms significantly shape women's health behaviours, access to care, and overall well-being. Gender norms and cultural expectations influence women's health behaviours, access to care, and overall well-being. Cultural perceptions around physical exercise can discourage women from participating in physical activities, affecting long-term health outcomes. The stigma surrounding reproductive and menstrual health prevents open discussions, leading to misinformation and delayed medical care.⁵³ Expectations around caregiving roles, particularly regarding childcare and household responsibilities, often place a disproportionate burden on women, reducing their ability to prioritise personal health.⁵⁴ Media-driven body image and beauty standards contribute to unrealistic health expectations, influencing diet, mental health, and self-perception.⁵⁵ Additionally, pressure to prioritise family over personal health can result in women postponing medical care, further exacerbating health disparities. Gendered expectations often restrict women's autonomy and ability to make decisions about their own health. Gaining a clear understanding of local gender norms—while also considering global perspectives and how these roles vary across contexts—is essential to assessing their influence on women's health. Additionally, research and interventions that consider the intersections of multiple forms of oppression are more likely to lead to meaningful and lasting improvements in health outcomes. Religious and cultural beliefs influence women's access to healthcare, reproductive rights, and education on sexual health. Restrictions on reproductive health in certain societies limit access to contraception, abortion services, and fertility treatments, impacting women's autonomy over their own healthcare decisions. Opposition to sex education further contributes to misinformation, reducing awareness of preventive care and reproductive health options.⁵⁶

⁵³ Vipul, Kaavya. 'The Stigma of a Stain: The Gap in Menstrual Education.' *Critical Debates in Humanities, Science and Global Justice* 2, no. 1 (January 17, 2024). <http://criticaldebateshsgj.scholasticahq.com/article/92024-the-stigma-of-a-stain-the-gap-in-menstrual-education>.

⁵⁴ 'The Hidden Weight: Exploring the Disproportionate Burden of Care on Women Leaders in Global Health.' *WomenLift Health*, October 28, 2024. <https://www.womenlifthealth.org/article/the-hidden-weight-exploring-the-disproportionate-burden-of-care-on-women-leaders-in-global-health/>.

⁵⁵ Harper, Brit, and Marika Tiggemann. 'The Effect of Thin Ideal Media Images on Women's Self-Objectification, Mood, and Body Image.' *Sex Roles* 58, no. 9 (May 1, 2008): 649–57. <https://doi.org/10.1007/s11199-007-9379-x>.

⁵⁶ '10 Myths – and Truths – about Comprehensive Sexuality Education.' UNFPA, August 19, 2024. <https://www.unfpa.org/stories/10-myths-%E2%80%93-and-truths-%E2%80%93-about-comprehensive-sexuality-education>.

Cultural taboos surrounding sexual and reproductive health discourage open discussions, leading to misconceptions, stigma, and untreated medical conditions.⁵⁷ Honor-based restrictions on mobility and healthcare can prevent women from seeking medical attention without male approval, delaying critical interventions.⁵⁸ A lack of culturally competent healthcare services creates additional barriers, as medical professionals may not be trained to address language differences, religious considerations, or gender-sensitive care, further reinforcing disparities in healthcare access for women in certain communities.

3. **Biological differences in disease risk & treatment response:** Women experience distinct disease risks, symptoms, and treatment responses compared to men. Autoimmune diseases disproportionately affect women, with conditions such as lupus, multiple sclerosis, and rheumatoid arthritis being significantly more prevalent.⁵⁹ Differences in drug metabolism and response can lead to variations in medication effectiveness and side effects, as many clinical trials have historically focused on male participants.⁶⁰ Women also have a higher risk of osteoporosis and bone fractures, particularly post-menopause, due to lower bone density and oestrogen decline.⁶¹ Mental health differences contribute to higher rates of depression, anxiety, and eating disorders in women, influenced by both hormonal and neurological factors. Pregnancy affects the progression and management of chronic diseases, altering immune responses and increasing the risk of complications for conditions such as diabetes, hypertension, and cardiovascular disease. Women also experience differences in symptoms and diagnosis, particularly for conditions like heart disease, where symptoms often present differently than in men, leading to delays in diagnosis and treatment.⁶²

⁵⁷ Mohd. Tohit, Nor Faiza, and Mainul Haque. 'Forbidden Conversations: A Comprehensive Exploration of Taboos in Sexual and Reproductive Health.' *Cureus* 16, no. 8: e66723. <https://doi.org/10.7759/cureus.66723>.

⁵⁸ Mumtaz, Zubia, and Sarah Salway. "'I Never Go Anywhere': Extricating the Links between Women's Mobility and Uptake of Reproductive Health Services in Pakistan.' *Social Science & Medicine* 60, no. 8 (April 1, 2005): 1751–65. <https://doi.org/10.1016/j.socscimed.2004.08.019>.

⁵⁹ Goldman, Bruce. 'Stanford Medicine-Led Study Shows Why Women Are at Greater Risk of Autoimmune Disease.' News Center. Stanford Medicine, February 1, 2024. <https://med.stanford.edu/news/all-news/2024/02/women-autoimmune.html>.

⁶⁰ Merone, Lea, Komla Tsey, Darren Russell, and Cate Nagle. 'Sex Inequalities in Medical Research: A Systematic Scoping Review of the Literature.' *Women's Health Reports* 3, no. 1 (January 31, 2022): 49–59. <https://doi.org/10.1089/whr.2021.0083>.

⁶¹ 'What Women Need to Know.' Bone Health & Osteoporosis Foundation, April 25, 2016. <https://www.bonehealthandosteoporosis.org/preventing-fractures/general-facts/what-women-need-to-know/>.

⁶² Al Hamid, Abdullah, Rachel Beckett, Megan Wilson, Zahra Jalal, Ejaz Cheema, Dhiya Al-Jumeily OBE, Thomas Coombs, Komang Ralebitso-Senior, and Sulaf Assi. 'Gender Bias in Diagnosis, Prevention, and Treatment of Cardiovascular Diseases: A Systematic Review.' *Cureus* 16, no. 2: e54264. <https://doi.org/10.7759/cureus.54264>.

Data gaps persist that limit informed clinical and public health decision making for optimal prevention and treatment response.

4. **Workplace & environmental stressors on women's health:** Workplace conditions and environmental stressors impact women's physical and reproductive health. Discrimination and bias in workplace healthcare policies can limit access to essential medical care, including maternity leave, reproductive health services, and accommodations for chronic conditions.⁶³ Work-related stress is linked to hormonal imbalances, menstrual irregularities, and pregnancy complications. Chronic stress can also contribute to cardiovascular disease, mental health disorders, and reduced immune function.⁶⁴ Sexual harassment and workplace safety concerns further affect women's psychological well-being, leading to increased anxiety, depression, and absenteeism.⁶⁵ Shift work and irregular schedules can disrupt circadian rhythms, increasing the risk of infertility, pregnancy complications, and metabolic disorders. Women in high-risk occupations may experience occupational exposure to harmful substances, affecting hormonal health, fertility, and long-term disease risk.⁶⁶ These stressors contribute to health disparities in female workers, particularly in industries with high physical demands and inadequate workplace protections.
5. **Social connectedness:** Social support networks, including family, community, and peer connections, influence women's mental and physical health outcomes. Strong social ties have been linked to better health management, lower stress levels, and improved recovery from illness.⁶⁷ In contrast, loneliness and isolation are associated with higher risks of depression, anxiety, and chronic disease progression. The stigma surrounding menstruation, menopause, sexual health, and mental health can limit open discussions and discourage women from seeking

⁶³ Verdi, Jayme, and Ambika Eranki. 'Addressing Gender Bias in Medical Care.' AWIS, July 27, 2024. <https://awis.org/resource/addressing-gender-bias-medical-care/>.

⁶⁴ 'The Link Between Stress and Women's Health: Understanding the Connection | Reedsburg Area Medical Center | Reedsburg Wisconsin.' Reedsburg Area Medical Center, July 26, 2023. <https://ramchealth.com/news/the-link-between-stress-and-womens-health-understanding-the-connection/>.

⁶⁵ AAUW. 'Limiting Our Livelihoods: The Cumulative Impact of Sexual Harassment on Women's Careers.' AAUW, November 2019. <https://www.aauw.org/resources/research/limiting-our-livelihoods/>.

⁶⁶ Kumar, Sunil, Anupama Sharma, and Chaoba Kshetrimayum. 'Environmental & Occupational Exposure & Female Reproductive Dysfunction.' *The Indian Journal of Medical Research* 150, no. 6 (December 2019): 532–45. https://doi.org/10.4103/ijmr.IJMR_1652_17.

⁶⁷ 'Manage Stress: Strengthen Your Support Network.' American Psychological Association, October 22, 2024. <https://www.apa.org/topics/stress/manage-social-support>.

medical care.⁶⁸ In some cultural and social contexts, these topics remain taboo, preventing access to essential health information and support.⁶⁹

4.2. GENDER-BASED VIOLENCE

Gender-based violence (GBV) encompasses a broad and deeply embedded system of harm rooted in power and control. It includes structural, institutional, and interpersonal forms of violence that work collectively to uphold patriarchal norms, enforce gender hierarchies, and sanction both individual and collective challenges to the status quo. These forms of violence are not confined to the private sphere or to acts of physical harm—they are systemic, ongoing, and deeply entangled with all aspects of women's health and well-being. GBV disproportionately affects women and gender-diverse people, with one in three women globally experiencing some form of gender-based violence in their lifetime. The impact spans across every domain of health, contributing significantly to physical illness, chronic disease, disability, and mental health outcomes such as anxiety, depression, and PTSD. GBV also undermines trust in healthcare systems and limits access to care, particularly when institutional violence and gender bias remain unacknowledged or unaddressed.

1. **Structural and systemic violence:** Structural violence refers to the societal frameworks and systems that deny women, girls—especially those who are racialised, Indigenous, disabled, or from marginalised communities—and gender-diverse people access to their fundamental rights.⁷⁰ These include barriers to education, healthcare, housing, bodily autonomy, justice, and safe employment. Patriarchal gender norms, misogyny, transphobia, and cis-normativity are embedded within laws, policies, and health systems, influencing everything from whose pain is taken seriously to who is included in clinical trials.⁷¹ Gender inequality—including pay disparities, economic dependence, and lack of representation in leadership—further compounds these harms. Structural GBV is a root cause of many of the gendered disparities outlined throughout this topic

⁶⁸ Women's Health Collective Canada. 'The Cost of Silence: How Shame and Stigma Impact Women's Health,' August 30, 2024. <https://whcc.ca/all-articles/the-cost-of-silence-august-blog/>.

⁶⁹ Castro, Silvia, and Kristina Czura. 'Cultural Taboos and Misinformation about Menstrual Health Management in Rural Bangladesh.' *World Development* 188 (April 1, 2025): 106871. <https://doi.org/10.1016/j.worlddev.2024.106871>.

⁷⁰ Sinha, Parul, Uma Gupta, Jyotsna Singh, and Anand Srivastava. 2017. 'Structural Violence on Women: An Impediment to Women Empowerment.' *Indian Journal of Community Medicine: Official Publication of Indian Association of Preventive & Social Medicine* 42 (3): 134–37. https://doi.org/10.4103/ijcm.IJCM_276_15.

⁷¹ Liu, Katherine A., and Natalie A. Dipietro Mager. 2016. 'Women's Involvement in Clinical Trials: Historical Perspective and Future Implications.' *Pharmacy Practice* 14 (1): 708. <https://doi.org/10.18549/PharmPract.2016.01.708>.

map, shaping who has access to care, how research priorities are set, and which conditions remain underfunded or misdiagnosed.⁷²

2. **Institutional violence:** Institutional violence occurs within formal systems, including workplaces, healthcare, education⁷³, law enforcement, media, and religious institutions.⁷⁴ It includes workplace harassment, unsafe working conditions, and sanctioning of women who report abuse. Institutional violence is also perpetuated through the erasure or distortion of women's experiences in media representations and pornography, especially when depictions normalise non-consensual or violent sexual behaviour.⁷⁵ In healthcare settings, institutional violence manifests in diagnostic dismissal, lack of culturally competent care, and policies that deny reproductive autonomy. In refugee camps⁷⁶, shelters, and long-term care homes, women—particularly older women⁷⁷, displaced women, and those with disabilities—are often vulnerable to sexual harassment and abuse due to a lack of structural safeguards and gender-sensitive environments.
3. **Interpersonal violence:** Interpersonal violence encompasses a wide range of harmful acts committed by individuals—often within relationships, families, or communities—that are rooted in unequal gender power dynamics and systems of patriarchal control. These forms of violence disproportionately affect women and gender-diverse people and result in far-reaching physical, psychological, social, and economic harm. Interpersonal violence includes femicide, sexual violence, intimate partner violence (IPV), dating violence, gendered family violence, and harassment. IPV may involve physical, emotional, sexual, financial abuse, and coercive control, and often continues even after a relationship ends, particularly

⁷² Rudzinski, Katherine, Lara F. Hudspeth, Adrian Guta, et al. 2025. 'Navigating Fragmented Services: A Gender-Based Violence (GBV) Critical Feminist Analysis of Women's Experiences Engaging with Health and Social Supports in Three Canadian Cities.' *BMC Public Health* 25 (1): 1213. <https://doi.org/10.1186/s12889-025-21919-w>.

⁷³ Karami, Amir, Cynthia Nicole White, Kayla Ford, Suzanne Swan, and Melek Yildiz Spinel. 2019. 'Unwanted Advances in Higher Education: Uncovering Sexual Harassment Experiences in Academia with Text Mining.' arXiv:2001.11552. Preprint, arXiv, December 11. <https://doi.org/10.48550/arXiv.2001.11552>.

⁷⁴ 25th WAVE Conference 'Institutional Violence and Its Impact on Women's Human Rights across Europe' - WOMEN AGAINST VIOLENCE EUROPE. 2023. July 3. <https://wave-network.org/25th-wave-conference-institutional-violence-and-its-impact-on-womens-human-rights-across-europe/>.

⁷⁵ Hernandez, Daniela. (2022). The role of pornography in normalising violence enacted against of the women body. https://www.researchgate.net/publication/370211401_The_role_of_pornography_in_normalising_violence_enacted_against_of_the_women_body

⁷⁶ Araujo, Juliana de Oliveira, Fernanda Mattos de Souza, Raquel Proença, Mayara Lisboa Bastos, Anete Trajman, and Eduardo Faerstein. n.d. 'Prevalence of Sexual Violence among Refugees: A Systematic Review.' *Revista de Saúde Pública* 53: 78. <https://doi.org/10.11606/s1518-8787.2019053001081>.

⁷⁷ Malmedal, Wenche, Maria Helen Iversen, and Astrid Kilvik. 2015. 'Sexual Abuse of Older Nursing Home Residents: A Literature Review.' *Nursing Research and Practice* 2015: 902515. <https://doi.org/10.1155/2015/902515>.

when children are involved.⁷⁸ It also affects older women and is frequently misclassified as general elder abuse, despite following patterns based in gendered power and control. Dating violence shares many of these dynamics in non-cohabiting relationships, often impacting younger women and involving distinct forms such as digital or technological abuse.⁷⁹ Gendered family violence refers to acts of harm from male relatives—such as fathers, brothers, or cousins—against women and girls within families, often justified under the guise of ‘honour’ or cultural sanctioning.⁸⁰ This includes gendered child sexual abuse but excludes other forms of non-gendered child maltreatment such as physical punishment or neglect.⁸¹ While these forms of violence may differ in context and expression, they are unified by a shared function: the enforcement of control, the silencing of autonomy, and the perpetuation of inequality—often across the life course and beyond the boundaries of the immediate household.

- a. **Intimate partner violence (IPV)** includes a range of abusive behaviours perpetrated by a current or former partner, and it extends well beyond physical violence.⁸² It includes emotional and psychological abuse, sexual abuse and reproductive coercion, financial and economic abuse, coercive control, and digital or technological abuse. IPV may persist even after a relationship has ended, particularly when children are involved, and is often compounded by systemic barriers that prevent survivors from accessing justice, safety, or support.⁸³ Older women also experience IPV, but their abuse is frequently misclassified as general elder abuse rather than recognised as gender-based. Digital and technological abuse is a newer form of violence that can have lasting impacts on women’s mental

⁷⁸ Mercy, James A., Susan D. Hillis, Alexander Butchart, et al. 2017. ‘Interpersonal Violence: Global Impact and Paths to Prevention.’ In *Injury Prevention and Environmental Health*, 3rd ed., edited by Charles N. Mock, Rachel Nugent, Olive Kobusingye, and Kirk R. Smith. The International Bank for Reconstruction and Development / The World Bank. <http://www.ncbi.nlm.nih.gov/books/NBK525208/>.

⁷⁹ Brown, Cynthia, and Kelsey Hegarty. 2018. ‘Digital Dating Abuse Measures: A Critical Review.’ *Aggression and Violent Behavior* 40 (May): 44–59. <https://doi.org/10.1016/j.avb.2018.03.003>.

⁸⁰ Idriss, Mohammad Mazher. 2022. ‘Abused by the Patriarchy: Male Victims, Masculinity, ‘Honor’-Based Abuse and Forced Marriages.’ *Journal of Interpersonal Violence* 37 (13–14): NP11905–32. <https://doi.org/10.1177/0886260521997928>.

⁸¹ MacMillan, Harriet L., C. Nadine Wathen, and Colleen M. Varcoe. 2013. ‘Intimate Partner Violence in the Family: Considerations for Children’s Safety.’ *Child Abuse & Neglect* 37 (12): 1186–91. <https://doi.org/10.1016/j.chiabu.2013.05.005>.

⁸² Stewart, Donna E, Harriet MacMillan, and Nadine Wathen. 2013. ‘Intimate Partner Violence.’ *The Canadian Journal of Psychiatry* 58 (6): E1–15. <https://doi.org/10.1177/0706743713058006001>.

⁸³ MacMillan, Harriet L., and C. Nadine Wathen. 2014. ‘Children’s Exposure to Intimate Partner Violence.’ *Child and Adolescent Psychiatric Clinics of North America* 23 (2): 295–308. <https://doi.org/10.1016/j.chc.2013.12.008>.

health and well-being, with the abuser often using technology to stalk, intimidate, and control the victim.⁸⁴

- b. **Dating violence** refers to similar patterns of abuse occurring in non-cohabiting relationships, often among younger people.⁸⁵ It can include coercive control, verbal abuse, physical violence, digital harassment, and sexual coercion. Though these relationships may be shorter in duration or less formally recognised, the health and psychological impacts are no less severe.
- c. **Gendered family violence (non-IPV)** involves acts of violence within families that are rooted in gender norms and expectations. This includes violence committed by fathers, brothers, cousins, or other relatives toward mothers, sisters, or daughters, often in the name of 'honour' or to enforce control and compliance with patriarchal norms.⁸⁶ It also includes gendered forms of child sexual abuse, but excludes other forms of child maltreatment not based on gender.⁸⁷ Gendered family violence may continue across the life course and can overlap with forms of elder abuse, particularly when older women experience sexual or psychological violence within familial settings.
- d. **Sexual violence** encompasses a spectrum of acts that range from rape to non-penetrative sexual assault. Rape includes stranger rape, acquaintance or date rape, marital rape, gang rape, corrective rape, war and conflict-related rape⁸⁸, drug-facilitated rape, and coerced or forcible sexual acts. Non-penetrative sexual assault may include groping, unwanted touching, and other physical violations. Sexual violence also extends to cyber sexual harassment and online sexual exploitation, often targeting women through digital platforms with threats, image-based abuse, or coercive communication. The stigma surrounding sexual violence, along with the

⁸⁴ Al-Alosi, Hadeel. 'Cyber-Violence: Digital Abuse in the Context of Domestic Violence.' *UNSW Law Journal*, vol. 40, no. 4, 2017. https://www.unswlawjournal.unsw.edu.au/wp-content/uploads/2017/11/404_13.pdf

⁸⁵ Acar, Ayşe Şiva. 2024. 'The Impact of Dating Violence and Manipulation on Teenagers Mental Health.' *Medical Research Archives* 12 (7). <https://doi.org/10.18103/mra.v12i7.5605>.

⁸⁶ Iftikhar, Arsalan. 2016. 'Honor Killings Are a Global Problem.' *TIME*, July 29. <https://time.com/4415554/honor-killing-gandeel-baloch/>.

⁸⁷ MacMillan, Harriet L., and C. Nadine Wathen. 2005. 'Family Violence Research: Lessons Learned and Where from Here?' *JAMA* 294 (5): 618. <https://doi.org/10.1001/jama.294.5.618>.

⁸⁸ Ba, I., and R. S. Bhopal. 'Physical, Mental and Social Consequences in Civilians Who Have Experienced War-Related Sexual Violence: A Systematic Review (1981–2014).' *Public Health*, vol. 142, Jan. 2017, pp. 121–35. *ScienceDirect*, <https://doi.org/10.1016/j.puhe.2016.07.019>.

potential for retaliation when reporting abuse, often leads to underreporting and victim-blaming.⁸⁹ As a result, it becomes more difficult for women to seek justice and access the support they need, reinforcing the cycle of violence and suffering.

- e. **Sexual harassment** is a pervasive form of violence that occurs across multiple settings. It can be verbal or non-verbal and often manifests in workplaces, public spaces, or institutional environments such as refugee camps, shelters, or long-term care homes.⁹⁰ Forms include workplace harassment (e.g., inappropriate comments or advances from colleagues or superiors), public harassment (e.g., catcalling, flashing, or exposure), and harassment in residential or congregate settings where women are particularly vulnerable due to a lack of gender-sensitive protections.⁹¹
- f. **Femicide**, the gender-based killing of women and girls, represents the most extreme form of interpersonal violence.⁹² It often occurs in the context of IPV, but may also result from family violence, honour-based violence, or systemic failures to protect women from known threats. Femicide is frequently undercounted or misclassified due to inadequate reporting systems and limited recognition of its gendered nature.⁹³
- g. **Female genital mutilation (FGM)**: FGM continues to be a harmful practice in many parts of the world. This includes various types of FGM, such as clitoridectomy, excision, and infibulation, each carrying serious health risks for women and girls.⁹⁴ The reasons for practicing FGM are often rooted in cultural, social, and religious beliefs, with communities perceiving it as a rite of passage, a way to preserve 'purity,' or a measure

⁸⁹ Passmore, Jacey. 'The Underreporting and Dismissal of Sexual Assault Cases Against Women in the United States.' *Ballard Brief*, vol. 2023, no. 2, May 2023, <https://scholarsarchive.byu.edu/ballardbrief/vol2023/iss2/5>.

⁹⁰ Shifera, Nigusie, Rahel Matiyas, Dereje Korkoba Keyzema, Desalegn Girma, and Tewodros Yosef. 2025. 'Hidden Gender-Based Violence and Its Causes among Women in Okugu Refugee Camp, Ethiopia: A Cross-Sectional Study.' *BMJ Open* 15 (5): e086405. <https://doi.org/10.1136/bmjopen-2024-086405>.

⁹¹ Dehghan, Mahlagha, and Parvin Mangolian Shahrabaki. 2023. 'Editorial: Sexual Harassment in the Workplace: Prevalence, Etiologies, Prevention and Management Strategies.' *Frontiers in Public Health* 11 (November): 1332131. <https://doi.org/10.3389/fpubh.2023.1332131>.

⁹² 'Femicide | European Institute for Gender Equality.' n.d. https://eige.europa.eu/gender-based-violence/femicide?language_content_entity=en.

⁹³ Reis, Chen, and Sarah R. Meyer. 2024. 'Understudied and Underaddressed: Femicide, an Extreme Form of Violence against Women and Girls.' *PLOS Medicine* 21 (1): e1004336. <https://doi.org/10.1371/journal.pmed.1004336>.

⁹⁴ *What Is Female Genital Mutilation?* Amnesty International, <https://www.amnesty.org/ar/wp-content/uploads/2021/06/act770051997en.pdf>.

to ensure marriageability.⁹⁵ While efforts are being made to eradicate FGM, the practice still persists in parts of Africa, the Middle East, and South Asia, as well as within immigrant communities globally.⁹⁶

- h. **Trafficking:** Trafficking is a global human rights violation that encompasses both sex trafficking and labour trafficking. Women are disproportionately affected by human trafficking, particularly sex trafficking, where they are exploited for sexual services. Labor trafficking also affects women, often in domestic servitude, agriculture, and factory work. Trafficking is a form of modern slavery, and women face unique vulnerabilities, including violence, coercion, and exploitation, with limited access to resources for escape or support.⁹⁷

4.3. HEALTH EQUITY & ACCESS

1. **Intersectionality in healthcare:** Intersectionality plays a critical role in healthcare, as women's experiences and health outcomes are shaped by factors such as race, ethnicity, disability, chronic illness, and LGBTQ+ status.⁹⁸ Women from marginalised communities often experience compounded discrimination in healthcare settings, leading to worse health outcomes and lower quality of care. Racial and ethnic disparities, for instance, are particularly evident in maternal health, with Black, Indigenous, and Latina women facing higher rates of maternal mortality and morbidity compared to their White counterparts.⁹⁹
2. **Impact of socioeconomic status:** Socioeconomic status plays a major role in women's health, influencing access to care, treatment affordability, and health outcomes.¹⁰⁰ Income inequality and financial barriers create obstacles to obtaining reproductive healthcare, preventive screenings, and specialised

⁹⁵ *Female Genital Mutilation*. World Health Organization, 31 Jan. 2025, <https://www.who.int/news-room/fact-sheets/detail/female-genital-mutilation>.

⁹⁶ *Female Genital Mutilation (FGM)*. UNICEF, Mar. 2024, <https://data.unicef.org/topic/child-protection/female-genital-mutilation/>.

⁹⁷ Deshpande, Neha A., and Nawal M. Nour. 'Sex Trafficking of Women and Girls.' *Reviews in Obstetrics and Gynecology*, vol. 6, no. 1, 2013, pp. e22–27. *PubMed Central*, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3651545/>.

⁹⁸ Bastos, João L., et al. 'Health Care Barriers, Racism, and Intersectionality in Australia.' *Social Science & Medicine*, vol. 199, Feb. 2018, pp. 209–18. *ScienceDirect*, <https://doi.org/10.1016/j.socscimed.2017.05.010>.

⁹⁹ Njoku, Anuli, et al. 'Listen to the Whispers before They Become Screams: Addressing Black Maternal Morbidity and Mortality in the United States.' *Healthcare*, vol. 11, no. 3, Feb. 2023, p. 438. *PubMed Central*, <https://doi.org/10.3390/healthcare11030438>.

¹⁰⁰ Fact Sheet: Women & Socioeconomic Status.' American Psychological Association, 2010. <https://www.apa.org/pi/ses/resources/publications/women>

treatments. Employment and workplace discrimination affect access to insurance and paid leave, disproportionately impacting low-income and marginalised women.¹⁰¹ Housing and environmental risks, including exposure to pollution and unsafe living conditions, further contribute to long-term health disparities. Education and health literacy gaps affect women's ability to navigate the healthcare system, seek preventive care, and understand medical treatments.¹⁰²

3. **Disparities in healthcare access:** Healthcare disparities are evident in geographic differences, financial barriers, and systemic obstacles to quality care. Women in rural areas face limited access to specialised healthcare services, leading to delayed diagnoses and treatment.¹⁰³ Financial barriers, such as the high cost of gender-specific healthcare (fertility treatments, contraception, menopause care) and the Pink Tax on menstrual products and personal care, increase disparities. Systemic barriers, including implicit bias in medical treatment, lack of women's health specialists, and restrictive policies on reproductive healthcare, further restrict access. Legislation limiting abortion, contraception, and family planning services exacerbates these challenges, disproportionately affecting women with fewer resources.¹⁰⁴ Incarcerated women face distinct and compounded health challenges that contribute to greater disparities in healthcare access. Many of these women enter the carceral system with untreated chronic health conditions, including hypertension, diabetes, and sexually transmitted infections, which often worsen due to the conditions within prisons. The lack of access to essential reproductive health services, such as contraception, menstrual hygiene products, and adequate maternal care, exacerbates these health disparities.¹⁰⁵ Access to gynaecological care is often limited, with many women unable to receive necessary examinations or screenings, which leaves health issues undiagnosed or

¹⁰¹ 'Paid Family and Medical Leave: A Racial Justice Issue — and Opportunity.' National Partnership for Women & Families, August 2018. <https://nationalpartnership.org/report/paid-family-and-medical-leave-a-racial-justice-issue-and-opportunity/>.

¹⁰² Coughlin, Steven S., Marlo Vernon, Christos Hatzigeorgiou, and Varghese George. 'Health Literacy, Social Determinants of Health, and Disease Prevention and Control.' *Journal of Environment and Health Sciences* 6, no. 1 (2020): 3061. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7889072/>.

¹⁰³ 'Health Disparities in Rural Women.' The American College of Obstetricians and Gynecologists, February 2014. <https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2014/02/health-disparities-in-rural-women>.

¹⁰⁴ Ishola, Foluso, U. Vivian Ukah, and Arijit Nandi. 'Impact of Abortion Law Reforms on Women's Health Services and Outcomes: A Systematic Review Protocol.' *Systematic Reviews* 10 (June 28, 2021): 192. <https://doi.org/10.1186/s13643-021-01739-w>.

¹⁰⁵ Rajagopal, Karissa, Deborah Landis-Lewis, Kimberly Haven, and Carolyn Sufrin. 'Reproductive Health Care for Incarcerated People: Advancing Health Equity in Unequitable Settings.' *Clinical Obstetrics and Gynecology* 66, no. 1 (March 1, 2023): 73–85. <https://doi.org/10.1097/GRF.0000000000000746>.

untreated. Incarcerated women are also at higher risk for mental health issues, including postpartum depression and anxiety, which are primarily driven by the trauma and abuse they experience while incarcerated, along with inadequate healthcare during pregnancy and childbirth.¹⁰⁶ In fact, incarceration itself has been shown to worsen maternal health outcomes, with studies indicating an increased risk of preterm birth, low birth weight, and other complications, particularly due to the stressful and restrictive environment within the system. These women often lack the necessary support and care during pregnancy, which leads to significant health challenges for both mothers and infants. Additionally, incarcerated women face significant barriers to accessing reproductive health services such as abortion and contraception. Many facilities either do not have formal policies allowing access to these services or place financial burdens on incarcerated women by requiring them to pay for procedures such as abortions.¹⁰⁷ This issue is further compounded by a history of reproductive coercion in carceral settings, including forced sterilisation, which disproportionately affects women of colour.¹⁰⁸ The lack of adequate healthcare infrastructure in many correctional facilities means that these women often receive subpar treatment for both their physical and mental health needs. This includes limited access to necessary medications, preventive care, and mental health support. The systemic neglect and the dehumanising conditions within prisons result in significant health risks for incarcerated women, with long-term consequences that extend beyond their time in the carceral system.¹⁰⁹ These women also contend with the stigma surrounding their health, which not only impacts their access to care but also affects their overall well-being. Correctional facilities often lack the necessary healthcare infrastructure to meet the unique needs of women, leading to inadequate treatment for chronic illnesses such as hypertension and diabetes, which are disproportionately prevalent among

¹⁰⁶ 'Women's Justice: A Preliminary Assessment of Women in the Criminal Justice System - Council on Criminal Justice,' July 9, 2024. <https://counciloncj.org/womens-justice-a-preliminary-assessment-of-women-in-the-criminal-justice-system/>.

¹⁰⁷ Paynter, Martha, Paula Pinzón Hernández, Clare Heggie, Shelley McKibbin, and Sarah Munro. 'Abortion and Contraception for Incarcerated People: A Scoping Review.' *PLOS ONE* 18, no. 3 (March 30, 2023): e0281481. <https://doi.org/10.1371/journal.pone.0281481>.

¹⁰⁸ Linda Pan, Y., Lauren Beal, Kareen Espino, and Carolyn B. Sufrin. 'Female Permanent Contraception Policies and Occurrence at a Sample of U.S. Prisons and Jails.' *Contraception* 104, no. 6 (December 2021): 618–22. <https://doi.org/10.1016/j.contraception.2021.08.005>.

¹⁰⁹ Gulaid, Azhar, and Evelyn F. McCoy. 'Reproductive Health Care in Carceral Facilities.' Urban Institute. Justice Policy Center, August 2022. <https://www.urban.org/sites/default/files/2022-08/Reproductive%20Health%20Care%20in%20Carceral%20Facilities.pdf>.

incarcerated women.¹¹⁰ In addition, the absence of sexual health education tailored to incarcerated women further limits their ability to manage their health and access preventive care.

4.4. HEALTH SYSTEMS, POLICY & LEGAL ISSUES

1. **Sexual & reproductive rights:** Sexual and reproductive rights encompass access to contraception and abortion policies, bodily autonomy, freedom from forced sterilisation or pregnancy, comprehensive sex education, and LGBTQ+ rights. These rights are fundamental to gender equality but continue to face legal, social, and systemic barriers worldwide. Access to contraception and abortion policies remains highly politicised, with abortion laws and restrictions limiting women's ability to make decisions about their reproductive health.¹¹¹ Contraceptive coverage mandates vary across regions, affecting affordability and accessibility.¹¹² Bodily autonomy and self-determination include the freedom to decide if, when, and how many children to have, as well as the right to access contraception and reproductive healthcare without coercion. In many places, women face barriers to obtaining birth control, sterilisation procedures, and maternal healthcare, limiting their ability to exercise control over their own bodies. Consent in sexual and reproductive health is critical, yet many women experience coercion in medical procedures, childbirth, and contraceptive decisions.¹¹³ Freedom from forced sterilisation or forced pregnancy is a key reproductive justice issue, with historical abuses disproportionately affecting marginalised communities, including racial minorities and disabled women.¹¹⁴ Informed consent for medical procedures, protection from obstetric violence, and the prevention of reproductive coercion remain ongoing challenges in ensuring ethical reproductive care. Comprehensive sex education plays a crucial role in equipping individuals

¹¹⁰ Peart, Mishka S., and Andrea K. Knittel. 'Contraception Need and Available Services among Incarcerated Women in the United States: A Systematic Review.' *Contraception and Reproductive Medicine* 5 (March 17, 2020): 2. <https://doi.org/10.1186/s40834-020-00105-w>.

¹¹¹ Blystad, Astrid, Haldis Haukanes, Getnet Tadele, and Karen Marie Moland. 'Reproductive Health and the Politics of Abortion.' *International Journal for Equity in Health* 19, no. 1 (March 17, 2020): 39. <https://doi.org/10.1186/s12939-020-1157-1>.

¹¹² Rice, Whitney S., Sara K. Redd, Alina A. Luke, Kelli Komro, Kimberly Jacob Arriola, and Kelli Stidham Hall. 'Dispersion of Contraceptive Access Policies across the United States from 2006 to 2021.' *Preventive Medicine Reports* 27 (May 13, 2022): 101827. <https://doi.org/10.1016/j.pmedr.2022.101827>.

¹¹³ DiCenzo, Natalie, Puneet Gill, and Kristyn Brandi. 'Who Gets to Decide? Assessing Contraceptive Coercion in Health Care Settings.' *Health Services Research* 58, no. 4 (August 2023): 767–71. <https://doi.org/10.1111/1475-6773.14193>.

¹¹⁴ 'Impediments to Reproductive Justice: The Criminal Legal System and American Carceral State.' *Harvard Law Review* 137, no. 8 (June 2024). <https://harvardlawreview.org/print/vol-137/impediments-to-reproductive-justice-the-criminal-legal-system-and-american-carceral-state/>.

with knowledge about contraception, consent, and reproductive health, yet policies mandating or restricting sexual health education continue to vary widely. The inclusion of LGBTQ+ topics and consent education in school curricula remains a contentious issue, leaving many without critical information on sexual health and relationships.¹¹⁵ Intersection with LGBTQ+ rights highlights discriminatory laws that limit access to fertility treatments, surrogacy, and adoption for LGBTQ+ individuals, restricting their ability to build families.¹¹⁶ These policies contribute to the exclusion of queer and transgender individuals from reproductive healthcare services, exacerbating health disparities.

2. **Workplace and economic protections:** Workplace protections for women remain insufficient in many areas, impacting their health and financial security. Maternity leave policies, though improving in some regions, remain inadequate in many others, leaving women vulnerable to discrimination and job insecurity when they need to take time off for caregiving.¹¹⁷ Menopause-friendly workplace policies are similarly lacking¹¹⁸, making it harder for women to receive the support they need during a challenging life stage. Protections against pregnancy discrimination are critical to ensuring that women are not penalised professionally due to their reproductive health needs. Furthermore, issues such as sexual harassment, unequal pay, and gender discrimination persist in many workplaces, undermining women's ability to thrive in their careers and contribute to economic growth.
3. **Weaponisation & politicisation of women's health:** Women's health has become increasingly politicised, with abortion laws, reproductive rights, and healthcare policies being used as tools in ideological and legal battles. The criminalisation of abortion, state-level restrictions and bans, and landmark legal cases such as *Roe v. Wade* and the *Dobbs* decision have reshaped access to reproductive care, often leading to government defunding of reproductive health services.¹¹⁹ Government

¹¹⁵ Henderson, A. Scott. 'The Silencing of LGBTQ Voices in U.S. Public Schools.' *FreeVoice*, May 1, 2022. <https://shuddhashar.com/the-silencing-of-lgbtq-voices-in-u-s-public-schools/>.

¹¹⁶ Goldberg, Abbie E., Reihonna L. Frost, Liam Miranda, and Ellen Kahn. 'LGBTQ Individuals' Experiences with Delays and Disruptions in the Foster and Adoption Process.' *Children and Youth Services Review* 106 (November 1, 2019): 104466. <https://doi.org/10.1016/j.childyouth.2019.104466>.

¹¹⁷ Walsh, Janet. 'Failing Its Families.' *Human Rights Watch*, Feb. 2011. *Human Rights Watch*, <https://www.hrw.org/report/2011/02/23/failing-its-families/lack-paid-leave-and-work-family-supports-us>.

¹¹⁸ Corbett, Holly. 'Why Menopause-Friendly Workplaces Are Better For Everybody.' *Forbes*, 31 May 2024, <https://www.forbes.com/sites/hollycorbett/2024/05/31/why-menopause-friendly-workplaces-are-better-for-everybody/>.

¹¹⁹ Dellinger, Jolynn, and Stephanie Pell. 'Bodies of Evidence: The Criminalization of Abortion and Surveillance of Women in a Post-Dobbs World.' *Duke Journal of Constitutional Law & Public Policy* 19, no. 1 (April 4, 2024): 1–108. <https://scholarship.law.duke.edu/djclpp/vol19/iss1/1>.

influence over women's healthcare policies extends beyond reproductive rights, with political lobbying shaping healthcare laws, restrictions on comprehensive sex education, and censorship of reproductive health information limiting access to critical care and knowledge. Religious institutions also play a key role in shaping healthcare policies, influencing legislation on contraception, abortion, and gender-based healthcare services.¹²⁰ The rise of disinformation and misinformation campaigns has further impacted women's health, particularly through social media influence, misrepresentation of contraception and reproductive health, and politically motivated bans on medical procedures.¹²¹ These campaigns contribute to public confusion, stigma, and fear, limiting access to evidence-based care and widening health disparities.

4. **Maternal healthcare policies:** From prenatal to postnatal support, maternal healthcare policies should address the full spectrum of care, to ensure that women receive adequate healthcare throughout their reproductive years. Access to quality prenatal care is essential for preventing complications and ensuring the health of both mother and child, but many women, especially in low-income or rural areas, still face barriers to accessing necessary care.¹²² Addressing maternal mortality and morbidity is critical, as maternal deaths remain unacceptably high in many parts of the world, particularly among marginalised groups.¹²³ In addition to ensuring safe pregnancies and births, access to family planning and fertility treatments is a fundamental aspect of reproductive healthcare. However, many women face significant barriers in accessing these services, particularly in countries with restrictive policies or where there is a lack of affordability and availability of fertility treatments.¹²⁴

¹²⁰ Freedman, Lori R., and Debra B. Stulberg. 'The Research Consortium on Religious Healthcare Institutions: Studying the Impact of Religious Restrictions on Women's Reproductive Health.' *Contraception* 94, no. 1 (July 1, 2016): 6–10. <https://doi.org/10.1016/j.contraception.2016.03.015>.

¹²¹ Iraj, Larissa. 'Hidden Dangers of Social Media: The Impact on Women's Health.' *GYNECA, Columbia Undergraduate Journal of Gynecology and Women's Health*, 2, no. 1 (2023): 44–49. https://www.researchgate.net/profile/Anisha-Prakash/publication/382457579_Gyneca_The_Columbia_Undergraduate_Journal_of_Gynecology_and_Women's_Health_Spring_2023/links/669ef581cb7fbf12a46925d2/Gyneca-The-Columbia-Undergraduate-Journal-of-Gynecology-and-Womens-Health-Spring-2023.pdf

¹²² Holcomb, Denisse S., et al. 'Geographic Barriers to Prenatal Care Access and Their Consequences.' *American Journal of Obstetrics & Gynecology MFM*, vol. 3, no. 5, Sept. 2021, p. 100442. *ScienceDirect*, <https://doi.org/10.1016/j.ajogmf.2021.100442>.

¹²³ *Maternal Mortality*. World Health Organization, 26 Apr. 2024, <https://www.who.int/news-room/fact-sheets/detail/maternal-mortality>.

¹²⁴ Weigel, Gabriela, et al. 'Coverage and Use of Fertility Services in the U.S.' *KFF*, 15 Sept. 2020, <https://www.kff.org/womens-health-policy/issue-brief/coverage-and-use-of-fertility-services-in-the-u-s/>.

5. **Legal barriers to justice & reporting:** Women who experience violence, including sexual assault and domestic abuse, often face significant legal barriers in seeking justice. The failure of legal systems to adequately protect survivors, the backlog of rape kits, victim-blaming, and weak enforcement of laws all contribute to a system that fails to provide justice for many women.¹²⁵ Furthermore, certain legal loopholes, such as those that fail to criminalise marital rape in some jurisdictions¹²⁶, further undermine women's rights. Survivors are often discouraged from reporting violence due to fear of social stigma, disbelief, or retaliation. In cases where women seek justice, they may face significant challenges in proving their cases due to inadequate forensic services, lack of legal support, or systemic bias within the justice system.

¹²⁵ *Why the Backlog Exists*. End the Backlog, <https://www.endthebacklog.org/what-is-the-backlog/why-the-backlog-exists/#:~:text=The%20backlog%20of%20untested%20rape,Protocols%20for%20Rape%20Kit%20Testing>.

¹²⁶ Smyth, Julie, and Steve Karnowski. *Some States Seek to Close Loopholes in Marital Rape Laws*. AP News, 4 May 2019, <https://apnews.com/article/3a11fee6d0e449ce81f6c8a50601c687>.

5. RESEARCH AND EVIDENCE GAPS

Despite advances in medical science, women's health research and innovation remains significantly underfunded and underrepresented, leading to gaps in disease diagnosis, treatment, and overall healthcare outcomes. Women have historically been excluded from clinical trials, resulting in gender-biased medical practices and a lack of sex-specific treatment guidelines. Key areas such as reproductive health, menopause, chronic pain, autoimmune diseases, and mental health remain understudied, leaving many conditions misdiagnosed or poorly managed. Funding disparities and systemic biases continue to limit progress, while advocacy and policy efforts play a crucial role in reshaping research priorities for more equitable healthcare.

Below is an overview of key research gaps, gender disparities in medical studies, and the role of government funding in advancing women's health research:

1. **Underrepresentation in research:** Women have historically been underrepresented in clinical trials, medical research, and drug testing, leading to gaps in understanding gender-specific health needs.¹²⁷ Bias in medical research and drug testing has resulted in dosage recommendations and treatment protocols primarily based on male physiology, increasing the risk of adverse effects and misdiagnosis in women.¹²⁸ Additionally, gender disparities in medical diagnosis contribute to delays in recognising conditions that disproportionately affect women, such as cardiovascular disease, autoimmune disorders, and chronic pain conditions. Underfunding of women-specific health conditions further exacerbates these disparities, limiting advancements in treatment and care.
2. **Gender bias:** Gender bias in medical research has long perpetuated disparities in the understanding and treatment of women's health.¹²⁹ Historically, clinical trials have predominantly focused on male participants, leading to a lack of data on how

¹²⁷ Balch, Bridget. 'Why We Know so Little about Women's Health.' AAMC, March 26, 2024. <https://www.aamc.org/news/why-we-know-so-little-about-women-s-health>.

¹²⁸ Lerner, Louise. 'Women Are Overmedicated Because Drug Dosage Trials Are Done on Men, Study Finds.' UChicago News, June 22, 2020. <https://news.uchicago.edu/story/women-are-overmedicated-because-drug-dosage-trials-are-done-men-study-finds>.

¹²⁹ GETF, AMWA. 'The Hidden Bias in Medical Research: Gender Inequality in Those Producing the Content.' *American Medical Women's Association* (blog), February 27, 2025. <https://www.amwa-doc.org/the-hidden-bias-in-medical-research-gender-inequality-in-those-producing-the-content/>.

treatments and medications affect women differently.¹³⁰ This gendered approach to research has resulted in the development of medical guidelines and treatment protocols that are often not tailored to women's physiological and hormonal needs. For instance, the higher incidence of certain conditions in women, such as autoimmune diseases, has not been matched by corresponding research efforts to explore gender-specific treatment options.¹³¹ Additionally, women's health issues, such as menstrual disorders, menopause, and chronic pain, have often been minimised or overlooked in clinical studies, contributing to delayed diagnoses and suboptimal treatment strategies.¹³² The ongoing underrepresentation of women in clinical research not only limits our understanding of women's health needs but also perpetuates a cycle of medical practices that fail to account for gender differences in disease presentation and response to treatment.

3. **Neglected conditions:** Significant gaps remain in women's health research, particularly in long-term studies on reproductive health, including the effects of PCOS, endometriosis, and hormonal contraceptives on aging and chronic disease risk. Menopause and hormonal therapies are also understudied. Women experience higher rates of chronic pain conditions and autoimmune disorders, yet research on sex-specific pain management strategies is lacking. Fibromyalgia, lupus, and other autoimmune diseases are often underdiagnosed in women, partly due to inadequate research on gendered differences in symptoms and treatment responses. The lack of understanding in this area contributes to delayed diagnosis and ineffective pain management strategies for women. Research on mental health conditions and their connection to hormonal changes is limited, leading to gaps in understanding how hormonal fluctuations impact conditions such as depression, anxiety, and mood disorders. Despite higher rates of depression and anxiety among women, there is insufficient research on sex-specific mental health interventions and the effects of hormonal changes on psychiatric conditions.¹³³

¹³⁰ Merone, Lea, Komla Tsey, Darren Russell, and Cate Nagle. 'Sex Inequalities in Medical Research: A Systematic Scoping Review of the Literature.' *Women's Health Reports* 3, no. 1 (January 31, 2022): 49–59. <https://doi.org/10.1089/whr.2021.0083>.

¹³¹ Ji, Jianguang, Jan Sundquist, and Kristina Sundquist. 'Gender-Specific Incidence of Autoimmune Diseases from National Registers.' *Journal of Autoimmunity* 69 (May 1, 2016): 102–6. <https://doi.org/10.1016/j.jaut.2016.03.003>.

¹³² eClinicalMedicine. 'Gendered Pain: A Call for Recognition and Health Equity.' *eClinicalMedicine* 69 (March 7, 2024): 102558. <https://doi.org/10.1016/j.eclinm.2024.102558>.

¹³³ Albert, Paul R. 'Why Is Depression More Prevalent in Women?' *Journal of Psychiatry & Neuroscience: JPN* 40, no. 4 (July 2015): 219–21. <https://doi.org/10.1503/jpn.150205>.

4. **Unfunded research:** Women's health conditions receive disproportionately lower levels of funding compared to other medical research areas, reflecting systemic funding disparities and gaps.¹³⁴ Underfunding of conditions that primarily affect women, such as endometriosis and PCOS, limits the development of effective treatments. Disparities also exist within research funding for female cancers, with more focus on breast cancer compared to ovarian or uterine cancers.¹³⁵ The infrastructure available to invest in women's health innovation is evolving based on political and conservative trends globally but opportunities to tailor investments in research agendas and frameworks remains critical.

¹³⁴ 'Women's Health: End the Disparity in Funding.' *Nature* 617, no. 7959 (May 3, 2023): 8–8. <https://doi.org/10.1038/d41586-023-01472-5>.

¹³⁵ Spencer, Ryan J., Laurel W. Rice, Clara Ye, Kaitlin Woo, and Shitanshu Uppal. 'Disparities in the Allocation of Research Funding to Gynecologic Cancers by Funding to Lethality Scores.' *Gynecologic Oncology* 152, no. 1 (January 2019): 106–11. <https://doi.org/10.1016/j.ygyno.2018.10.021>.

6. TECHNOLOGY & INNOVATION IN WOMEN'S HEALTH

Advancements in technology and medical innovation are transforming women's health and healthcare, expanding access, improving diagnostics, and personalising treatment options. Digital health, artificial intelligence, and FemTech have introduced new ways for women to manage their health, from telemedicine and wearable health trackers to AI-driven diagnostic tools and fertility monitoring apps. Additionally, medical innovations in reproductive care, contraception, and disease treatment are reshaping healthcare options, providing more effective and equitable solutions for women's unique health needs. However, the commercialisation of women's health has also introduced challenges, including gendered pricing, exploitative wellness trends, and financial barriers to essential medical products and services.

Below is a breakdown of major themes and topics within the technology and innovation in women's health:

1. **Digital health:** The rapid advancement of digital health technologies has transformed women's healthcare by expanding access to medical services, improving patient outcomes, and addressing healthcare disparities. Telemedicine, remote monitoring, and digital platforms now play a critical role in delivering specialised care to women, particularly in underserved and rural areas where in-person visits may be challenging.¹³⁶ Remote gynaecological consultations allow women to seek expert advice on reproductive and sexual health concerns without the barriers of travel or long wait times. These virtual consultations have become increasingly popular for routine gynaecological care, such as contraceptive counselling, STI screenings, and menstrual health management, enabling timely interventions and reducing gaps in care. Through telemedicine, expecting and new mothers can access remote monitoring, lactation support, mental health counselling, and routine check-ups, reducing complications associated with pregnancy and postpartum recovery. Digital tools, such as wearable health trackers, also enable real-time monitoring of maternal and foetal health.¹³⁷ Access to reproductive health services has significantly improved with digital health solutions. Online hormonal therapy and menopause support provide care for women navigating hormonal changes, whether due to menopause, polycystic ovary syndrome (PCOS), or other endocrine conditions. Telehealth platforms offer

¹³⁶ Gajarawala, Shilpa N., and Jessica N. Pelkowski. 'Telehealth Benefits and Barriers.' *The Journal for Nurse Practitioners* 17, no. 2 (February 2021): 218–21. <https://doi.org/10.1016/j.nurpra.2020.09.013>.

¹³⁷ Alim, Anika, and Masudul H. Imtiaz. 'Wearable Sensors for the Monitoring of Maternal Health—A Systematic Review.' *Sensors (Basel, Switzerland)* 23, no. 5 (February 22, 2023): 2411. <https://doi.org/10.3390/s23052411>.

virtual consultations with hormone specialists, prescription management, and symptom tracking to ensure personalised and effective treatment plans. Digital communities and AI-powered chatbots also provide peer support and educational resources.¹³⁸ Telehealth platforms for contraceptive counselling offer a convenient, private, and evidence-based approach to birth control access. Women can consult with healthcare providers, receive prescriptions, and have contraceptives delivered directly to their homes. These services are particularly vital in areas with limited reproductive healthcare facilities or legal restrictions on contraceptive access. The integration of digital health in women's healthcare is revolutionising the way medical services are delivered, bridging healthcare gaps, promoting autonomy, and improving overall health outcomes. Additionally, a 2025 scoping review published in *The Lancet Digital Health* analysed 80 studies across multiple regions to examine the relationship between digital health technologies (DHTs) and women's health.¹³⁹ The review found that DHTs have been associated with improved access to healthcare, self-care, and maternal health outcomes, particularly in areas such as gynaecology, endocrinology, and psychiatry. It also reported links between DHT use and increases in health literacy, skills development, and autonomy. At the same time, the review identified ongoing challenges, including affordability, privacy concerns, digital literacy barriers, and limited access in low-resource settings. These findings highlight the importance of addressing structural and contextual factors when designing and implementing digital health interventions for women.

2. **Artificial intelligence:** Advances in artificial intelligence (AI) are improving diagnosis and treatment in women's health. AI algorithms can analyse medical images and data, supporting the early detection of diseases that primarily affect women.¹⁴⁰ For example, in breast cancer screening, AI systems have demonstrated accuracy in detecting breast cancer on mammograms comparable to radiologists. Some studies have shown that AI models can outperform traditional risk models in predicting which women are at higher risk for breast cancer. One large study found that an AI model analysing mammograms was more accurate in predicting five-year breast cancer risk than standard clinical

¹³⁸ Rowlison, Tricia. 'Harnessing AI to Bridge Gaps in Women's Health Care.' U.S. National Science Foundation, November 4, 2024. <https://www.nsf.gov/science-matters/harnessing-ai-bridge-gaps-womens-health-care>.

¹³⁹ Júnior Borges do Nascimento, Israel, Hebatullah Mohamed Abdulazeem, Ishanka Weerasekara, Jodie Marquez, Lenny T Vasathan, and Genevieve Deeken. 2025. 'Transforming Women's Health, Empowerment, and Gender Equality with Digital Health: Evidence-Based Policy and Practice.' *The Lancet Digital Health*, Health Policy, 0 (0). <https://doi.org/10.1016/j.landig.2025.01.014>.

¹⁴⁰ Mapari, Smruti A., et al. 'Revolutionizing Maternal Health: The Role of Artificial Intelligence in Enhancing Care and Accessibility.' *Cureus*, vol. 16, no. 9, Sept. 2024, p. e69555. *PubMed Central*, <https://doi.org/10.7759/cureus.69555>.

assessments, identifying cancers that might otherwise have been missed.¹⁴¹ Beyond imaging, AI is being applied to develop personalised treatment plans.¹⁴² In reproductive medicine, AI is being piloted to improve fertility predictions (analysing menstrual cycle data to better predict ovulation) and to refine IVF (in vitro fertilisation) outcomes.¹⁴³

3. **FemTech:** FemTech – female technology – has grown rapidly in recent years, transforming how women manage their health.¹⁴⁴ This category includes menstrual tracking apps, fertility monitors, pregnancy and postpartum care apps, menopause symptom trackers, and more. For example, millions of women use smartphone apps to track their menstrual cycles, which can aid in identifying health issues (like irregular cycles or symptoms that could indicate conditions such as polycystic ovary syndrome).¹⁴⁵ Fertility apps and wearable ovulation trackers help women trying to conceive (or avoid pregnancy) by providing personalised predictions of fertile windows.¹⁴⁶ Startups have also introduced smart breast pumps¹⁴⁷, pelvic floor training devices¹⁴⁸, and at-home diagnostic kits for UTIs or vaginal infections – all innovations targeting needs that were long overlooked by mainstream tech. The FemTech industry is quickly expanding as investors recognise the demand: global investment in women’s health startups has surged

¹⁴¹ Arasu, Vignesh A., et al. ‘Comparison of Mammography AI Algorithms with a Clinical Risk Model for 5-Year Breast Cancer Risk Prediction: An Observational Study.’ *Radiology*, vol. 307, no. 5, June 2023, <https://doi.org/10.1148/radiol.222733>.

¹⁴² Sebastian, Anu Maria, and David Peter. ‘Artificial Intelligence in Cancer Research: Trends, Challenges and Future Directions.’ *Life*, vol. 12, no. 12, Nov. 2022, p. 1991. [www.mdpi.com, https://doi.org/10.3390/life12121991](https://doi.org/10.3390/life12121991).

¹⁴³ AlSaad, Rawan, et al. ‘Harnessing Artificial Intelligence to Predict Ovarian Stimulation Outcomes in In Vitro Fertilization: Scoping Review.’ *Journal of Medical Internet Research*, vol. 26, July 2024, p. e53396. *PubMed Central*, <https://doi.org/10.2196/53396>.

¹⁴⁴ D’Incerti, Gilda. ‘Council Post: Breaking Down Barriers: How FemTech Is Improving Women’s Health And Well-Being.’ *Forbes*, 29 June 2023, <https://www.forbes.com/councils/forbesbusinesscouncil/2023/06/29/breaking-down-barriers-how-FemTech-is-improving-womens-health-and-well-being/>.

¹⁴⁵ Worsfold, Lauren, et al. ‘Period Tracker Applications: What Menstrual Cycle Information Are They Giving Women?’ *Women’s Health*, vol. 17, Oct. 2021. *PubMed Central*, <https://doi.org/10.1177/17455065211049905>.

¹⁴⁶ Lyzwinski, Lynnette, et al. ‘Innovative Approaches to Menstruation and Fertility Tracking Using Wearable Reproductive Health Technology: Systematic Review.’ *Journal of Medical Internet Research*, vol. 26, no. 1, Feb. 2024. [www.jmir.org, https://doi.org/10.2196/45139](https://doi.org/10.2196/45139).

¹⁴⁷ Klich, Tanya. ‘Elvie, A FemTech Startup That Developed A Wireless And Wearable Breast Pump, Raises \$42 Million In VC.’ *Forbes*, 2 Apr. 2019, <https://www.forbes.com/sites/tanyaklich/2019/04/02/elvie-a-FemTech-startup-that-developed-a-wireless-and-wearable-breast-pump-raises-42-million-in-vc/>.

¹⁴⁸ El-Sayegh, Batoul, et al. ‘Improving Pelvic Floor Muscle Training with AI: A Novel Quality Assessment System for Pelvic Floor Dysfunction.’ *Sensors*, vol. 24, no. 21, Jan. 2024. [www.mdpi.com, https://doi.org/10.3390/s24216937](https://doi.org/10.3390/s24216937).

in the past decade.¹⁴⁹ Wearable devices such as smartwatches and fitness trackers now incorporate features relevant to women's health. Some can track menstrual cycles, monitor pregnancy metrics, or alert users to irregular heart rates that could be more dangerous in women. Additionally, innovators are exploring virtual reality (VR) and other technologies for women's health. VR has been tested as a method for pain relief during labour and has shown promise in reducing pain perception and anxiety for some women in childbirth.¹⁵⁰ It's also tested for treating PTSD in survivors of sexual assault by providing controlled therapeutic environments.¹⁵¹ However, while menstrual and fertility tracking technologies offer benefits, they also raise serious concerns around data privacy and security. In countries or states with restrictive reproductive health policies, these tools can potentially be exploited by bad actors to monitor, punish, or criminalise women seeking abortion or reproductive care.¹⁵² As such, safeguarding user data is critical—not only for ensuring ethical use but also for building trust and protecting women's autonomy in an increasingly surveilled digital landscape.

4. **Community-driven health solutions:** Community-driven health solutions play a crucial role in improving women's healthcare access, particularly in rural and underserved communities. These initiatives empower local populations through grassroots programs, digital innovations, advocacy, and traditional healthcare practices to address gaps in reproductive, maternal, and general health services. Grassroots and community-based health programs include local women-led initiatives, community health workers, and peer educators who provide culturally tailored reproductive health education and support. These programs help bridge the gap between medical institutions and communities, ensuring women receive accurate, accessible, and quality healthcare information. Digital and mobile health solutions leverage community health apps, SMS-based health education, and telehealth platforms to connect women with medical professionals, particularly in regions with limited healthcare infrastructure.¹⁵³ These technologies provide

¹⁴⁹ Mortensen, Elise. *FemTech by the Numbers: The Rise of Innovation in Women's Health Technology*. HITLAB, 28 Dec. 2020, <https://www.hitlab.org/FemTech-by-the-numbers-the-rise-of-innovation-in-womens-health-technology/>.

¹⁵⁰ Massov, Lorna, et al. "Giving Birth on a Beach": Women's Experiences of Using Virtual Reality in Labour.' *PLOS ONE*, vol. 19, no. 6, June 2024, p. e0304349. *PLoS Journals*, <https://doi.org/10.1371/journal.pone.0304349>.

¹⁵¹ Loranger, Claudie, and Stéphane Bouchard. 'Validating a Virtual Environment for Sexual Assault Victims.' *Journal of Traumatic Stress*, vol. 30, no. 2, Apr. 2017, pp. 157–65. *PubMed*, <https://doi.org/10.1002/jts.22170>.

¹⁵² Zadushlivy, Nina, Rizwana Biviji, and Karmen S Williams. 2025. 'Exploration of Reproductive Health Apps' Data Privacy Policies and the Risks Posed to Users: Qualitative Content Analysis.' *Journal of Medical Internet Research* 27 (March): e51517. <https://doi.org/10.2196/51517>.

¹⁵³ <https://pmc.ncbi.nlm.nih.gov/articles/PMC11404635/>

appointment reminders, maternal health monitoring, and access to reproductive health services, facilitating continuity of care. Accessible and affordable healthcare services such as low-cost clinics, mobile health units, and community pharmacies improve women's access to contraception, menstrual health products, and reproductive healthcare. Free and subsidised healthcare initiatives further reduce financial barriers that prevent women from receiving essential services. Grassroots movements advocating for affordable contraception and reproductive rights help ensure long-term policy and systemic changes that benefit women's health. Traditional and Indigenous medicine integration plays an essential role in maternal and reproductive healthcare in many cultures. The use of midwives, doulas, herbal medicine, and holistic approaches enhances access to culturally sensitive care, blending traditional and modern medical practices to improve maternal and reproductive health outcomes.¹⁵⁴ Community-driven solutions can help create sustainable, inclusive, and culturally competent approaches that empower women and improve public health at the local level.

5. **Medical innovations:** Advancements in medical technology and treatment options are revolutionising women's health, improving reproductive care, and expanding contraceptive choices. HPV vaccines remain one of the most impactful medical breakthroughs in cervical cancer prevention. Continued research has led to next-generation vaccines that provide broader protection against high-risk HPV strains, helping to further reduce cervical cancer rates worldwide.¹⁵⁵ Expanding vaccination programs and accessibility remains crucial, particularly in low-resource settings where cervical cancer remains a leading cause of mortality.¹⁵⁶ Male contraceptive innovations are advancing beyond traditional methods, with hormonal and non-hormonal birth control pills, reversible vasectomy techniques, injectable male contraception, and sperm mobility inhibitors currently under development. These innovations aim to expand contraceptive responsibility beyond women, offering men effective and reversible birth control options while increasing gender equity in reproductive health. Menstrual and reproductive health treatments are evolving to address conditions such as endometriosis,

¹⁵⁴ Brooks, Jordan, and Tamar Ezer. 'Calling for Holistic Maternal Care to Address Racial Disparities: The Role of Midwives and Doulas.' The Petrie-Flom Center. Harvard Law School, August 2, 2023. <https://petrieflom.law.harvard.edu/2023/08/02/calling-for-holistic-maternal-care-to-address-racial-disparities-the-role-of-midwives-and-doulas/>.

¹⁵⁵ Wang, Renjie, Wei Pan, Lei Jin, Weiming Huang, Yuehan Li, Di Wu, Chun Gao, Ding Ma, and Shujie Liao. 'Human Papillomavirus Vaccine against Cervical Cancer: Opportunity and Challenge.' *Cancer Letters* 471 (February 28, 2020): 88–102. <https://doi.org/10.1016/j.canlet.2019.11.039>.

¹⁵⁶ Bradford, Leslie, and Annkathryn Goodman. 'Cervical Cancer Screening and Prevention in Low-Resource Settings.' *Clinical Obstetrics and Gynecology* 56, no. 1 (March 2013): 76–87. <https://doi.org/10.1097/GRF.0b013e31828237ac>.

polycystic ovary syndrome (PCOS), and uterine fibroids. Next-generation therapies, including GLP-1 receptor agonists, SGLT2 inhibitors, and antiandrogens, are providing more effective and personalised treatments for hormonal disorders.¹⁵⁷ Magnetic hyperthermia, nanotechnology, and hyperthermia treatment (HTT) are emerging as potential therapies for endometriosis, targeting affected tissue with precision to reduce symptoms and improve quality of life.¹⁵⁸ These innovations are reshaping the landscape of reproductive healthcare, offering more effective, personalised, and accessible options that improve health outcomes for women worldwide.

6. **Women as consumers:** Women are the primary consumers of healthcare and wellness products, yet they often face financial barriers, exploitative marketing, and gendered pricing strategies that impact their access to quality care. From overpriced essential products to misleading wellness trends, the commercialisation of women's health has significant economic and social consequences. Monetisation of women's health is evident in the high cost of essential products such as menstrual products, fertility treatments, and menopause therapies.¹⁵⁹ Many of these products are necessary for daily life, yet they remain financially inaccessible for many women due to a lack of insurance coverage and reproductive healthcare funding gaps. Additionally, unnecessary or overpriced medical procedures targeting women contribute to rising healthcare costs, disproportionately affecting those with limited financial resources.¹⁶⁰ Gendered pricing further exacerbates the issue, with women often paying higher out-of-pocket costs for healthcare compared to men.¹⁶¹ The Pink Tax, which refers to inflated prices on products marketed toward women, extends beyond consumer goods into the healthcare sector, where women pay more for

¹⁵⁷ Szczesnowicz, Aleksandra, Anna Szeliga, Olga Niwczyk, Gregory Bala, and Blazej Meczekalski. 'Do GLP-1 Analogs Have a Place in the Treatment of PCOS? New Insights and Promising Therapies.' *Journal of Clinical Medicine* 12, no. 18 (September 12, 2023): 5915. <https://doi.org/10.3390/jcm12185915>.

¹⁵⁸ Talukdar, Souvanik, Santosh K. Singh, Manoj K. Mishra, and Rajesh Singh. 'Emerging Trends in Nanotechnology for Endometriosis: Diagnosis to Therapy.' *Nanomaterials* 14, no. 11 (January 2024): 976. <https://doi.org/10.3390/nano14110976>.

¹⁵⁹ Jaafar, Hafiz, Suraya Yasmin Ismail, and Amirah Azzeri. 'Period Poverty: A Neglected Public Health Issue.' *Korean Journal of Family Medicine* 44, no. 4 (July 2023): 183–88. <https://doi.org/10.4082/kjfm.22.0206>.

¹⁶⁰ Long, Michelle, Brittni Frederiksen, Usha Ranji, and Alina Salganicoff Published. 'Women's Health Care Utilization and Costs: Findings from the 2020 KFF Women's Health Survey.' *KFF*, April 21, 2021. <https://www.kff.org/womens-health-policy/issue-brief/womens-health-care-utilization-and-costs-findings-from-the-2020-kff-womens-health-survey/>.

¹⁶¹ Edmond, Charlotte. 'US Women Are Paying Billions More for Healthcare than Men Every Year.' *World Economic Forum*, October 18, 2023. <https://www.weforum.org/stories/2023/10/healthcare-equality-united-states-gender-gap/>.

prescription drugs, personal care items, and medical services.¹⁶² Exploitation of wellness and beauty trends has surged in recent years, with unregulated products such as detox teas, collagen supplements, and hormone-balancing remedies flooding the market. The influence of social media and beauty influencers has contributed to unrealistic health and beauty standards, often promoting unproven or ineffective treatments for profit.¹⁶³ Gendered marketing in pharmaceuticals and healthcare products further reinforces these exploitative practices.¹⁶⁴ Despite these challenges, consumer influence and advocacy are reshaping the industry. Women are increasingly demanding ethical, inclusive, and transparent healthcare solutions, leading to the rise of FemTech and women-led health innovation companies that prioritise evidence-based, affordable, and accessible healthcare options.¹⁶⁵ Consumer-driven movements are also challenging exploitative pricing, advocating for policy changes, and calling out misleading health claims, pushing the industry toward greater accountability.

¹⁶² Wishart, Grace, Mark Ching-Pong Poo, Katherine Baxter, and Yui-yip Lau. 'The 'Pink Tax' and Gender Price Disparity in Personal Care.' *Encyclopedia* 4, no. 3 (September 2024): 1279–85. <https://doi.org/10.3390/encyclopedia4030083>.

¹⁶³ Henriques, Mavis, and Debasis Patnaik. 'Social Media and Its Effects on Beauty.' In *Beauty - Cosmetic Science, Cultural Issues and Creative Developments*. IntechOpen, 2020. <https://doi.org/10.5772/intechopen.93322>.

¹⁶⁴ Lafferty, Mackenzi. 'The Pink Tax: The Persistence of Gender Price Disparity.' Monmouth College, 2019. <https://research.monm.edu/mjur/files/2020/02/MJUR-i12-2019-Conference-4-Lafferty.pdf>

¹⁶⁵ Kirtok, Volkan. 'The Rise of FemTech: Shaping the Future of Female Health and Wellness.' *Medium*, March 9, 2024. <https://medium.com/@vkirtok/the-rise-of-FemTech-shaping-the-future-of-female-health-and-wellness-ebd453367954>.

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