SIP Position Paper on Gender Equity in Pain

2026

This statement outlines the joint position of the European Pain Federation EFIC and Pain Alliance Europe (PAE) on gender equity and pain. It highlights persistent sex- and gender-related gaps in pain recognition, research, diagnosis and treatment, and presents key recommendations for both EU and national policymakers to catalyse action and systemic change in this field.

Policy Recommendations

1. **Make sex and gender visible in pain data and indicators.** Ensure that all pain surveillance systems, registries and research programmes systematically collect, analyse and report sex- and gender-disaggregated data and integrate these dimensions into pain indicators and monitoring frameworks.
2. **Fund and prioritise research on gendered pain mechanisms and conditions.** Increase targeted funding for research on sex- and gender-specific pain mechanisms, female-predominant and female-specific pain conditions, and require balanced representation and sex-specific analyses across preclinical and clinical studies.
3. **Integrate gender-sensitive pain assessment and management into education and practice.** Embed gender-sensitive pain assessment, management and bias awareness into healthcare education, clinical guidelines and professional training to improve diagnostic accuracy and equitable treatment.
4. **Tackle the gender pain gap in access to diagnosis, treatment and support.** Strengthen referral pathways, specialist access and service organisation to reduce delays in diagnosis and treatment for pain conditions that disproportionately affect women.
5. **Strengthen participation and leadership of women in pain research and policy.** Promote the retention, advancement, and leadership of women in pain research, clinical leadership, and policymaking, while supporting excellence among all researchers, to ensure that research priorities and guidance reflect sex and gender differences in pain.
6. **Address the social and employment impacts of gendered pain.** Integrate chronic pain into employment, social protection and equality policies to mitigate its disproportionate impact on women's work participation, income security and unpaid care burden.

1. Key concepts and definitions

Key concepts:

- **Sex** denotes a set of biological attributes that distinguish humans as male, female, intersex. Sex includes anthropometric and biological characteristics that are relevant to health.

European Pain Federation EFIC®, Rue de Londres - Londenstraat 18, B1050 Brussels. Transparency Register no. 3510244568-04
The 'Societal Impact of Pain' (SIP) platform is a multi-stakeholder partnership led by the European Pain Federation EFIC and Pain Alliance Europe (PAE), which aims to raise awareness of pain and change pain policies. The scientific framework of the SIP platform is under the responsibility of EFIC and the strategic direction of the project is defined by both partners. The pharmaceutical companies Haleon, Grünenthal GmbH, and GSK are the main sponsors of the Societal Impact of Pain (SIP) platform.

- **Gender** refers to *how people perceive and express* their biological sex in social contexts. It refers to attitudes, behaviours, cultural factors, stereotypes and knowledge.
- **Gender equality** refers to the equal rights, responsibilities and opportunities of all people, regardless of gender. It implies that access to resources, services and decision-making is not restricted or shaped by gender.
- **Gender equity** recognises that different genders may have different needs, experiences and structural barriers, and therefore may require differentiated measures to achieve comparable outcomes.
- **Intersectionality** refers to how different social categories and systems of inequality intersect to shape people's experiences and outcomes. In the context of pain, it underlines that gender does not act alone and that overlapping disadvantages can intensify both the risk and impact of chronic pain and barriers to care.

This paper addresses sex- and gender-related inequities in pain. It uses the term *women* in line with the prevailing terminology in much of the existing literature and policy discourse. However, the authors recognise that the populations affected by these inequities are broader. In particular, menstrual and reproductive pain conditions may affect not only girls and women, but also some transgender men, non-binary people, and intersex people with relevant anatomy or hormonal profiles. More broadly, transgender people of all genders may also experience gender-related barriers in pain recognition, diagnosis, and treatment. This distinction is important because sex-related biological factors influence pain mechanisms, while gender-related experiences shape stigma, access to care, diagnosis, and treatment. The paper therefore adopts an inclusive perspective while retaining terminology that reflects the current evidence base.

2. Why gender matters in pain

Across the EU, gender gaps persist in power, rights, work, income, unpaid care, and decision-making, creating cumulative disadvantages over the life course. These wider structural inequalities are also reflected in health systems and in the production of medical evidence, where women's bodies, symptoms, and outcomes have historically been under-represented, under-measured, or inadequately interpreted.

Pain is one of the clearest examples of how these inequalities become clinically visible. In the field, this is increasingly referred to as the gender pain gap. This gap is not only about differences in prevalence; it reflects how structural inequalities in research, healthcare, work, and social roles shape who is believed, who is diagnosed, who receives effective treatment, and who bears the economic and social costs of pain.

Large cross-national survey data show a consistent "gender pain gap" across Europe. In pooled analyses from 19 European countries (ESS 2014; ages 25–74), **women were more likely than men to report pain** (62.3% vs 55.5%). This pattern is reinforced by broader epidemiological evidence. A systematic review of chronic pain prevalence in European adult populations (search through May 2024; 23 studies; >860,000 participants) reported an overall pooled point prevalence of around 21–23%. Across primary studies, female sex was repeatedly identified as a key sociodemographic factor associated with chronic pain [1]. These disparities raise important questions about how sex and gender are accounted for in pain research and clinical evidence.

Recent research increasingly shows that sex-related differences in pain are not limited to prevalence or symptom reporting but may involve partly distinct biological mechanisms relevant to chronic pain and treatment response. Reviews describe differences in pain processing across genetic, molecular, cellular and nervous-system levels, which has also been shaped by historical male bias in research [4, 43]. Emerging human and translational studies provide clearer examples of why this matters clinically: sex-related differences have been reported in inflammatory pain-signalling pathways targeted by commonly used anti-inflammatory medicines [44], in spinal mechanisms that can amplify persistent pain [45], and in pain threshold, pain unpleasantness and descending pain modulation across adulthood [46]. These findings should not be interpreted as biologically deterministic, but they reinforce why pain research, clinical trials and treatment guidelines cannot assume that pain mechanisms, drug response or treatment effectiveness are sex neutral.

Research design failures

Sex- and gender-related blind spots occur throughout the evidence-to-care pathway, from basic science to clinical care. Pain research has long been affected by sex bias. As highlighted by the IASP, concerns about hormonal "variability" led to the routine exclusion of female animals from preclinical studies. Reviews in *Pain* show that many preclinical studies used male rodents only [2]. This has had lasting effects, shaping which hypotheses are tested and later translated into human research.

In human studies, progress is further limited by persistent methodological issues. These include confusion between sex and gender, binary-only categorisation, and study designs that are not equipped to detect sex- or gender-related differences [2, 3, 4].

Equity in pain research is also influenced by who leads and shapes research agendas. A bibliometric analysis of four leading pain journals (2002–2021) found that women were often first authors but remained underrepresented as senior authors (46.7% vs 30.5%), indicating persistent leadership gaps [5].

The European Parliament has similarly highlighted that structural gender inequality in research systems contributes to downstream inequities in innovation and care. This underscores the importance of governance, leadership, and accountability in addressing these gaps [6].

Clinical safety and effectiveness

These evidence gaps are not only theoretical, but they affect the safety, tolerability, and effectiveness of chronic pain management. Many chronic pain conditions that disproportionately affect women involve overlapping peripheral, inflammatory, hormonal, and central sensitisation mechanisms, yet management may still focus primarily on visible pathology. At a systemic level, inadequate integration of gender-sensitive approaches into clinical guidelines continues to reinforce inequities in pain management. This can lead to treatments that are less effective, less well tolerated, or insufficiently matched to the mechanisms sustaining pain. An example of this implementation gap is visible in routine invasive gynaecological procedures. Procedures such as hysteroscopy and intrauterine device (IUD) insertion are still frequently performed with little or no analgesia, despite substantial evidence that they can cause considerable pain and distress.

A systematic review and meta-analysis found that several analgesic approaches, including local anaesthesia and pharmacological pain relief, can reduce pain during hysteroscopy, underscoring that inadequate pain

management in these settings is not simply a matter of limited evidence, but also of inconsistent implementation in practice [7].

Additionally, different applications, such as guided online exercises and psychological programmes, can support patients between visits and increase opportunities for remote consultations. However, these services must be reliable and based on researched evidence—not on promoting products or treatments. Therefore, clinical safety and effectiveness in pain should be understood not only in terms of drug safety, but also in terms of whether women receive timely, evidence-based, and equitable pain treatment.

3. Women's pain

Women and girls are not only more likely to experience many chronic pain conditions; they often report more severe pain and greater functional impairment. It is also important to distinguish between two overlapping but distinct dimensions of women's pain:

(1) **Pain conditions that are more prevalent in women**, such as migraine, musculoskeletal pain, fibromyalgia, and irritable bowel syndrome [8];

(2) **Pain conditions related to female reproductive health**, such as dysmenorrhoea, endometriosis, vulvodynia, and chronic pelvic pain [8].

At the same time, gender-diverse populations may share relevant physiological mechanisms and face distinct barriers within health systems. Women's pain risk and pain expression also change across the life course, shaped by hormonal transitions as well as gendered social and occupational exposures.

- **Adolescence and puberty**. Sex differences in pain sensitivity and many chronic pain conditions become more pronounced after puberty, consistent with hormonal and neuroimmune influences as well as gendered stress exposures.
- **Menstruation and dysmenorrhea**. Dysmenorrhea is not only common but is also prospectively associated with later chronic pain. A systematic review and meta-analysis of population-based studies found dysmenorrhea was associated with 2.50 times higher odds of chronic pain (pelvic and non-pelvic), suggesting a plausible pathway from recurrent menstrual pain to broader chronic pain vulnerability in some individuals [9].
- **Endometriosis and chronic pelvic pain**. As individuals move through the reproductive years, the likelihood of chronic pelvic pain conditions becomes more clinically relevant. Endometriosis affects an estimated 6–10% of women globally and is a major cause of chronic pelvic pain [10]. Diagnostic delay remains substantial. A systematic review and meta-analysis reported average diagnostic time in the most recent studies around 4.4 years, with earlier studies showing median delays exceeding 10 years; delays arise from patient-related, provider-related, and health-system factors [11, 12].
- **Pregnancy, peri- and post-partum**. Reproductive transitions across the life course are associated with distinct pain profiles. In pregnancy, lumbopelvic pain is one of the most common musculoskeletal complications: a European review estimated that about 45% of pregnant women experience pregnancy-related pelvic girdle pain and/or low back pain, with serious pain in around 25% and severe disability in about 8% [13]. After birth, pain often persists beyond the routine 6-week care window: estimates suggest

dyspareunia in 35%, low back pain in 32%, and perineal pain in 11% of postpartum women, while chronic postsurgical pain after caesarean delivery affects around 15% at 3–6 months [14].

- **Menopause.** Similarly, major hormonal transitions shape and change pain vulnerabilities. Around menopause, musculoskeletal and genitourinary pain become more prominent; recent guidance reports that 40–60% of postmenopausal women experience genitourinary syndrome of menopause overall, with dyspareunia among the most common symptoms [15]. The European Parliament highlights pregnancy/breastfeeding and menopause as female-specific contexts where clinical evidence and care pathways are often insufficient, and stresses that sex- and gender-sensitive protocols are needed (including minimising unnecessary pain during procedures) and that workplace policies should support life stages such as menopause [6].
- **Older age**. Women's longer life expectancy is paired with higher years lived with chronic illness and disability, including painful musculoskeletal conditions; this amplifies caregiving needs and economic vulnerability in older age if pain is underdiagnosed or undertreated.

4. Gender bias in pain care and access

Despite growing evidence on sex- and gender-related differences in pain, women continue to face inequities in how pain is assessed, treated, and followed up within healthcare systems.

Diagnostic bias

Although direct European quantitative evidence remains limited, the available literature suggests that gender stereotypes can shape clinical judgement in pain care. In a Swedish experimental vignette study, medical students judged male pain patients to be more accurate in assessing their own work ability than female pain patients, while also assuming that if female patients performed more domestic work; this influenced assessments of capacity and recovery [16].

Another study found no overall gender difference in whether pain was treated, but prescribing patterns varied according to the clinical scenario, patient gender and race, and physician characteristics [17]. Together, these findings suggest that gendered assumptions can influence how women's pain, symptoms, and functional limitations are interpreted at the point of assessment. They also indicate that bias is not only interpersonal, but may be embedded in routine clinical pathways, and that intersectional factors can further shape these inequities.

Delays and dismissal

Evidence suggests that when men and women report identical pain scores, women's pain is more likely to be judged as less severe. This gendered pain-exaggeration bias has been associated with stereotypes depicting women as overly emotional or prone to dramatisation. Consequently, women's pain reports are often met with greater scepticism and perceived as less authentic than those of men. To the extent that such assumptions also influence healthcare professionals, they may contribute to the undertreatment of pain in women.

In line with this, a recent study found that women were less likely to be prescribed pain-relief medication than men, even after adjustment for reported pain scores and multiple patient, clinician, and system variables; women's pain scores were also less often recorded, and women spent around 30 minutes longer in the

emergency department [18]. Such patterns are also consistent with women-specific conditions such as endometriosis, for which diagnosis still frequently takes years, as noted above [11].

Trust in healthcare

Dismissal and delayed diagnosis can erode trust, reduce help-seeking, and worsen outcomes, particularly for stigmatised conditions and groups. Evidence does not support a simple universal conclusion that women always trust healthcare less than men; rather, gender differences in trust appear to be context-dependent. However, recent qualitative work has identified delegitimising and disempowering encounters as a recurring theme in women's experiences of chronic pain care, suggesting that women's trust in healthcare may be more vulnerable to erosion because they are more likely to live with pain and to encounter invalidating, fragmented, or dismissive care [19, 20]. Education is therefore consistently identified as a key lever. The European Parliament calls for the integration of women's health across medical and nursing education, including curricula that reflect sex- and gender-based differences and address the needs of transgender and gender-diverse people and other vulnerable groups [6].

5. Why this is not a niche issue, but a health equity and economic one

The gender pain gap is not a niche issue because it sits at the intersection of health equity, disability, labour market participation, and long-term social costs. Chronic pain is already recognised as imposing a substantial burden on individuals, employers, healthcare systems, and society. European evidence shows that chronic pain substantially affects daily life and work participation, while newer analyses suggest that chronic conditions reduce working hours over time and lead to major productivity losses [21]. This burden is not distributed equally.

Women are more likely than men to experience chronic pain across Europe, and they are also more likely to carry a disproportionate share of unpaid care work, which compounds the effects of pain on employment, income, and wellbeing. In practice, this means that pain in women is more likely to translate into interrupted careers, reduced working hours, economic insecurity, and cumulative disadvantage across the life course.

Labour market participation

Chronic pain is strongly linked to reduced work ability, sick leave, and labour-market detachment. A Norwegian analysis estimated the accumulated difference in costs between people with and without chronic pain at around €55,000 per person over 2010–2016, with annual costs extrapolated as high as 4% of GDP, around 80% of which were attributable to productivity loss [22].

Longitudinal registry-based evidence from Denmark further shows that low labour-market affiliation is already present years before multidisciplinary pain treatment begins and is difficult to regain once lost, suggesting that delayed or inaccessible care can lock in long-term economic disadvantage [23]. Importantly, the burden also appears to be gendered: in Austria, a bottom-up cost-of-illness study estimated mean annual societal costs of chronic pain at €10,191 per patient per year, including €5,725 in direct medical costs and €4,466 in productivity losses and informal care, and found that total costs were significantly higher for women than for men [24].

In Sweden, musculoskeletal pain is described as a leading cause of sick leave, especially among women, and a study of women on sick leave due to long-term neck, shoulder, or back pain found substantial effects on work ability and wellbeing [25].

Another important dimension is the direct financial burden on patients themselves. Beyond lost income and reduced work participation, women with pain may face substantial out-of-pocket expenses for consultations, diagnostic investigations, medications, travel, supportive therapies, and privately financed care. Although the scale of these expenses varies across European countries and healthcare systems, available evidence suggests that this burden can be considerable even in settings with public or statutory coverage. In a multicentre study of women with endometriosis treated in referral centres across 10 countries, average annual healthcare costs reached €3,113 per woman, with additional non-healthcare and productivity costs substantially increasing the total burden [26]. In Germany, where most participants were covered by statutory insurance, women with endometriosis still reported average self-financed direct costs of €2,059.55 per year, showing that fragmented care and incomplete reimbursement can shift a meaningful share of pain-related costs directly onto patients and households. [27]

Together, these findings suggest that chronic pain is not only a major economic burden, but one that may disproportionately affect women through both higher pain prevalence and higher associated costs. However, direct sex-stratified cost studies in chronic pain remain scarce.

Long-term economic consequences

Beyond paid work, women continue to carry a disproportionate share of unpaid care work, which means that the economic impact of pain on women is often both direct and indirect. Directly, women are more likely than men to report pain across Europe, making them more vulnerable to reduced work participation, lost income, and long-term pension disadvantage. Indirectly, women are also more likely to leave paid work or reduce working hours in order to provide informal care when a family member is living with chronic illness, disability, or age-related needs.

Across Europe, daily informal caregiving has been shown to reduce women's probability of being employed by 10.5% and their work hours by 13.1%, while effects for men were not significant in the same analysis [28]. The combined effect is a disproportionate share of lost income, reduced pension contributions, and increased risk of economic insecurity, especially in older age when painful musculoskeletal conditions and caregiving demands can co-occur.

Because women both experience pain more often and are more likely to absorb unpaid caregiving responsibilities, pain-related economic disadvantage can accumulate across the life course, reinforcing gender and socioeconomic inequalities [29]. This again highlights the importance of an intersectional perspective: women affected by pain are not only more often patients than men but are also more likely to become the informal carers of others living with pain, illness, or frailty.

6. The case for policy action

The Societal Impact of Pain (SIP) Platform has contributed to EU policy discussions highlighting these disparities. References to ***pain*** appear in the European Parliament Committee on Women's Rights and Gender Equality

(FEMM Committee) *Draft Report on gender inequalities in health, specifically as regards gender-specific conditions*, and the Draft Opinion prepared by the Committee on Public Health (SANT Committee) for that same own-initiative report (INI). Following input from the European Pain Federation EFIC, these documents cite the treatment of pain in women as an example of ingrained bias in diagnosis and care.

A modest but important sign of rising awareness is that the EIGE Gender Equality Index 2025 also refers to pain as an area in which women may receive less favourable treatment. However, pain still appears only marginally in the report, suggesting that awareness is growing, but remains insufficient to place the issue at the centre of gender-equality policy debate. [30]

Parliamentary amendments building on SIP's contributions highlight key challenges, including under-researched and underdiagnosed conditions such as endometriosis and pelvic pain, structural biases in research and obstetric care, the routine dismissal of women's pain, and risks posed by non-representative datasets in AI healthcare applications. The amendments also call for increased EU research and innovation and for integration of gender-sensitive training into medical education and healthcare practice to reduce disparities in pain assessment and management.

Evidence from a 2025 SANT Committee public consultation reinforces these concerns. Among 1,908 respondents, pain repeatedly emerged as a major issue across life stages, including puberty, pregnancy, childbirth, postpartum, and menopause. Between two and three in four respondents reported that tests and therapies in the context of gynaecology or pregnancy were unnecessarily painful. Open-ended responses highlighted the dismissal or normalisation of pain, and insufficient pain relief during childbirth and gynaecological care. The consultation further underscored the disproportionate burden of disabling conditions among women, with musculoskeletal disorders such as low back pain and osteoarthritis identified as leading contributors. Chronic pain conditions, including bladder pain syndrome (interstitial cystitis), were also explicitly recognised through filter questions within the survey.

These insights align with the EU Gender Equality Strategy 2026–2030, which positions gender equality as a core EU value and emphasises the need to address structural inequalities. Integrating gender-sensitive approaches to pain prevention, assessment, and management across healthcare systems is therefore essential to ensure equitable healthcare and fulfil EU commitments to public health and gender equality.

7. Conclusion

Gender differences in pain are not incidental, but systematic and persistent across research, clinical practice, and social outcomes. **Women experience pain more frequently, more severely, and across more life stages, yet pain research, clinical guidelines, and care pathways continue to insufficiently account for sex- and gender-related differences.**

The evidence reviewed highlights multiple, reinforcing drivers of inequity: longstanding sex bias in research design, delayed and dismissive care, gendered assumptions in clinical assessment, and structural barriers to timely diagnosis and effective treatment. These gaps contribute not only to avoidable suffering, but also to wider economic and social consequences, including reduced labour-market participation, increased unpaid care burdens, and cumulative disadvantage over the life course.

Addressing the gender pain gap is therefore not a niche issue, but a matter of health equity, quality of care, and economic sustainability. Integrating sex- and gender-sensitive approaches into pain research, education, clinical practice, and policy is both feasible and necessary. The policy recommendations outlined in this paper provide concrete, actionable steps to ensure that pain prevention, assessment, and management better reflect biological diversity, lived experience, and societal impact. Without such action, existing inequities will persist and deepen, undermining EU commitments to public health, gender equality, and inclusive growth.

Lastly, well-designed digital solutions, such as teleconsultations, mobile applications and online peer-support programmes, can reduce both individual and societal direct and indirect costs by cutting down travel, enabling flexible scheduling and supporting remote work and caregiving. To ensure they deliver these benefits, digital solutions need to be widely recognised and legally approved, and these solutions need to be evidence-based and accessible and created together with healthcare professionals and people living with pain. and they should be developed collaboratively with healthcare professionals and people living with chronic pain.

8. SIP key recommendations for policy actions

The following actions are supported by emerging or established evidence and illustrate promising approaches to address gender inequities in pain:

1. Make sex and gender visible in pain data and indicators
Most surveillance systems and registries still do not consistently collect or report sex-disaggregated pain data [31]. Population-based research shows that women report chronic pain more often than men and across more anatomical regions, yet sex and gender are not systematically integrated into pain indicators or metrics [32,33].

2. Fund and prioritise research on gendered pain mechanisms and conditions
A large body of evidence shows that women have increased pain sensitivity and a higher risk for many clinical pain conditions that are more prevalent in women (such as migraine, musculoskeletal pain and irritable bowel syndrome), as well as for pain conditions specific to female reproductive health, including dysmenorrhoea, endometriosis and pelvic pain syndromes [3, 34]. Yet, women have historically been under-represented in pain research, especially in preclinical studies and early clinical trials, and sex-specific analyses are still not consistently reported [32, 35]. Women seem to experience higher rates of adverse drug reactions than men, reflecting differences in pharmacokinetics and pharmacodynamics that are insufficiently studied when female participants are excluded or under-represented [36]. For pain medicines and adjuvant therapies, this undermines safe and effective prescribing. For preclinical and clinical research, as well as new drug development, this calls for precise investigation on pharmacological variability of drugs according to sex.

3. Integrate gender-sensitive pain assessment and management into education and practice
Gender stereotypes remain deeply embedded in clinical practice. Women are more likely than men to have their symptoms attributed to stress or psychological factors, to be labelled as “anxious” or “exaggerating”, and to receive less timely or less intensive analgesia, particularly in emergency settings [37, 38]. This systemic pattern, as a form of “medical misogyny”, delays diagnosis and treatment, increases the risk that acute pain transitions into chronic pain, and contributes to avoidable mental health problems, higher healthcare use and loss of trust in healthcare systems [39].

4. Tackle the gender pain gap in access to diagnosis, treatment and support
Women are both more likely to experience chronic pain and to report that their pain is dismissed or not taken seriously by healthcare professionals, delays of years for a diagnosis for pain conditions, such as endometriosis [11]. These patterns create a gender pain gap: women experience more pain, but receive less timely recognition, diagnosis and appropriate treatment [37, 40]. The consequences include reduced participation in education and work, higher risk of poverty, and increased reliance on informal care. In addition, digital support services – such as teletherapy, online self-management programmes, and digital care pathways – should be promoted so that patients can access information, diagnosis, and treatment more easily, regardless of time or place.

5. Strengthen participation and leadership of women in pain research and policy
Gender inequities in academia and research leadership contribute directly to knowledge gaps on women's pain. Recent bibliometric analyses of leading pain journals show that women represent about 46% of first authors but only around 30% of senior authors, revealing a persistent gender gap in senior research roles [5, 41]. These patterns reflect broader "leaky pipeline" dynamics in academia, where women are more likely to leave research careers and are under-represented in decision-making positions [42]. As a consequence, research priorities and clinical guidance are less likely to fully reflect sex and gender differences in pain, or conditions that predominantly affect women.

6. Address the social and employment impacts of gendered pain
Chronic pain is a major driver of disability, reduced productivity and early exit from the labour market. Women carry a disproportionate share of the economic and social burden of pain, including lost income, career interruptions and an increased burden of unpaid care work [6]. For employers and social protection systems, this translates into higher costs and reduced participation of women in the workforce, reinforcing existing gender gaps in employment, earnings and pensions.

Acknowledgments

We gratefully acknowledge the support and contributions of the following individuals throughout the development of this paper:

- Patrice Forget
- Esther Pogatzki-Zahn
- Joanne O'Brien Kelly
- Sam Kynman
- Ginevra Sperandio
- Angela Cano Palomares
- Marta Bartnicka
- Nadia Malliou and Liisa Jutila representing the Board of Pain Alliance Europe (PAE).

Their insights and coordination were instrumental to this work.

—END—

SIP remains available for further discussions with the European Commission, Members of the European Parliament, the Council of the European Union, and civil society stakeholders for future cooperation to ensure our recommendations are implemented in the area of gender equity and pain.

References

1 Rometsch, C., Martin, A., Junne, F., & Cosci, F. (2025). Chronic pain in European adult populations: A systematic review of prevalence and associated clinical features. Pain, 166(4), 719–731. doi:10.1097/j.pain.0000000000003406

2 Mogil JS, Chanda ML. The case for the inclusion of female subjects in basic science studies of pain. *Pain* 2005; **117**: 1-5

3 Keogh E. Sex and gender differences in pain: past, present, and future. *Pain* 2022; **163**: S108-S16

4 Mogil JS. Qualitative sex differences in pain processing: emerging evidence of a biased literature. *Nature Reviews Neuroscience* 2020; **21**: 353-65

5 Zhong H, Poeran J, Cozowicz C, Illescas A, Liu J, Memtsoudis SG. Women authorship in pain research: a bibliometric analysis from 2002 to 2021. *European Journal of Pain* 2023; **27**: 1036-40

6 K. D. Gender inequalities in medical research, drug development and access to care. European Parliament, Policy Department for Citizens, Equality and Culture 2025 2025

7 De Silva PM, Mahmud A, Smith PP, Clark TJ. Analgesia for office hysteroscopy: a systematic review and meta-analysis. *Journal of Minimally Invasive Gynecology* 2020; **27**: 1034-47

8 Casale R, Atzeni F, Bazzichi L, et al. Pain in women: a perspective review on a relevant clinical issue that deserves prioritization. *Pain and therapy* 2021; **10**: 287-314

9 Li R, Li B, Kreher DA, Benjamin AR, Gubbels A, Smith SM. Association between dysmenorrhea and chronic pain: a systematic review and meta-analysis of population-based studies. *American journal of obstetrics and gynecology* 2020; **223**: 350-71

10 Moradi Y, Shams-Beyranvand M, Khateri S, et al. A systematic review on the prevalence of endometriosis in women. *Indian Journal of Medical Research* 2021; **154**: 446-54

11 De Corte P, Klinghardt M, von Stockum S, Heinemann K. Time to diagnose endometriosis: Current status, challenges and regional characteristics—A systematic literature review. *BJOG: An International Journal of Obstetrics & Gynaecology* 2025; **132**: 118-30

12 Li W, Feng H, Ye Q. Factors contributing to the delayed diagnosis of endometriosis—a systematic review and meta-analysis. *Frontiers in medicine* 2025; **12**: 1576490

13 Wu W-H, Meijer OG, Uegaki K, et al. Pregnancy-related pelvic girdle pain (PPP), I: Terminology, clinical presentation, and prevalence. *European Spine Journal* 2004; **13**: 575-89

14 Vogel JP, Jung J, Lavin T, et al. Neglected medium-term and long-term consequences of labour and childbirth: a systematic analysis of the burden, recommended practices, and a way forward. *The Lancet Global Health* 2024; **12**: e317-e30

15 Simon JA, Nappi RE, Chedraui P, et al. Genitourinary syndrome of menopause (GSM): recommendations from the Fifth International Consultation on Sexual Medicine (ICSM 2024). *Sexual medicine reviews* 2025: qeaf055

16 Gustafsson Sendén M, Renström EA. Gender bias in assessment of future work ability among pain patients–an experimental vignette study of medical students' assessment. *Scandinavian Journal of Pain* 2019; **19**: 407-14

17 Weisse CS, Sorum PC, Dominguez RE. The influence of gender and race on physicians' pain management decisions. *The journal of Pain* 2003; **4**: 505-10

18 Guzikevits M, Gordon-Hecker T, Rekhtman D, et al. Sex bias in pain management decisions. *Proceedings of the National Academy of Sciences* 2024; **121**: e2401331121

European Pain Federation EFIC®, Rue de Londres - Londenstraat 18, B1050 Brussels. Transparency Register no. 3510244568-04

The 'Societal Impact of Pain' (SIP) platform is a multi-stakeholder partnership led by the European Pain Federation EFIC and Pain Alliance Europe (PAE), which aims to raise awareness of pain and change pain policies. The scientific framework of the SIP platform is under the responsibility of EFIC and the strategic direction of the project is defined by both partners. The pharmaceutical companies Haleon, Grünenthal GmbH, and GSK are the main sponsors of the Societal Impact of Pain (SIP) platform.

19 Biring S, Burton AE, Dunwoody L, Kevern P. Women's experiences of living with chronic pain: A qualitative meta-synthesis. *British Journal of Health Psychology* 2025; **30**: e70023
20 Brauer L, de Cruppé W, Geraedts M. "Take me seriously": A qualitative interview study exploring healthcare experiences of endometriosis patients. *PloS one* 2025; **20**: e0323883
21 Breivik H, Eisenberg E, O'Brien T. The individual and societal burden of chronic pain in Europe: the case for strategic prioritisation and action to improve knowledge and availability of appropriate care. *BMC public health* 2013; **13**: 1229
22 Stubhaug A, Hansen JL, Hallberg S, Gustavsson A, Eggen AE, Nielsen CS. The costs of chronic pain—long-term estimates. *European journal of pain* 2024; **28**: 960-77
23 Stevnsborg L, Pedersen M, Kirkeskov L, Jensen PF, Osler M. Chronic Pain and Labour Market Affiliation: Effect of Demographic Factors and Comorbidities 5 Years Before and 2 Years After Multidisciplinary Treatment. *European Journal of Pain* 2025; **29**: e70135
24 Mayer S, Spickschen J, Stein KV, Crevenna R, Dorner TE, Simon J. The societal costs of chronic pain and its determinants: the case of Austria. *PloS one* 2019; **14**: e0213889
25 Rashid M, Kristofferzon M-L, Heiden M, Nilsson A. Factors related to work ability and well-being among women on sick leave due to long-term pain in the neck/shoulders and/or back: a cross-sectional study. *BMC Public Health* 2018; **18**: 672
26 Heinze NR, Götz T, Rohloff N, Schaller L, Spelsberg R, Schäfer SD. Self-reported costs of endometriosis patients in Germany. *Geburtshilfe und Frauenheilkunde* 2024; **84**: 1143-9
27 Simoens S, Dunselman G, Dirksen C, et al. The burden of endometriosis: costs and quality of life of women with endometriosis and treated in referral centres. *Human reproduction* 2012; **27**: 1292-9
28 Ciccarelli N, Van Soest A. Informal caregiving, employment status and work hours of the 50+ population in Europe. *De Economist* 2018; **166**: 363
29 Quashie NT, Wagner M, Verbakel E, Deindl C. Socioeconomic differences in informal caregiving in Europe. *European Journal of Ageing* 2022; **19**: 621-32
30 (EIGE) EIfGE. Gender Equality Index 2025: Sharper data for a changing world. Publications Office of the European Union. 2025
31 Karran EL, Cashin AG, Chiarotto A, et al. Identifying Social factors that Stratify Health Opportunities and Outcomes (ISSHOOs) in pain research: consensus recommendations for the collection and reporting of equity-relevant data. *EClinicalMedicine* 2025; **90**
32 Finn DP, McGuire BE, Beggs S, et al. Recommendations for the inclusion and study of sex and gender in research. *Nature neuroscience* 2025: 1-11
33 Keogh E, Boerner KE. Challenges with embedding an integrated sex and gender perspective into pain research: Recommendations and opportunities. *Brain, Behavior, and Immunity* 2024; **117**: 112-21
34 Li JX, Wang X, Henry A, et al. Sex differences in pain expressed by patients across diverse disease states: individual patient data meta-analysis of 33,957 participants in 10 randomized controlled trials. *Pain* 2023; **164**: 1666-76
35 Mauvais-Jarvis F, Merz NB, Barnes PJ, et al. Sex and gender: modifiers of health, disease, and medicine. *The Lancet* 2020; **396**: 565-82
36 Lacroix C, Maurier A, Largeau B, et al. Sex differences in adverse drug reactions: Are women more impacted? *Therapies* 2023; **78**: 175-88
37 Laughey W, Vincent K, Iyer S, Cobo MM, Slater R. Pain in women: bridging the gender pain gap. *Pain Reports* 2025; **10**: e1276
38 Shane K, Slonim AD. Medical Gaslighting and its Impact on Vulnerable Populations. *Journal of Racial and Ethnic Health Disparities* 2026: 1-6
39 EClinicalMedicine. Gendered pain: a call for recognition and health equity. *EClinicalMedicine* 2024; **69**: 102558
40 Bimpong K, Thomson K, Mcnamara CL, et al. The Gender Pain Gap: gender inequalities in pain across 19 European countries. *Scandinavian journal of public health* 2022; **50**: 287-94
41 Strand N, Kraus M, Pougnier C, Keim A, Deshpande A, Maloney J. Analysis of gender-based authorship trends in leading pain-medicine journals over 10 years. *Health Psychology Research* 2022; **10**: 38356

42 Clarke N, Licata AE, Imarraine S, et al. Girls just wanna have funds: a new Transparent Reporting Scale for evaluating grant data reporting from funding agencies. *Frontiers in Computational Neuroscience* 2026; **20**: 1765249
43 Mogil, J. S., Parisien, M., Esfahani, S. J., & Diatchenko, L. (2024). Sex differences in mechanisms of pain hypersensitivity. Neuroscience & Biobehavioral Reviews, 163, 105749.
44 Shen, B. Q., Sankaranarayanan, I., Price, T. J., & Tavares-Ferreira, D. (2023). Sex-differences in prostaglandin signaling: a semi-systematic review and characterization of PTGDS expression in human sensory neurons. Scientific reports, 13(1), 4670.
45 Dedek, A., Xu, J., Lorenzo, L. É., Godin, A. G., Kandegedara, C. M., Glavina, G., ... & Hildebrand, M. E. (2022). Sexual dimorphism in a neuronal mechanism of spinal hyperexcitability across rodent and human models of pathological pain. Brain, 145(3), 1124-1138.
46 Failla, M. D., Beach, P. A., Atalla, S., Dietrich, M. S., Bruehl, S., Cowan, R. L., & Monroe, T. B. (2024). Gender differences in pain threshold, unpleasantness, and descending pain modulatory activation across the adult life span: a cross-sectional study. The journal of pain, 25(4), 1059-1069.