



SEEN in Health response to the Supreme Court ruling on For Women Scotland Ltd v The Scottish Ministers

The importance of sex as a biological determinant in law and healthcare

Understanding sex-based differences is critical in both legal and healthcare contexts, as they significantly influence medical care, resource allocation, and health outcomes. Accurately recording sex data plays a crucial role in providing tailored care, as it directly impacts the following areas.

Sex-specific health data

Accurate sex identification is essential for delivering appropriate healthcare services, including targeted screenings, preventive care, and health promotion efforts.

Disease prevalence and risk factors

Research consistently demonstrates that sex differences contribute to the prevalence and risk factors of numerous conditions, including cardiovascular disease, autoimmune disorders, and certain cancers. These differences influence both disease progression and outcomes.

Pharmacological response and dosage variations

Men and women metabolise medications differently due to variations in body composition, hormonal fluctuations, and liver enzyme activity. Consequently, therapeutic dosing guidelines often require adjustments to ensure safety and efficacy for each sex.

Hormonal influences

Hormones such as estrogen and testosterone exert profound effects on both health and disease, with significant implications for treatment strategies. For instance, women's health is further complicated by pregnancy, menstruation, and menopause, each of which introduces unique healthcare needs and risks.

Mental and brain health

Mental health disorders often exhibit sex-based differences in terms of prevalence, symptomatology, and treatment efficacy. Alzheimer's disease, for example, is more common in women, with some studies suggesting that hormonal variations, particularly the post-menopausal decline in estrogen, may play a contributing role.

Pain perception and management

Biological factors such as hormone levels and pain receptor density, coupled with societal influences like sex biases in healthcare, contribute to differing pain experiences and management between men and women.

Surgical and treatment outcomes

Sex can influence surgical outcomes, with variations in body size, immune response, and tissue healing impacting recovery rates. Additionally, the effectiveness of certain treatments, such as organ transplants, chemotherapy, and radiation therapy, may vary by sex, affecting overall recovery times and long-term prognosis.

Clinical trials and research disparities

Historically, clinical research has disproportionately focused on male participants, resulting in a knowledge gap regarding how treatments affect women. This lack of sex-inclusive research has, in some cases, led to adverse outcomes for women when treatments that were not adequately tested for female physiology are applied.

Misdiagnosis and delayed diagnosis

Sex-based differences in symptoms, disease presentation, and progression can result in misdiagnosis or delayed diagnosis if sex is incorrectly recorded or overlooked. For instance, cardiovascular disease may present differently in men and women, with women often showing atypical symptoms (e.g., nausea, shortness of breath, fatigue) rather than the classic chest pain associated with heart attacks. An incorrect sex entry might skew clinical evaluation and result in critical delays in diagnosing such conditions.

Ineffective or harmful treatment protocols

Many drugs are metabolised differently depending on sex. Men and women can have different levels of enzymes, body fat percentages, and hormonal profiles, all of which affect how medications are processed. An inaccurate sex entry might result in prescribing incorrect dosages or medications that are less effective or even dangerous. For example, research has shown that women may experience stronger side effects or require different drug dosages compared to men. A failure to account for these differences can lead to ineffective treatment or increased risk of adverse drug reactions.

Increased risk of adverse outcomes

Certain health conditions, such as autoimmune diseases, osteoporosis, and reproductive health issues, affect men and women differently. Misclassifying a patient's sex could result in inadequate screening or risk assessments. For example, women are more likely to develop autoimmune diseases than men, but if a patient's sex is

misidentified, they may not be screened properly for these conditions, leading to late-stage diagnoses and poorer outcomes.

Inaccurate preventive care and screening

Preventive care guidelines and screening tests often differ between men and women. For example, breast cancer screening guidelines are based on female sex, while prostate cancer screening is designed for men. If a patient's sex is recorded incorrectly, it could lead to the omission of necessary screenings or inappropriate recommendations, increasing the risk of undiagnosed conditions.

Emotional and psychological impact

Incorrectly recorded sex can cause confusion and distress for patients, It can affect trust in healthcare systems, lead to feelings of alienation, and hinder communication between patients and providers. This psychological burden can deter patients from seeking care in the future, further worsening health outcomes.

Inequitable access to resources

Health policies and resource allocation are often influenced by sex-based data. For instance, some programs may target specific sex-related health issues, such as menopause support for women or prostate cancer awareness for men. If the sex data is incorrect, patients may not be able to access appropriate programs or resources tailored to their needs, limiting their access to critical care.

In conclusion, acknowledging and integrating sex-based biological is paramount for delivering personalised and effective healthcare. By considering these differences, healthcare providers can enhance diagnostic accuracy, optimise treatment plans, and improve patient outcomes. This approach, known as “sex-based medicine,” is essential in developing safer, more effective healthcare practices, and advancing equitable healthcare for all.