The prescribing of medical cannabis has been legal in the UK since 2018. Since then, there have been hundreds of thousands of prescriptions for unlicensed medical cannabis products. Evaluate the benefits and drawbacks of medical cannabis as a treatment option for endometriosis

Introduction

The November 2018 rescheduling of cannabis-based medicinal products (CBMPs) marked a legislative milestone in the UK, yet NHS access for chronic pain remains virtually non-existent (Schlag et al., 2020). Consequently, a profound therapeutic gap persists for complex systemic conditions such as endometriosis. Affecting 10% of reproductive-aged women (Zondervan et al., 2018), endometriosis is routinely mismanaged through delayed diagnoses, repeated surgical excisions with high recurrence rates (Roman et al., 2023), and long-term opioid prescribing that risks severe dependency and iatrogenic harm (As-Sanie et al., 2021). While phytocannabinoids offer a biologically plausible, multimodal alternative by targeting the dysregulated endocannabinoid system, the National Institute for Health and Care Excellence (NICE) restricts access, citing a lack of double-blind randomised controlled trials (RCTs) (NHS England, 2019). To address this therapeutic gap, this essay evaluates the clinical benefits of CBMPs against the pharmacological and methodological drawbacks of prescribing complex botanicals. Ultimately, this evaluation concludes that while medical cannabis presents unique prescribing challenges, rigidly applying single-molecule trial standards to justify restricted access represents a systemic ethical failure, driving a marginalised patient population into a dangerous two-tier healthcare system.

Clinical Efficacy

Characterised by aberrant tissue proliferation, chronic inflammation, and neuroangiogenesis, endometriosis presents a significant therapeutic gap. When first-line hormonal therapies fail, the NHS relies heavily on repeated surgeries and opioid analgesia; however, the long-term efficacy of these interventions is demonstrably poor, and their capacity for iatrogenic harm is significant. Chemical menopause induced by GnRH analogues demonstrates disease recurrence rates exceeding 50% within five years (Waller and Shaw, 1993). Similarly, expert surgical excision carries a 28% ten-year repeat surgery rate (Roman et al., 2023), trapping women in recurrent trauma with severe risks such as permanent bowel dysfunction (Jago et al., 2021). Alongside these surgical failures, the pharmacological reliance on opioids presents even greater clinical challenges. Women with endometriosis are disproportionately prescribed opioids, with over 60% receiving a prescription within their first year of diagnosis (As-Sanie et al., 2021). While temporarily blunting nociception, prolonged opioid therapy induces profound endocrinopathy, suppressing the hypothalamic-pituitary-gonadal axis and causing severe systemic fatigue (Rhodin, Stridsberg and Gordh, 2010). Furthermore,

94% of endometriosis patients using opioids experience adverse side effects, and 33% demonstrate a moderate to high addiction risk (Douak et al., 2026).

Evaluating how medical cannabis can aid management requires understanding the pharmacological targets within the molecular landscape of endometriosis. The endocannabinoid system (ECS) acts as a master regulator of biological homeostasis, modulating female reproductive tissues, pain, inflammation, and cellular proliferation (Lingegowda et al., 2022). This complex neuromodulatory network operates via three interdependent components: G-protein-coupled receptors, endogenous lipid ligands that bind to these receptors to trigger restorative cellular responses, and metabolic enzymes that subsequently degrade the ligands to terminate signalling. Animal models demonstrate disrupting specific ECS receptors directly impacts lesion progression and alters the local immune microenvironment. Specifically, phytocannabinoids can shift macrophages away from the pro-inflammatory states that facilitate ectopic tissue growth (Lingegowda et al., 2024). Consequently, exogenous phytocannabinoids such as Δ9-tetrahydrocannabinol (THC) and cannabidiol (CBD) offer targeted, multi-pathway relief. CBD downregulates matrix metallopeptidase 9 and inducible nitric oxide synthase, exerting potent anti-fibrotic and anti-angiogenic effects that restrict the vascularisation required for lesion survival (Godoy et al., 2025). Translating these cellular mechanisms into clinical outcomes, evidence confirms that cannabis significantly alleviates gynaecologic symptoms, reducing pain in up to 95.5% of endometriosis patients (Liang, Gingher and Coleman, 2022). Crucially, longitudinal data from the UK Medical Cannabis Registry substantiates these findings locally, associating CBMP prescriptions with significant, sustained improvements in endometriosis-specific patient-reported outcome measures (Getter et al., 2025).

These benefits extend beyond nociception. Endometriosis is systemic, heavily comorbid with insomnia, anxiety, and gastrointestinal distress. Because the ECS regulates systemic homeostasis, medical cannabis provides multimodal therapeutic effects that comprehensively address these overlapping physiological burdens. When assessed via multicriteria decision analysis, quality-assured cannabis products, particularly 1:1 THC:CBD ratios, demonstrate significantly higher overall benefit-safety scores than standard pharmacotherapies, comprehensively improving quality of life without fatal overdose toxicity risk (Nutt et al., 2021). However, safely achieving these high benefit-safety outcomes requires the precise dosing and consistent cannabinoid ratios exclusive to pharmaceutical-grade CBMPs, a standard of care completely unattainable in the illicit market.

Economic impact

Endometriosis exacts a heavy financial burden, driven simultaneously by direct healthcare costs and a profound loss of income due to workplace absence (Armour et al., 2019; Nnoaham et al., 2011). Ultimately, this paradigm of chronic opioid reliance and repeated surgical failure places a massive, compounding economic burden on the healthcare system via increased hospital admissions, prolonged sickness absence, and

pharmacy fills (Yuspa, 2024). While NHS commissioners frequently cite the upfront costs of funding medical cannabis as a primary barrier to access (NHS England, 2019), this narrow economic lens ignores broader systemic savings. Real-world qualitative data demonstrates that medical cannabis facilitates significant medication sparing, allowing patients to drastically reduce their reliance on other prescribed drugs, directly reducing ongoing pharmaceutical costs to the NHS (Nutt et al., 2021; Beckett Wilson and Metcalf McGrath, 2023). Furthermore, by effectively managing chronic symptoms and mitigating the severe side effects of conventional medications, CBMPs enable patients to regain functional capacity, maintain employment, and actively return to the workforce (Beckett Wilson and Metcalf McGrath, 2023). When factoring in these downstream systemic savings in reduced emergency interventions, decreased polypharmacy, and restored economic productivity commissioning CBMPs emerges as a highly cost-effective strategy for managing a complex chronic disease (Nutt et al., 2021).

Rethinking Risk

Unlike single-molecule synthetic drugs, whole-flower cannabis contains hundreds of active compounds. While this complexity drives its synergistic relief, it creates challenges in standardising dosages and blinding trials, rendering the rigid double-blind RCT gold standard inherently flawed for evaluating psychoactive botanicals (Walker and Sofaer, 2003). Consequently, regulators cite a lack of high-quality RCTs to justify restricted access, ignoring the clinical efficacy-effectiveness gap that routinely excludes highly comorbid endometriosis patients from rigid trial designs (Reyes et al., 2025). This complex, multi-target pharmacology also results in a highly individualised, biphasic dose-response curve that produces frequent side effects, including dry mouth, fatigue, somnolence, increased appetite, and transient euphoria (Liang, Gingher and Coleman, 2022). However, critically evaluating these drawbacks requires contextualising them within the lived experience of endometriosis. Rigid clinical frameworks routinely misclassify therapeutic effects as adverse events (Sinclair et al., 2025) but for a patient suffering from severe pain-induced insomnia, gastrointestinal distress, and systemic fatigue, effects like somnolence and increased appetite are not adverse; they are profoundly therapeutic. This highlights a fundamental flaw in applying generic safety profiles to complex, systemic pain conditions.

Similarly, the psychiatric risks of cannabis, such as anxiety or paranoia, require careful scrutiny when applied to chronic pain cohorts. Despite exceptionally high baseline psychiatric comorbidity among women with pelvic pain, UK Medical Cannabis Registry data demonstrates a significant decrease in the prevalence and intensity of depressed mood and suicidal ideation among CBMP patients over 12 months, contradicting historical regulatory concerns of psychiatric exacerbation (Lynskey et al., 2024).

Ultimately, the pharmacological complexities of CBMPs necessitate careful, specialist-led titration, but they do not justify a systemic refusal to prescribe. Instead, these challenges underscore the critical need to move patients out of the illicit market into a

regulated framework, where pharmacological risks are actively mitigated through clinical oversight and pharmaceutical-grade, European Union Good Manufacturing Practice (EU-GMP) compliant medicines. This ensures reproducible terpene and cannabinoid profiles, satisfying rigorous pharmacy dispensing standards.

Epistemic Injustice

Beyond the physical iatrogenic harms of opioids and repeated surgical failures, standard care routinely inflicts profound psychological trauma through systemic misrecognition and epistemic injustice. The diagnostic journey for endometriosis is deeply fractured by an epistemology of ignorance (Hallström, 2024). Because the condition is heavily gendered and visually hidden, a patient's testimony regarding their own body is frequently subjected to credibility deficits by healthcare professionals. Communication is routinely characterised by the trivialisation and outright dismissal of severe symptoms (Brauer, de Cruppé and Geraedts, 2025), forcing patients into a pedagogy of pain (Hallström, 2024), where they must constantly validate their suffering to clinicians who view them with scepticism. This systemic failure poses a profound ethical failure that leaves over 80% of patients feeling fundamentally "belittled" and "broken" (Mosterd et al., 2026), causing widespread disengagement from traditional care (McGowan et al., 2007). Given these realities, it is ethically paradoxical that current regulatory frameworks restrict a biologically plausible botanical, leaving patients to default to a standard of care defined by invasive surgeries and high-risk opioids.

This clinical status quo is heavily reinforced by a systemic deficit in clinician confidence and education (Nutt et al., 2020). The endocannabinoid system remains largely absent from UK medical school curricula, leaving prescribers unequipped to evaluate CBMP efficacy, manage complex botanical titrations, or confidently navigate unlicensed prescribing frameworks (Case, 2020). Without comprehensive institutional training, well-meaning doctors understandably default to defensive medicine, adhering to familiar, albeit harmful, traditional pathways out of fear of professional scrutiny (Nutt et al., 2020; Case, 2020). This knowledge gap shifts the burden of proof entirely onto the patient, reinforcing the pedagogy of pain and severely stalling grassroots clinical advocacy.

The ongoing reliance on rigid evidence thresholds presents a significant barrier to NHS commissioning. This translates existing diagnostic inequalities into a profound socioeconomic divide (Schlag et al., 2020), inadvertently creating a two-tier healthcare system where access to legal symptom relief is contingent on financial privilege. While women with means can access private, quality-assured medicines, specialist oversight, and safe opioid tapering, socioeconomically disadvantaged patients remain restricted to standard NHS pathways that frequently fail to provide these comprehensive support structures. Pushed out of legal pathways, they are frequently forced into the unregulated illicit market to self-medicate. Here, they endure the psychological stress of criminalisation (Sinclair et al., 2023) alongside severe physiological risks, including heavy metal contamination and unsupervised opioid withdrawal due to disclosure stigma (Sinclair et al., 2023). Ultimately, this impossible regulatory threshold transforms

medical cannabis into a luxury good, actively compounding the systemic trauma endometriosis patients already endure.

To resolve the methodological impasse preventing NHS commissioning, regulators must adopt a pragmatic alternative to double-blind RCTs, such as integrating real-world evidence (RWE) into clinical evaluation frameworks. Observational and RWE has already played a crucial role in advancing cannabis science where traditional RCTs are structurally inadequate. Initiatives such as Project Twenty21, currently the largest observational medical cannabis study in the UK, are actively collecting comprehensive data to grow the national evidence base (Schlag et al., 2022). Similarly, large patient registries like the UK Medical Cannabis Registry have amassed extensive longitudinal information, capturing clinical outcomes and safety profiles for highly comorbid populations (Getter et al., 2025). These registries provide thousands of patient-years of valid, prospective data, facilitating research on varying doses and long-term treatment responses that rigid RCT criteria routinely exclude. Crucially, the resistance to RWE is increasingly misaligned with broader medical policy. Within the regulatory establishment itself, there is a growing consensus that RCTs are frequently placed on an undeserved pedestal. This wider methodological shift is now formally reflected in policy; in 2022, NICE updated its own evidence framework to officially endorse the use of RWE in evaluating complex medical interventions (National Institute for Health and Care Excellence, 2022). Applying this updated framework to CBMPs would satisfy rigorous safety requirements while bypassing the methodological barriers of botanical blinding. By transitioning to an RWE-based commissioning model, the NHS can bridge the efficacy-effectiveness gap, resolve the regulatory bottleneck, and address the profound inequalities of the current two-tier system, ensuring access is governed by clinical need rather than financial privilege.

Conclusion

The continued restriction of cannabis-based medicinal products within the NHS represents a profound disconnect between regulatory frameworks and clinical reality. As this evaluation demonstrates, the standard care pathway for endometriosis, characterised by invasive, recurrent surgeries and highly addictive opioid regimens, frequently inflicts significant iatrogenic harm while perpetuating an immense systemic economic burden. Conversely, CBMPs provide a biologically plausible, multimodal intervention that targets the dysregulated endocannabinoid system to safely alleviate both localised pathology and systemic comorbidities, facilitating medication sparing and restoring economic productivity.

While evaluating complex botanicals poses legitimate pharmacological and methodological challenges, weaponising the absence of double-blind RCTs to restrict access constitutes a systemic ethical failure. It compounds the epistemic injustice patients already endure, forcing a marginalised population into a dangerous, two-tier healthcare system governed by financial privilege rather than clinical need. By applying its own 2022 framework endorsing RWE, NICE can bypass the impracticalities of

botanical blinding and integrate the robust, longitudinal data already being captured by national registries. Transitioning to an RWE-based commissioning model is not merely a pragmatic regulatory solution; it is an urgent moral imperative to dismantle socioeconomic health inequalities and deliver comprehensive, safe, and equitable care for patients battling complex chronic diseases.

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