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A Society for Women’s Health Research working group reviews the latest research on endometriosis and identifies areas of need to improve diagnosis, treatment, and access to quality care.

Short Title
Assessing Research Gaps and Unmet Needs in Endometriosis
Abstract

Endometriosis, a systemic disease that is often painful and chronic, affects ~10% of reproductive-age women. The disease can negatively impact a patient’s physical and emotional well-being, quality of life, and productivity. Endometriosis also places significant economic and social burden on patients, their families, and society as a whole. Despite its high prevalence and cost, endometriosis remains underfunded and under-researched — greatly limiting our understanding of the disease and slowing much-needed innovation in diagnostic and treatment options. Due in part to the societal normalization of women’s pain and stigma around menstrual issues, there is also a lack of disease awareness among patients, health care providers, and the public. The Society for Women’s Health Research convened an interdisciplinary group of expert researchers, clinicians, and patients for a roundtable meeting to review the current state of the science on endometriosis and identify areas of need to improve a woman’s diagnosis, treatment, and access to quality care. Comprehensive and interdisciplinary approaches to disease management and increased education and disease awareness for patients, health care providers, and the public are needed to remove stigma, increase timely and accurate diagnosis and treatment, and allow for new advancements.

Key words
chronic pain, endometriosis, infertility, pelvic pain, stigma, women’s health
**Introduction**

Endometriosis is a painful, chronic, and inflammatory disease that is characterized by the growth of endometrial-like tissue outside of the uterus and affects approximately 10% of reproductive-age women, an estimated 200 million women and teens worldwide.\(^1\) Common symptoms of this systemic,\(^4\) debilitating disease include variable experience and severity of dysmenorrhea, dyspareunia, chronic pelvic pain, and infertility,\(^7\) as well as back pain, and bladder or bowel problems (e.g., painful urination or bowel movements).\(^7\) Other individuals are asymptomatic.\(^7\) Prevalence of endometriosis is highest in women with infertility or chronic pelvic pain, reaching 25-50% and 71–87%, respectively.\(^2\) Although data are limited, there is some evidence that approximately 40% of adult cases show spontaneous regression of disease in follow-up studies a few months after initial examination.\(^14\) However, longer-term follow-up studies in baboons, which have spontaneous endometriosis similar to humans, suggest endometriosis is a progressive disease, with periods of regression.\(^15\)

Although the cardinal symptoms of endometriosis are pelvic symptoms, comorbidities are very common in women with endometriosis. Nearly 95% of women with endometriosis reported at least one or more comorbid disorders, such as migraine, depression, anxiety, irritable bowel syndrome (IBS), interstitial cystitis/painful bladder syndrome, chronic fatigue syndrome, fibromyalgia, uterine fibroids, and ovarian cysts.\(^16\) Endometriosis is also associated with increased risk for several types of cancer (ovarian, breast, cutaneous melanoma), systemic lupus erythematosus, rheumatoid arthritis, and cardiovascular disease.\(^21\)

Endometriosis can negatively affect all aspects of a patient’s daily life, including sexual relations, appetite, exercise, sleep, emotional well-being, social activities, childcare, and work and household productivity.\(^25\) Total workplace productivity loss averages 6.3 hours per week, with the majority of that loss due to presenteeism, while total household productivity loss averages 4.9 hours per week.\(^29\)

Endometriosis is also costly, at an estimated $69.4 billion per year in excess health expenditures in the United States.\(^2\) Estimated direct costs in the U.S. are $12,118 per patient per year.\(^31\) Claims data show that average annual health care costs (medical and prescription) are more than three times higher for women with endometriosis compared to patients without endometriosis, even five years pre- and five years post-diagnosis.\(^2\) Annual health care costs for women with endometriosis treated in referral centers are similar to costs for other chronic diseases that receive more resources such as diabetes, Crohn’s disease, and rheumatoid arthritis.\(^30\)

Endometriosis-associated costs can be greater depending on the severity of disease, presence of pelvic pain, and presence of infertility.\(^30\)

Despite the prevalence of endometriosis and its significant burden on women, their families, society, and the health care system, the disease is underfunded and under-researched.\(^32\) As such,
scientific progress has been slow, and diagnostic and treatment options remain limited. Societal
factors such as clinical gender bias and inequities in the treatment of pain based on gender have
been well-documented and may contribute to the under-prioritization of endometriosis
research funding. Furthermore, endometriosis symptoms that are associated with menstruation,
fertility, and/or bowel issues are often met with societal stigma, and thus may further
complicate addressing this disease.

To this end, the Society for Women’s Health Research (SWHR), a nearly 30-year-old nonprofit
organization, convened an interdisciplinary expert group of researchers, clinicians, and patients
for a roundtable meeting to evaluate both diagnostics and treatment in endometriosis. The goals
of the meeting were to a) review current practice; b) reflect on the barriers affecting diagnosis
and treatment; and c) highlight research priorities for the future of endometriosis care. Below we
summarize discussions from the roundtable.

Methods
SWHR designed the roundtable to create an interactive dialogue between thought leaders in the
field, including researchers, clinicians, patients, and industry and government officials. SWHR
selected participants with diverse perspectives with regards to expertise, training, background,
gender, and geographic location. Discussions with meeting attendees prior to the roundtable
identified topics that experts considered top priorities to address in an interdisciplinary setting.
An SWHR facilitator moderated the roundtable, and patients gave personal testimonies, which
organically led to discussion among the group. A transcriptionist captured minutes from the
meeting, and these minutes were used to identify themes — including barriers to diagnosis and
treatment and priorities for the future — that informed the structure of this paper.

Diagnostics
Current Practice
Laparoscopic visualization with or without histologic confirmation is currently the only way to
definitively diagnose endometriosis and remains the gold standard for diagnosis in clinical
guidelines from many national and international professional societies, including the American
College of Obstetricians and Gynecologists (ACOG), the European Society of Human
Reproduction and Embryology (ESHRE), the World Endometriosis Society (WES), the National
Institute for Health and Care Excellence (NICE), the Society of Obstetricians and
Gynaecologists of Canada (SOGC), and the American Society for Reproductive Medicine
(ASRM). Most of these guidelines have not been updated within the past 5-10 years,
although guidelines from the aforementioned groups and many experts in the field state that
definitive diagnosis is not always required before initiating medical therapy. Like with most
surgeries, laparoscopy is invasive and comes with its own risks, plus economic and geographic
barriers may limit patients’ access.
Barriers to Diagnosis

Diagnostic delays remain a significant barrier to receiving timely and appropriate care for endometriosis. On average, women experience a delay of 7-12 years from the onset of pain symptoms to surgical diagnosis.\(^{28,48}\) The delay for patients seeking help due to pelvic pain is longer than the delay for those seeking help due to infertility.\(^{49,50}\) Delays in diagnosis can degrade the patient-provider relationship, cause physical and emotional damage, impair quality of life, and add to the significant personal and societal costs associated with the disease.\(^{28,51,52}\)

Societal barriers and the role of stigma

Stigma around menstrual issues and societal normalization of women’s pain play a pivotal role in diagnostic delay. One study found women wait on average 2.3 years from the onset of symptoms before seeking help.\(^ {48}\) Women may not recognize their pain as a treatable condition, especially if this pain began at menarche.\(^ {53}\) Societal normalization of women’s pain and the “taboo” around topics like menstruation or painful sex can prevent women from seeking care or discussing symptoms with and receiving support from friends, family, and health care providers (HCPs).\(^ {38}\)

Barriers related to understanding of the disease

The etiology of endometriosis is not fully understood. Retrograde menstruation, coelomic metaplasia, genetics, immune dysfunction, oxidative stress and inflammation, and stem cells are all thought to play a role in the pathogenesis of the disease.\(^ {6,54,55}\) Some experts argue endometriosis should be considered an amalgamation of disorders due to the diversity of symptoms and symptom severity, as well as differences in lesion types (e.g., superficial peritoneal endometriosis, deep infiltrating endometriosis, ovarian endometriomas, extra-pelvic endometriosis).\(^ {42,56}\) This lack of clear understanding about the disease’s etiology and the spectrum of symptoms, including gynecologic and non-gynecologic issues (described above), can also contribute to diagnostic delay.

For example, chronic pelvic pain, the most commonly reported symptom of endometriosis, is not specific to endometriosis. Other gynecologic diseases such as pelvic inflammatory disease, uterine fibroids, and adenomyosis, as well as non-gynecologic diseases including IBS, interstitial cystitis/painful bladder syndrome, and fibromyalgia, can have symptoms that overlap with those common in endometriosis.\(^ {44}\) The process of ruling out these other diseases can contribute to delays in diagnosis and treatment of endometriosis. Further, these conditions are highly comorbid with endometriosis, so delays can occur if HCPs do not recognize that endometriosis can co-exist with other pain conditions, particularly if symptoms persist.

Provider-related barriers

On average, women with endometriosis make seven visits to their primary HCP before being referred to specialists,\(^ {28}\) and nearly three-quarters of women experience a misdiagnosis.\(^ {48}\) In addition, the short time allotted for HCP visits may not allow for adequate evaluation.\(^ {57}\)
One survey of general HCPs found that half could not name three of the main symptoms of endometriosis. Additionally, nearly two-thirds did not feel comfortable in the diagnosis and follow-up of women presenting with endometriosis. This can have serious implications, as only 24% of surveyed practitioners made referrals without delay of additional examinations when endometriosis was suspected. Another survey of gynecologists found nearly 50% believed that earlier diagnosis of endometriosis cannot prevent the course of the disease since there is no effective treatment. This survey demonstrates that HCPs may not make a referral to a specialist even if endometriosis is suspected, despite the fact that evidence suggests diagnostic delays cause physical, emotional, and social harm for patients.

Stigma also plays a role in provider-related delayed diagnosis. HCPs may trivialize symptoms, be quick to dismiss symptoms as “normal,” or feel uncomfortable discussing symptoms with their patients, particularly younger women, who on average have a longer delay in diagnosis. There is currently no validated set of screening questions routinely used for HCPs to ask women about their menstrual pain, even though implementing this practice could facilitate earlier diagnosis of endometriosis and other causes of pelvic pain. Standardized screenings, such as those used to identify violence against women during a well-woman visit, could be used as a model in screening for endometriosis. Taken together, inadequate HCP training and societal normalization of menstrual pain create significant barriers for patients in need of referrals to specialists when endometriosis is suspected.

**Barriers with current diagnostic tools**

In addition to the lack of disease awareness and education, the absence of noninvasive or less invasive diagnostic tools (e.g., biomarkers, radiologic imaging) may contribute to diagnostic delay. One survey found that nearly two-thirds of gynecologists agreed there was a significant delay in diagnosing endometriosis, which they partly attributed to the absence of a valid noninvasive diagnostic test. This suggests that the invasiveness of laparoscopic surgery itself may be one reason HCPs delay diagnosis. Lack of access to a specialist with expertise in laparoscopic surgery for endometriosis and/or insurance coverage also remain critical barriers.

Young women in particular face extended delays from the time they first speak to their HCP about symptoms to receiving a diagnosis of endometriosis. One study found that women under the age of 19 waited on average 12 years. One possible explanation is that teens, parents, and primary care providers may be hesitant to see/refer to a gynecologist due to feeling uneasy about gynecologic pelvic exams in a non-sexually active young woman. Further, some HCPs and gynecologists are reluctant to recommend or perform an invasive diagnostic procedure, like a laparoscopy, in young girls.
The current gold-standard guidelines for diagnosing endometriosis only examine whether endometrial lesions are present. The most commonly used disease staging system is also based on the location and amount of lesions within the pelvic cavity. However, most evidence has demonstrated there is a marginal relationship among the number of lesions, the severity of disease, its symptoms, and overall impact on quality of life (except for a correlation between deep infiltrating endometriosis sites and some types of pelvic pain). For example, a woman with revised ASRM stage 4 endometriosis, which is considered “severe,” may experience fewer life-disrupting symptoms than a woman with stage 1 endometriosis, which is classified as “minimal,” suggesting that these adjectives should not be used interchangeably with the numeric stages of disease. Further, current diagnostic and disease staging guidelines provide little predictive value regarding outcomes (e.g., pain relief or fertility) or recurrence risk. This may be in part because the current approach does not take into account the inflammatory and systemic nature of the disease or the rare but burdensome presence of extra-pelvic endometriosis.

Requiring a laparoscopy in order to receive a definitive diagnosis can also greatly impede research if women’s participation in research requires a history of disease documented by surgery. This can create a selection bias in clinical research studies, particularly if comparisons are to women who underwent laparoscopies for other indications, for which there may be overlapping etiology. It also greatly precludes population-based studies, which in turn has limited our understanding of the disease and the patient populations it affects.

**Future of Endometriosis Diagnostics**

Due to the invasiveness and costliness of laparoscopy, noninvasive diagnostics for endometriosis in both clinical practice and research are greatly needed. Presently, there are some noninvasive and less invasive tools that may help identify certain types of endometrial lesions. For example, transvaginal ultrasounds or magnetic resonance imaging (MRI) can be used to diagnose ovarian endometriomas and deeply infiltrative endometriosis, such as lesions involving the bladder, rectovaginal septum, and sigmoid colon. Sensitivity and specificity rates for non-ovarian endometriosis using transvaginal ultrasound are 78-98% and 90-100%, respectively. However, transvaginal ultrasounds are not reliable diagnostic aids for superficial peritoneal disease, which is the most common type of endometriosis. Importantly, diagnostic accuracy is lower if imaging is not performed by individuals with appropriate training, which can limit its usefulness as many sonographers do not receive endometriosis-specific training. However, many studies have shown that competency greatly improves after brief training programs, suggesting a new avenue for increasing the number of experts available and thereby increasing women’s access to state-of-the-art imaging for endometriosis.

In addition, researchers are exploring the use of biomarkers for early diagnosis as a noninvasive approach, but more investment in this area is needed for it to be fruitful. Current blood-based biomarkers under investigation include regulators of gene expression (microRNAs).
inflammatory markers, tumor markers, growth factors, and hormonal markers, as well as endometrial and menstrual effluent biomarkers.\textsuperscript{74,75} However, none of these tests have been validated in large heterogeneous samples nor have they been proved to have adequate sensitivity and specificity to be used clinically outside a research setting. Testing of biomarkers on populations that reflect the diversity of those with the disease is needed.

Given the heterogeneity of endometriosis and multiple pathways that are involved in the etiology of the disease, there may not be one universal biomarker that can accurately diagnose all forms of the disease. A combination of multiple biomarkers may be necessary to diagnose the disease or define different subtypes of endometriosis, which would open up avenues for more personalized treatments. However, discerning this information will require large, diverse, and highly phenotyped patient populations, with detailed prospective data collection on severity and characteristics of pelvic symptoms (e.g., dysmenorrhea, non-menstrual pain, dyspareunia, infertility), associated comorbidities (e.g., other pain conditions, autoimmune disease), and location, appearance, and extent of lesions. Organizations such as the World Endometriosis Research Foundation (WERF) have already begun taking steps to achieve this. The WERF Endometriosis Phenome and Biobanking Harmonisation Project (EPHect) was established to standardize the reporting and pathological processing for endometriosis research and facilitate large-scale international collaborations in order to advance understanding of the disease.\textsuperscript{76-78}

Treatment

Current Practice

There is currently no cure for endometriosis. Since symptoms can appear as early as menarche, management of the disease may span decades, including the optimal years for trying to conceive. Current strategies to manage endometriosis include medical and surgical treatments, as well as complementary approaches designed with the primary goal of managing pain and associated symptoms and possibly restoring fertility.\textsuperscript{8,42}

Pain and infertility are two of the most common reasons women seek treatment for endometriosis, and the treatment approaches differ for each. Considerations for different treatment types with respect to age, disease severity, and desire to preserve fertility are reviewed elsewhere.\textsuperscript{8,9}

First-line medical therapies for endometriosis include non-steroidal anti-inflammatory drugs (NSAIDs), combined estrogen-progestin hormonal contraceptives (cyclic or preferably continuous), and progestins (oral, injectable, implants, intrauterine device). Most clinicians consider first-line medical therapies as those that are low-cost, well-tolerated, efficacious, and easily accessible.\textsuperscript{42} Second-line medical treatments have equal efficacy but are more costly and/or have side effects. These include gonadotrophin-releasing hormone agonists and...
antagonists (with or without add-back hormone replacement therapy) or danazol, an androgenic steroid.

Laparoscopy with excision or destruction of superficial lesions and excision of deep lesions can be a first-line or second-line surgical approach for treating pain. Guidelines recommend excision surgeries be performed by surgeons who specialize in this type of surgery. Surgeries that interrupt nerve pathways (e.g., presacral neurectomy) or hysterectomy (with or without oophorectomy) are third- or fourth-line approaches that are used after other treatment options have failed. However, even these procedures are not curative and pain can recur, often without evidence of recurrent endometriosis lesions.

Comorbidities are highly prevalent in women with endometriosis. Thus, multimodal approaches to the evaluation and treatment of chronic pain and associated symptoms, including non-pharmacologic therapies, are an important part of a comprehensive strategy for managing endometriosis. For example, physical therapists with specialty in treating pelvic floor dysfunction may be beneficial for women with associated myofascial pain. Further, two randomized controlled trials found acupuncture to provide some patients with relief from endometriosis-related pain. A randomized control trial examining the use of yoga found similar effects. Additionally, mental health professionals can play an important role in addressing issues such as depression and grieving that are associated with the disease, as well as provide cognitive behavioral therapy techniques such as coping and relaxation strategies.

**Barriers to Treatment**

*Limitations of current therapies*

Available medical therapies provide relief from endometriosis-related pain for many women, but not all. On average, 11-19% of women report no improvement in pain with medical therapy and 5-59% report some degree of persistent pain at the end of the study period. Discontinuation rates for medical treatments range from 5–16% due to significant side effects — such as bone loss, hot flashes, and weight gain — or limited efficacy, restricting their usefulness or longevity. Recurrent pain is common after treatment cessation, with 17-34% of women reporting recurrence of pain after stopping treatment.

Many medical therapies (e.g., combined hormonal contraceptives, progestins, and gonadotropin-releasing hormone agonists and antagonists) cannot be used when women are trying to get pregnant. This forces many women with endometriosis who wish to become pregnant to choose between minimizing debilitating pain with medication and timing their attempts to conceive while off of their medication.
After laparoscopy, disease recurrence rates range from 30-50%,\(^8\) with up to 55% of women undergoing an additional surgery within seven years.\(^8\) Approximately 20% of women may not show improvement after initial surgery.\(^8\)

Even hysterectomy is not a cure for all women with endometriosis. In women with endometriosis who underwent a hysterectomy where both ovaries were preserved, 7.3% underwent reoperation within two years due to recurrence of pelvic pain and 21.6% underwent reoperation within seven years.\(^8\) Reoperation rates for women who underwent hysterectomy and bilateral oophorectomy were 4% by year two and 8.3% by year seven post-hysterectomy. Further, reoperation rates can vary by age at hysterectomy. While bilateral oophorectomy was associated with a lower reoperation rate in women over 40 years old, the incidence of reoperation with bilateral oophorectomy (compared to ovarian preservation) was not lower in women ages 30-39. This suggests that many, but not all, women experience symptom relief following hysterectomy.

Furthermore, these reoperation rates only capture pain remediation failure among women who return to the same surgeon and undergo reoperation; data are lacking on those who have pain return but discontinue engagement with that HCP and for those who do return to that HCP but are treated without reoperation. Therefore, these pain recurrence rates are likely an underestimate. Incomplete excision of lesions, central sensitization, and under-recognized or under-treated comorbid conditions (e.g., pelvic floor myofascial pain, interstitial cystitis, or IBS) are likely some of the reasons why symptoms can recur following a hysterectomy, necessitating the need for additional surgery.\(^8\),\(^9\) In addition, undergoing a hysterectomy has its own health risks that extend beyond those related to reproductive health.\(^2\),\(^4\),\(^9\)-\(^1\)

Current medical and surgical options for endometriosis aim at suppressing or eliminating lesions in the pelvic cavity.\(^6\) However, the relationship between lesions and symptoms (e.g., pain and infertility) is not well established or understood.\(^6\) Pain can persist or recur after surgery and recurrent symptoms do not necessarily correlate with recurrent lesions. Further, while medical and surgical therapies can be effective in alleviating endometriosis-related pain and fertility issues, they are not always effective and also do not address all the symptoms associated with endometriosis, such as the fatigue, mood disorders, or pain outside of the pelvis.

**Barriers in accessing care**

In addition to the lengthy diagnostic delay discussed above, high costs, insurance issues, stigma, lack of HCP education, and access to specialists can all create barriers to receiving care.

In one survey of young women with chronic pelvic pain, they cited difficulty with insurance coverage, lack of HCP knowledge or training, and difficulty getting appointments with specialists as the main factors impeding their attempts to receive optimal care.\(^9\)
Some employers may not be knowledgeable about endometriosis and therefore quick to trivialize or assume women are making up or exaggerating the severity of their symptoms.\textsuperscript{95,96} Unsupportive work environments can make it difficult for women to use sick leave, receive an appropriate amount of sick leave, or take time off for HCP appointments.\textsuperscript{27,95,97} This can greatly affect productivity and overall quality of life at work.

\textit{Provider-related barriers}

As of 2017, there were 35,586 general obstetrician-gynecologists in the U.S.\textsuperscript{57} However, obstetrician-gynecologists are not evenly distributed geographically. Nearly 50\% of counties in the U.S., in predominantly rural areas, lack a single obstetrician-gynecologist.\textsuperscript{57} This leaves the approximately 10 million women who reside in these counties without ready access to an obstetrician-gynecologist. Of the general obstetrician-gynecologists, an even smaller percentage specialize in the treatment and management of endometriosis, which is imperative for proper care.

Further, the lack of education about endometriosis and chronic pelvic pain for HCPs may result in unnecessary and invasive procedures. A common misbelief is that a hysterectomy can “cure” endometriosis, which (as discussed in detail above) is not necessarily true. This can cause HCPs to suggest hysterectomy as a first- or second-line treatment option even though guidelines recommend hysterectomies be considered a last-line approach for only severe and refractory cases.

Endometriosis is the second leading indication for hysterectomy in the U.S. (the first is uterine fibroids and/or abnormal bleeding). Endometriosis accounts for 17.7\% of all hysterectomies and is the leading cause of hysterectomy among women 30-34 years old.\textsuperscript{98} Black women are disproportionately more likely than white women to undergo hysterectomy for benign gynecological conditions and are more likely to have complications from surgery.\textsuperscript{99}

\textbf{Future of Endometriosis Treatments}

Current medical and surgical treatment options focus on suppressing lesion proliferation in hopes of eliminating pain and/or infertility, even though the relationship between lesions and these symptoms is not well understood. Future treatments and care should shift toward a patient-centric, multidisciplinary approach that focuses on the patient as a whole, rather than one symptom at a time.

Centers of expertise — specialized programs that provide capability and resources related to a particular medical area — offer one type of patient-centric model for treating and managing endometriosis. Centers of expertise in endometriosis take an interdisciplinary approach to patient care with a team that includes experts in laparoscopy, medical management, pain education, physical therapy, and psychology.\textsuperscript{100} A recent prospective study from a center of expertise for chronic pelvic pain in Canada found that its interdisciplinary approaches were successful in
lessening pain, reducing emergency room and physician visits, decreasing the prevalence of comorbid conditions, and improving functional quality of life.\textsuperscript{100} The implementation of comprehensive treatment strategies — like those in centers of expertise — that address all the needs of the patient, including quality-of-life issues, is imperative.

In addition, current care for women with endometriosis is sometimes based on low-value care tests and procedures, meaning they have defined harm, uncertain benefits, or effectiveness that is no better than less expensive alternatives.\textsuperscript{101} Given the economic burden of endometriosis, moving toward care that is based on the best available data and funding studies that increase this knowledge base remains a priority.

More research is also needed to better understand the underlying biology of endometriosis and possible endometriosis subtypes, which could lead to new therapeutic avenues and more individualized treatment plans. Of particular interest are alternatives to hormonal therapy, for those patients who are intolerant to current hormonal regimens due to side effects as well as patients who are trying to conceive. Non-hormonal options, such as those modulating angiogenesis or neuroinflammation, are urgently needed.\textsuperscript{102} Moreover, future treatments should aim to address the issues most important to patients and future clinical trials should utilize patient-reported outcomes and include current first-line medications as a comparator when possible.\textsuperscript{101}

Increased funding is necessary to accomplish these goals. Despite the high prevalence and impact of endometriosis, the National Institutes of Health (NIH) funding for the disease in 2018 was $7 million, near the bottom of NIH’s 285 funded disease/research areas.\textsuperscript{32} Insufficient funding means fewer researchers have the opportunity to study endometriosis, further impeding the advancements that are needed in the field.

\textbf{Conclusion}

Endometriosis places a significant burden on teens and adult women, their families, and society as a whole, yet the stigma surrounding the disease and societal normalization of women’s pain continue to preclude fast and accurate diagnosis, effective treatment, and innovation in the field.

The gold standard diagnostic is invasive and costly, although research into noninvasive diagnostics is underway.\textsuperscript{47} Currently, medical and surgical therapies focus on treating lesions, but often do not address the negative impact endometriosis has on a woman’s quality of life. Comprehensive and interdisciplinary approaches that take patients’ holistic needs into account are needed, along with more research that can give insights into the underlying biology of the disease, enable new therapies, and create high-quality evidence to help improve care.
Evidence-based public health campaigns could also improve disease knowledge among patients, HCPs, and the public. Such campaigns, as well as more training for providers, could also address the stigma associated with endometriosis and improve social support for those experiencing the disease. The Society for Women’s Health Research is committed to improving education and awareness around endometriosis and other conditions that disproportionately, differently, or exclusively affect women in order to improve diagnosis, treatment, and access to quality care.

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