

Literature Review: Knowledge, Training Standards, and Curriculum Effectiveness in Menopause Care among Primary Care and Reproductive Health Clinicians

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Executive Summary

Background

Several professional societies, including The Menopause Society, The Endocrine Society and American College of Obstetrics and Gynecology (ACOG), have developed evidence-based clinical guidelines regarding the management of menopause. Findings from studies of women's experiences suggest that some primary care and reproductive health clinicians are not familiar with these guidelines or do not know how to tailor them to address individual women's symptoms and engage in shared decision-making with them. Policy recommendations from organizations such as the Menopause Society and the American College of Obstetrics and Gynecology (ACOG) emphasize the need for robust accreditation standards to ensure that clinicians are adequately trained to address menopause-related health concerns, but little is known about these standards and effective pedagogical strategies to achieve them.

Aims

The purpose of this literature review is to synthesize available evidence on three key aspects of menopause care within primary care and reproductive health specialties:

- Clinicians' knowledge of evidence-based treatment of health conditions associated with menopause,
- Training program accreditation standards for physicians (MDs and DOs), nurse practitioners (NPs) and physician assistants (PAs) who provide primary care or reproductive health services, and
- The effectiveness of curricula on menopause taught in medical and residency programs.

Data and Methods

This review focuses on studies conducted in the United States published from January 2010 onward to provide timely and relevant insights for academic audiences and policymakers. A search of the accreditation standards for primary care and reproductive health provider training programs (MD, DO, NP, PA) regarding curriculum about menopause was performed concurrently.

Results

There are significant gaps in clinicians' knowledge regarding menopause care. Findings from seven survey-based studies indicate that many primary care and reproductive health clinicians are often unfamiliar with evidence-based guidelines from authoritative bodies. These studies have found that many physicians, NPs, and PAs feel inadequately prepared to counsel patients on menopause-related concerns, which negatively impacts the quality of care and patient satisfaction. This lack of familiarity and confidence leads to underutilization of hormone therapy for vasomotor symptoms and insufficient attention to non-hormonal options for patients with contraindications to hormone therapy. Furthermore, clinicians frequently report limited confidence in managing conditions associated with menopause, such as osteoporosis, cardiovascular risks, and mood disorders.

At the same time, menopause education is inconsistently integrated into the training of physicians, NPs, and PAs. The American College of Graduate Medical Education's (ACGME) standards for didactic and clinical education for internal medicine residency programs do not address menopause management. Accreditation standards for family medicine and obstetrics-gynecology mandate

education about reproductive health, but no specific curriculum on menopause is required. Standards for NP and PA programs emphasize general women's health and aging, but, with the exception of women's health NPs, lack explicit requirements for curricula on menopause care. The absence of standardized requirements has led to variability in the quality and depth of menopause education. Few residency programs offer dedicated menopause curricula, and opportunities for hands-on training in menopause management are limited.

Findings from six studies suggest that focused education on menopause improves provider knowledge, confidence, and clinical skills. Evaluations of curriculum interventions show that dedicated training modules on menopause management can significantly enhance clinicians' ability to counsel patients, prescribe appropriate therapies for menopause symptoms, and address conditions associated with menopause. Clinicians in such programs report increased confidence in managing both hormonal and non-hormonal treatment options. However, retention of knowledge may depend on the length of time education is provided. One study found that gains in knowledge about management of menopause associated with a brief, one-time educational intervention were not sustained at three months. Another concluded that participating in a brief intervention was associated with greater use of decision-support tools and dissemination of patient education materials but not with changes in diagnoses or prescribing practices.

Discussion

The literature review found that primary care and reproductive health clinicians often lack familiarity with evidence-based guidelines for management of menopause, which negatively impacts patient care. Accreditation standards for training programs do not consistently mandate menopause education, leading to variability in clinicians' competency. Furthermore, while dedicated menopause curricula have been shown to improve provider knowledge and clinical skills, such programs are not widely implemented.

However, studies of clinicians' knowledge and confidence regarding menopause management and the effectiveness of educational interventions to improve knowledge have important limitations. Response rates for some surveys of clinicians' knowledge were quite low (less than 10 percent); respondents may not be representative of all primary care and reproductive health clinicians. Five of the six studies of educational interventions were pre-post studies without a comparison group, a research design that limits confidence that the findings were due to the intervention and not to other factors. Only one study of an educational intervention randomized clinicians to intervention and control groups. Four of the six studies of educational interventions did not assess whether gains in knowledge persisted after the intervention ended. Three of the studies of clinicians' knowledge and three of the studies of educational interventions were conducted at only one or two sites, which limits the generalizability of their findings.

Practice Recommendations

- 1) Provide all residents and students in primary care and reproductive health specialties with didactic and clinical education regarding menopause and conditions associated with menopause.
- 2) Establish faculty development programs on menopause care to enhance the expertise of faculty teaching in primary care and obstetrics/gynecology residency programs and NP and PA education programs.

- 3) Systematically implement evidence-based practice guideline recommendations to improve and standardize patient care.
- 4) Implement continuing education initiatives to ensure clinicians remain current with evolving guidelines for management of menopause.

Policy and Research Recommendations

Policy Recommendations

- 1) Require training programs for primary care and reproductive health physicians, NPs, and PAs to incorporate menopause education.
- 2) Fund grants to support the development of didactic and clinical curricula about menopause management.
- 3) Support menopause education learning collaboratives.

Research Recommendations

Fund multi-site, controlled studies to identify (a) best practices for educating clinicians about menopause during their training, and (b) best practices for providing clinicians with continuing education about advances in menopause management.

Introduction

Menopause is a universal experience of women that has implications for health, quality of life, and long-term risk of disease. Conditions associated with menopause can include vasomotor symptoms, sleep and mood changes, sexual and urogenital dysfunction, bone density loss, and cardiometabolic risks (Office of Women's Health, 2026). The number of women in the U.S.'s diverse population who are experiencing menopause and its sequelae is increasing as Millennials begin experiencing perimenopause and Baby Boomers reach the age at which effects of menopause on bone density and cardiometabolic health often become evident.

Despite the pervasiveness of menopause, studies of women experiencing menopause suggest that many feel unprepared for navigating it and that many are not receiving high-quality, evidence-based care. Some women do not seek treatment, many delay obtaining care, and often feel that their concerns are inadequately addressed by clinicians (DePree et al., 2022; Shepherd et al., 2024). The issue is so salient that Melinda French Gates committed a \$10 million grant through her organization, Pivotal, to The Menopause Society to fund menopause education and healthcare provider training. The funding aims to integrate menopause care into OB-GYN residencies, nursing programs, and primary care to combat "meno-deserts" across the U.S. (The Menopause Society, 2026).

These challenges stem in part from initial findings from the Women's Health Initiative (WHI), which indicated that use of menopause hormone therapy is associated with increased risk of breast cancer and cardiovascular disease (Rossouw et al., 2002). Subsequent age-stratified analyses of data from the WHI and other studies concluded that the benefits of hormone therapy outweigh the risk for women under age 60 years and within 10 years of menopause who do not have contraindications, such as a history of estrogen-sensitive breast cancer (Manson et al., 2014; Manson et al., 2024). Professional societies have updated their clinical guidelines to reflect these findings regarding HRT and evidence regarding non-hormonal pharmacotherapy treatments and non-pharmacological behavioral health interventions (Stuenkel et al., 2015; The Menopause Society, 2022; Shufelt et al., 2023; ACOG 2024).

Primary care and reproductive health settings, physicians (MDs, DOs), nurse practitioners (NPs), and physician assistants (PAs) in these specialties play a major role in assessment, counseling, and management of menopause symptoms because most persons experiencing menopause receive care from clinicians in these specialties. Their knowledge regarding menopause and skills in caring for women experiencing menopause are shaped by clinical guidelines and by how training programs and accreditation standards define core competencies and prioritize menopause within curricula.

A literature review was conducted to synthesize U.S.-based literature to answer three questions about primary care and reproductive health clinicians' preparation to provide high-quality, evidence-based care to women experiencing menopause.

Aims and Methods

Aims

Research Question 1: What do primary care and reproductive health clinicians know about evidence-based treatment of menopause-associated health conditions?

Research Question 2: What are the accreditation standards for training programs in menopause care?

Research Question 3: What is the effectiveness of menopause curriculum for preparing health professionals to care for women experiencing menopause?

The goal of this review is to inform educators, accreditors, health systems, and policymakers as they consider strategies to strengthen menopause education and practice.

Methods

A narrative literature review was conducted in December 2025 to examine the existing literature on menopause. The search was limited to articles published from 2010 to the present to increase applicability of findings to current practice. We searched the following databases of peer-reviewed literature:

- The Cochrane Library
- Cumulative Index of Nursing and Allied Health Literature (CINAHL)
- PubMed (Medline)
- Web of Science

We also searched websites maintained by the following organizations that issue guidelines regarding reproductive health topics.

- American Academy of Family Physicians
- American College of Obstetrician/Gynecologists
- American College of Physicians
- Endocrine Society
- Menopause Society
- United States Preventive Services Task Force

In addition, we retrieved accreditation standards for graduate medical education (i.e., residency) programs in family medicine, internal medicine, and obstetrics/gynecology) and for graduate programs that prepare physician assistants and adult-gerontology, family, and women's health nurse practitioners.

We screened the title and abstract of each citation retrieved from the literature search to identify articles potentially eligible for inclusion in the literature review and then retrieved the full text of potentially relevant articles to confirm whether they met the inclusion criteria. A total of 221 articles were identified. Following an abstract review, the list of articles was narrowed to 12 for inclusion in this report. Five articles were related to key question 1 and seven articles were related to key question 3. Lastly, we utilized Web of Science for its "Citation Network" feature, which provided valuable insights into the influence of the articles we selected and reviewed during our search. From this search, we identified 20 additional articles for review, narrowed down to one article after the abstract review. A detailed list of the specific keywords, MeSH terms, and search prompts employed in this narrative review can be found in Appendix 1. Because this search, review, and selection processes were limited by time and resource constraints, this report does not include or reference an exhaustive list of articles related to or about menopause care.

For each topic (knowledge, accreditation standards, curriculum), we created a template in Excel to extract consistent information from all documents included in the literature review, such as study population, research methods, and findings. We then assessed the strength of evidence presented in each article by reviewing the research design, the statistical and clinical significance of the findings, and generalizability to women in the United States.

Results

Findings: Research Question 1: What do primary care and reproductive health clinicians know about evidence-based treatment of menopause-associated health conditions?

The literature review identified seven studies that have evaluated primary care and reproductive health clinicians' knowledge of evidence-based treatment of menopause-associated health conditions. Three studies assessed medical residents' knowledge, two examined physicians who had completed their training, and one surveyed both trainees and clinicians (i.e., physicians, NPs, and PAs) who had completed their education. One study surveyed OB/GYN residency program directors regarding the availability of didactic and clinical education about menopause management. Table 1 summarizes the key characteristics of these studies. All studies analyzed data collected via surveys. Sample sizes ranged from 99 to 440, and response rates from 4.9 percent to 34.4 percent. Additional details about the studies are presented below the table and discussed in the order in which the studies were published. These studies reported that, across training levels, knowledge gaps, limited curricular exposure, and variable practice patterns in menopause management are prevalent.

Table 1. Key Characteristics of studies of clinicians' knowledge about menopause

Citation	Method	Population Studied	Sample Size	Response Rate
Constantine, et al. 2014	National survey	General practitioners, OB/GYNs, wellness physicians	440	4.9%
Kling et al., 2019	Survey of residents in 20 programs	Residents in family medicine, internal medicine, and OB/GYN	183	26%
Vesco et al., 2019	Survey of large Pacific Northwest Health System	Primary care physicians and OBGYNs	360	33%
Shrivastava et al. 2021	Survey of a single large academic community hospital-based internal medicine residency program	First and second year residents in internal medicine	38	63%

Allen et al, 2023	National survey	OB/GYN Residency Program Directors	99	34.4%
Hubka et al., 2025	National survey	Family physicians, internists, OB/GYNs, NPs and PAs providing primary care or women's health services, including trainees	349	7.9%
Jeevananthan et al., 2025	Survey of physicians at two academic health centers	Family physicians, internists, OB/GYNs, endocrinologists	201	18%

Detailed Findings

A national survey conducted from May to July 2014 (Constantine et al., 2016) examined menopausal hormone therapy prescribing patterns among U.S. physicians. The authors assessed the extent to which physicians' rationale for prescribing hormone therapy aligned with evidence. They also compared prescribing of FDA-approved products to compounded hormone therapy (CHT) products, which lack the efficacy and safety data available for FDA-approved products. Of 9,001 invited physicians, 893 responded (10 percent), and 440 met study eligibility criteria (prescribing HT to at least six female patients per month) and completed the survey (171 general practitioners (GPs), defined as family practice/internal medicine, 170 obstetrician/gynecologists (OB/GYNs), and 84 wellness physicians (WPs)). Overall, physicians reported prescribing hormone therapy to approximately 15 to 30% of their female patients, with WPs the most likely to prescribe (30%) and GPs least likely (15%). Across specialties, evidence-based indications for prescribing hormone therapy included relief of menopausal symptoms (29% to 43% of the time), treatment of vulvovaginal atrophy or dyspareunia (14% to 19% of the time), and vaginal or sexual health (14% to 15% of the time). WPs more frequently cited non-evidence-based reasons such as cardiovascular benefits (8%) and overall wellness or "feeling better" (20%) as reasons to prescribe hormonal therapy, compared with GPs (3 % and 10%, respectively) and OB/GYNs (2 % and 8%, respectively). The prescribing of compounded products differed by hormone and specialty with WPs reported to be prescribing more compounded estrogen and progesterone than other specialties. OB/GYNs were least likely to view compounded hormonal therapy as safer or more effective than FDA-approved hormonal therapy. WPs relied on laboratory testing more often, reporting blood tests in 61 percent of patients and saliva testing in 25 percent of patients, despite the lack of scientific evidence demonstrating a relationship between hormone levels in blood or saliva and menopausal symptoms.

A survey of 183 residents (703 surveys sent; 26.0% response rate) across 20 U.S. residency programs in multiple specialties, including family medicine, internal medicine, and OB/GYN, reported that 20.3% had received no lectures about menopause (Kling et al., 2019). Only 6.8% felt adequately prepared to care for patients experiencing menopause symptoms. When presented with clinical

scenarios, 34.4% would not offer hormone therapy to a severely symptomatic, newly menopausal woman (without contraindications for hormone therapy), with no significant difference by specialties despite current evidence supporting and recommending hormone therapy for this population. Additionally, 38.7% reported that they would only prescribe hormone therapy until the natural age of menopause, typically around 50 years old, in a woman with premature menopause (age 39) and over half (59.9%) of residents did not recommend appropriate and adequate hormone therapy for a prematurely menopausal woman at least until the natural age of menopause, and some even recommended against it. This is an important finding because The Menopause Society and the ACOG guidelines both recommend hormone therapy (HT) for women with premature menopause until the average age of natural menopause, unless contraindications exist because hormone therapy in this population is not only safe but also important for preventing the risks associated with premature estrogen deficiency.

Vesco et al., 2019 conducted a survey of 360 primary care physicians and OB/GYNs practicing ambulatory medicine in the Kaiser Permanente Northwest medical system to examine clinicians' knowledge and confidence in managing vulvovaginal atrophy in women. Responses were obtained from 90 primary care physicians and 29 OB/GYNs. This three-part survey contained eight multiple-choice knowledge questions; three Likert-scale questions regarding clinicians' likelihood of assessing vulvovaginal atrophy symptoms at a routine (well) visit, confidence in advising patients about symptoms and counseling about therapy; and a 12-item check list of potential barriers to diagnosis and treatment. Overall, clinicians answered 66% of knowledge items correctly. The lowest correct response rates concerned the prevalence of vulvovaginal atrophy and its treatment in women with a history of breast cancer (OB/GYN 35% vs primary care 18%). Overall, OB/GYNs outperformed primary care clinicians (77% correct vs 63% correct; adjusted mean difference 16, 95% CI 10 to 22). A greater proportion of OB/GYN clinicians correctly answered questions about vulvovaginal atrophy treatment,¹ estrogen therapy,² and use of vaginal estrogen therapy for urinary symptoms.³

Shrivastava et al. (2021) conducted a descriptive, single-center study to assess knowledge, clinical exposure, and comfort regarding women's health topics among internal medicine residents at a large academic community-based residency program. Using an anonymous survey, researchers identified gaps in knowledge, clinical exposure, and comfort across 34 women's health topics, including

¹ For treatment of vulvovaginal atrophy which of the following statements is false? a. Systemic estrogen therapy generally improves urinary incontinence (false) b. Some women on lower-dose systemic hormone therapy regimens continue to have vaginal atrophy symptoms c. Over-the-counter lubricants and low dose vaginal estrogen are appropriate as first line treatment for mild to moderate vulvovaginal atrophy d. Systemic estrogen therapy and low-dose local estrogen therapy may be prescribed together.

² When treating women for vulvovaginal atrophy which of the following statements is false? a. Vaginal estrogen creams, local-estrogen ring, and tablets are equally effective at doses recommended in labeling. b. Local estrogen therapy should only be used short-term (false) c. It may take up to 6 weeks to see improvement with vaginal estrogen. d. Up to 90% of women treated with vaginal estrogen report subjective improvement of symptoms.

³ Local estrogen therapy is an effective treatment for all urinary issues below except: a. Urinary frequency, urgency and urge incontinence b. Urethral caruncle c. Prevention of recurrent urinary tract infections d. Lichen sclerosis (false)

menopause. Osteoporosis was most frequently rated as the most important learning need, with residents reporting low levels of knowledge (2.17 mean), comfort (2.22 mean), and clinical exposure (2.39 mean) on a Likert scale of 1- very, 2-somewhat, and 3- little/none. Menopause management was rated as a less important learning need, but residents reported low levels of knowledge (1.79 mean), comfort (1.86 mean), and clinical exposure (1.71 mean).

A national survey of program directors assessed the availability of structured curricula regarding menopause in OB/GYN residency programs. The authors surveyed 145 program directors on the CREOG e-mail Listserv (the only active listserv for OB/GYN program directors) and received 99 responses (68% response rate). The respondents constituted 34.4% of the population of OB/GYN residency program directors. Of those OB/GYN residency program directors who responded, 31.3% reported having a menopause curriculum, and 29.3% reported having dedicated trainee time in a menopause clinic. When it existed, curricula most often included lectures (96.8%), assigned readings (77.4%), and dedicated or high-volume clinics (74.2%). Eighty-three directors (83.8%) agreed or strongly agreed that their program needs more menopause educational resources, and 92 directors (92.9%) stated that they would utilize standardized training materials in a menopause curriculum. Directors rated mean satisfaction with current menopause training at 3.75 on a scale of 1 to 10 (with 10 indicating most satisfied [SD, 2.5]) and mean effectiveness in preparing trainees to manage menopause beyond residency at 3.83 on a scale of 1 to 10 (SD, 2.2). (Allen et al., 2023).

A multimodal national needs assessment evaluated knowledge, attitudes, beliefs, and practices related to evidence-based management of menopause-associated vasomotor symptoms among primary care and OB/GYN physicians (Hubka et al., 2025). The authors obtained expert input and conducted a literature review, 31 clinician interviews, a web-based survey, focus groups, and case studies.⁴ The survey was completed by 349 of 4,377 invited clinicians (7.9%) from 45 states, including 133 OB/GYNs, 82 family physicians, 79 internists, 9 women's health NPs and PAs, and 46 primary care NPs and PAs. The study population encompassed trainees and clinicians who had completed their training. Respondents had a mean of 19.6 years in practice. Knowledge deficits were pronounced, particularly among trainees, with 75% of OB/GYN residents reported to have limited understanding of menopausal details, including vasomotor symptoms. Across screening and diagnostic competencies, clinicians reported statistically significant gaps between current and desired abilities ($p < 0.02$) and all treatment-related competencies ($p < 0.001$). Responses to questions about knowledge of menopause revealed uncertainty and varied practice patterns. Only 57.3% of respondents proactively asked patients questions about vasomotor symptoms, 22.9% used checklists, and 19.7% waited for patients to initiate. Cultural competence was limited, with low current ability to identify ethnic/cultural/social factors associated with menopause symptoms and severity, but a desire to know more.

Another study of practicing physicians found that prescribing and monitoring patterns for menopause varied across specialties (Jeevananthan et al., 2025). An anonymous pilot survey (January–February

⁴ The literature search did not identify any studies that published findings from the interviews, focus groups, or case studies.

2024) completed by 201 licensed clinicians who had graduated from residency/fellowship programs at two academic medical centers assessed how primary care (family medicine and internal medicine), OB/GYN, and endocrinology clinicians approach menopause care, what they perceive as barriers, and what they need to improve practice. Many clinicians, particularly outside OB/GYN and earlier in their careers, reported limited confidence, variable screening practices, and inconsistencies in the provision of menopause care. The authors found clear differences by specialty in self-rated confidence and understanding. OB/GYNs were more likely than primary care physicians and endocrinologists to report that they were extremely confident in their ability to prescribe and counsel patients about hormone therapy and had excellent understanding of the risk/benefits and routes/formulations of hormone therapy. Routine menopausal symptom screening was inconsistent overall: 57% screened always or often (OB/GYN 86%, primary care 53%, endocrinology 29), while 43% screened sometimes or never. Views on appropriate hormone therapy use also differed by specialty and were not always consistent with evidence-based guidelines which recommend hormone therapy for symptomatic natural menopause in women <60 years or within 10 years of menopause without excess cardiovascular/breast cancer risk. OB/GYNs were most likely to consider hormone therapy “always appropriate” or “appropriate if any distressing symptoms,” consistent with evidence-based guidelines, whereas 36% of primary care physicians favored treating “only if symptoms are severe and interfere with quality of life.” For primary ovarian insufficiency, “always appropriate” hormone therapy was endorsed by endocrinologists (86%) and OB/GYNs (82%), but only 45% of primary care physicians, indicating a gap relative to guideline-based practice, as hormone therapy is considered the standard, first-line treatment and is appropriate for nearly all patients with this condition.

Summary of Findings

Findings from these surveys suggest that there are consistent deficits in knowledge, screening, and guideline-concordant management of menopause, underscoring the need for standardized, evidence-based menopause training and decision-support to improve quality and access to care.

- Training gaps span the pipeline: many residents receive no menopause lectures, and few feel prepared to care for patients experiencing menopause. Program directors report limited menopause curricula, low satisfaction with current training, and strong interest in standardized materials.
- Knowledge and confidence are uneven: overall knowledge scores are modest, with OB/GYNs outperforming primary care physicians. Clinicians inconsistently screen for vasomotor symptoms, show variable confidence in hormone and nonhormone therapy, and frequently refer patients to clinicians in other specialties.
- Care is variable and not always evidence-based: some clinicians rely on unsupported testing and non-evidence-based reasons for prescribing (e.g., cardiovascular benefits, “feeling better”); Others under-treat early menopause despite recommendations to provide hormone therapy until the average age of natural menopause or do not offer hormone therapy to severely symptomatic newly menopausal patients without contraindications.

Findings: Research Question 2: Accreditation Standards for Training Programs in Menopause Care

The deficits in clinician knowledge, screening, and guideline-concordant management of menopause identified in the literature prompt questions regarding what clinicians are required to learn about menopause during their training. To explore this, we reviewed accreditation standards, which outline the competencies clinicians must master and specify the topics that must be addressed in both didactic and clinical curricula. Assessing these standards offers a way to determine whether current training requirements align with and support evidence-based menopause care.

We found that accreditation standards for training programs for physicians, PAs, and NPs do not contain formal, standardized requirements for training regarding menopause. Instead, menopause-related topics are integrated into broader standards for instruction in women's health, chronic disease management, and preventive care. This lack of dedicated focus on menopause may contribute to gaps in clinician knowledge and preparedness to deliver evidence-based, guideline-concordant care to patients experiencing menopause.

Physicians (Doctor of Medicine and Doctor of Osteopathic Medicine)

The Accreditation Council for Graduate Medical Education (ACGME) establishes professional education standards for medical residency programs and monitors compliance with them. Specialty-specific committees develop standards for each accredited specialty and subspecialty. Accreditation standards for residency programs in obstetrics/gynecology and family medicine require didactic and clinical training in women's health but do not require training about menopause specifically. Standards for internal medicine do not specifically address reproductive health, although menopause and other reproductive health topics could be addressed as part of ambulatory continuity clinics.

Table 2: Education Standards for Medical Residency Programs

Domain	Family Medicine	Internal Medicine	Obstetrics & Gynecology
Clinical experience (scope)	Inpatient adults/pediatrics; outpatient across all ages; women's health; pediatrics; geriatrics; behavioral health; emergency medicine; community medicine; care across settings.	Inpatient medicine; critical care (medical and cardiac ICUs); ambulatory continuity clinic; emergency medicine; subspecialty medicine; geriatrics.	Obstetrics and Gynecology
Accreditation standards for women's health	Instruction in obstetrics and gynecology that includes prenatal, intrapartum, and postpartum care, performance of a minimum of 40 deliveries with at least 10 as primary operator, contraception counseling, family planning, and procedures such as Pap smears and biopsies.	None	Low and high-risk obstetrics, benign gynecology, gynecologic oncology, reproductive endocrinology and infertility, and female pelvic medicine and reconstructive surgery, preventive and primary care for women, family planning (including contraception and abortion), minimally invasive and open procedures, and obstetric and gynecologic ultrasound
Accreditation standards for didactic or clinical education about menopause.	None	None	None

Source: Accreditation Council for Graduate Medical Education, 2025a, 2025b, 2025c.

Physician Assistant

Physician assistant (PA) education programs are accredited by the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA). The accreditation standards call for PA programs to deliver a competency-based curriculum that integrates biomedical and clinical sciences with evidence-based instruction and supervised clinical practice experiences across core disciplines, including obstetrics and gynecology. Graduates are prepared to diagnose, manage, and counsel patients at all life stages across diverse clinical settings (Accreditation Review Commission on Education for the Physician Assistant [ARC-PA], 2025).

While menopause-specific education is not outlined as a standalone ARC-PA requirement, it may be integrated through didactic and clinical training in women's health, endocrinology, and clinical medicine to ensure graduates can diagnose, manage, and counsel patients experiencing menopause and related health concerns. Didactic curricula may, but is not required, to explicitly address the physiology and diagnosis of peri- and post menopause, hormonal changes associated with

menopause, management of vasomotor and genitourinary symptoms, prevention of osteoporosis and cardiovascular disease, and use of hormone replacement therapy and nonhormonal options, coupled with counseling and culturally competent care. (ARC-PA, 2025).

Nurse Practitioner

Women's Health Nurse Practitioner (WHNP), Family Nurse Practitioner (FNP), and Adult-Gerontology Primary Care Nurse Practitioner (AGPCNP) programs are accredited by the Commission on Collegiate Nursing Education (CCNE) or the Accreditation Commission for Education in Nursing (ACEN). This national programmatic accreditation verifies that the university meets rigorous standards for faculty, curriculum, and clinical hours. The American Association of Colleges of Nursing (AACN) establishes the AACN Essentials which set forth curriculum standards and expected competencies for nursing education at baccalaureate, master's, and doctoral levels. The National Organization of Nurse Practitioner Faculties (NONPF) provides the standard foundational expectations for educational programs in all NP specialties. Programs in all three specialties focus on the same NONPF Core Competencies but differentiate in their clinical focus.

Nationally recognized NP education standards include advanced-level nursing competencies; NP core role competencies; NP population focused competencies; and Advanced Practice Registered Nurse (APRN) graduate core courses in advanced health assessment, advanced physiology/pathophysiology, and advanced pharmacology (National Task Force on Nurse Practitioner Education, 2022). Separate or standalone menopause care courses are not required by CCNE, ACEN, or NONPF. Menopause care is instead integrated into women's and reproductive health content, regarding advanced pathophysiology, physiology, and pharmacology, chronic disease management, and behavioral health, with attention to hormonal transitions, diagnosis and symptom management, hormone replacement therapy and nonhormonal options, and prevention of osteoporosis and cardiovascular disease; clinical practicums reinforce assessment, counseling, and management of menopause in primary care settings (CCNE, 2024; ACEN, 2023; NONPF, 2022; Nursing License Map, 2025).

Adult-Gerontology Primary Care Nurse Practitioner programs combine core advanced practice coursework with specialized preparation in adult and geriatric care, chronic disease management, palliative and end-of-life care, prevention in older adults, and transitional care (Henson et al., 2023; Nursing License Map, 2025).

There is no specific menopause-focused training within required AG-PCNP curricula; however, the population-focused emphasis encompasses conditions and preventive strategies relevant to post-menopausal health—such as osteoporosis and cardiovascular risk—and robust medication management and health promotion for older adults, indirectly supporting competent care for patients experiencing menopause and its long-term sequelae.

Family Nurse Practitioner programs include advanced health assessment, pathophysiology, and pharmacology; evidence-based practice; population health; leadership and policy; and specialty coursework in family-centered primary care across the lifespan. The standards do not specifically require training about management of menopause, although it could be integrated into curricula on primary care across the lifespan. (NYU Rory Meyers College of Nursing, 2026; Nursing License Map, 2025; Peacock et al., 2022)).

Women's Health Nurse Practitioner programs prepare advanced practice nurses at the master's or doctoral level to provide primary care for women from puberty through the adult lifespan, with a focus on common and complex gynecologic, sexual, reproductive, menopause-transition, and post-menopause healthcare; uncomplicated and high-risk antepartum and postpartum care; and sexual and reproductive healthcare for men. Courses include advanced health assessment, pathophysiology, and pharmacology, coupled with population-specific content in reproductive health, obstetrics, gynecology, chronic disease management, mental health, and population health (University of South Alabama, 2026; Nursing License Map, 2025).

Table 3. Education Standards for NP Programs

	Family Nurse Practitioner	Adult-Gerontology Nurse Practitioner	Women's Health Nurse Practitioner
Patient Population	Lifespan (Infants to Geriatrics)	Adults to Geriatrics only	Puberty through Geriatrics
Specialized courses aligned with the NONPF Competencies	Specialized courses: family practice across the lifespan; evidence-based practice, population health, leadership, and healthcare policy; training in primary care settings, chronic disease management, preventive care, and health promotion.	Specialized courses: Adult and Geriatric Care, Chronic Disease Management, Palliative and End-of-Life Care, Health Promotion and Disease Prevention in Older Adults, Transitional Care and Care Coordination.	Specialty courses include reproductive health, obstetric care, gynecological care, chronic disease management, mental health in women, and population health/health promotion.
Specialized Clinical Courses that include menopause training	None	None	Specific menopause-transition requirements: Women's Gynecologic, Sexual, Reproductive, Menopause-Transition, and Post-Menopause Healthcare Competencies

Source: National Association of Nurse Practitioners in Women's Health (NPWH) and NONPF, 2022

Findings: Research Question 3: What are the Effects of Menopause Curriculum on Health Professionals Preparation to Care for Women Experiencing Menopause?

To bridge gaps in physicians' knowledge and confidence when managing menopause-related conditions, innovative curricula and educational interventions have been developed to improve knowledge, comfort, and preparedness among trainees. Six recent studies evaluating the effectiveness of menopause curricula in health professions education and implications for future training programs were identified. Two studies assessed educational interventions for practicing physicians and four examined interventions for medical residents in family medicine, internal medicine, and/or OB/GYN. Only one study evaluated an educational intervention provided to NPs or PAs, in addition to physicians. Key characteristics of these studies are presented in Table 4. Additional details about the studies are presented below the table.

Table 4. Key Characteristics of studies of effectiveness of menopause curriculum in health professions education

Citation	Research Design	Intervention	Population Studied	Sample Size	Response Rate
Studies of Continuing Education for Practicing Clinicians					
Vesco et al, 2021	Cluster-randomized trial	In-person or online educational training intervention to improve GSM care	Physicians and advanced practice clinicians (i.e., NPs, PAs) practicing at primary care (16) and gynecology clinics (6)	386 (190 at intervention clinics, 205 at control clinics)	57.4% at the intervention clinics
Kalluru et al. 2025	Single-arm, quasi-experimental, semi-qualitative mixed methods pre and postintervention study	Online intervention targeting racial and ethnic disparities in menopause care	OB/GYN residents, fellows, and attending physicians	25	Not reported
Studies of Menopause Curriculum in Resident Education					
Jiang et al 2012	Pre-post	Menopause clinic rotation	First- and second-year OB/GYN, internal medicine, and family medicine residents	38	51.4%

Christianson et al 2016	Pre-post	Menopause didactic curriculum	First- and second-year OB/GYN residents	34	80.1%
Shinnick et al. 2020	Prospective randomized crossover study	Didactic curriculum on women's health topics using self-administered learning modules	First- and second-year OB/GYN and family medicine residents	33	73.3%
Vesco et al, 2024	Pre-post	Menopause didactic curriculum	OB/GYN, internal medicine, and family medicine residents	115	58%

Effectiveness of Menopause Curriculum in Health Professions Education Continuing Education for Practicing Clinicians

Vesco et al. (2021) implemented a cluster-randomized intervention to improve GSM care across 16 primary care (PC) and 6 gynecology clinics within Kaiser Permanente Northwest. This study involved 386 physicians, NPs, and PAs who completed over 14,000 well-woman visits. Among the 190 clinicians in the intervention clinics who performed well visits, 109 (57.4%) completed either in-person or online education, which included clinician education sessions, and access to EHR-based tools aimed to facilitate accurate diagnostic coding and prescribing (SmartSet, SmartRx) along with relevant patient information (SmartText). At one year follow up, the intervention did not lead to more diagnoses or prescription therapy for postmenopausal genitourinary symptoms. The study reported no significant difference in GSM diagnoses or prescriptions between the intervention and control groups overall but clinicians in gynecology clinics that received the intervention demonstrated higher vulvovaginal diagnosis rates than those who practiced in gynecology clinics in the control group (odds ratio, 1.63; 95% confidence interval, 1.15–2.31). Clinicians in the intervention clinics were significantly more likely to use decision support tools than those in control clinics⁵ and to distribute patient information. Increased use of EHR tools and patient education materials highlighted systemic challenges in primary care settings and the importance of targeted training.

Kalluru et al. (2025) piloted the Achieving Menopausal Health Equity Network (AMEN), an online intervention targeting racial and ethnic disparities in menopause care. The asynchronous intervention

⁵ SmartSet (22.2% vs 1.5%; odds ratio, 18.8; 95% confidence interval, 5.5–63.8) and SmartText (38.0% vs 24.4%; odds ratio, 1.91; 95% confidence interval, 1.10–3.34)

consists of four modules delivered through narrated didactic videos and interactive tools: (1) social determinants of health, (2) pathophysiology of menopause, (3) menopause-related disparities, and (4) relevant, interactive case studies in a “choose your own adventure” format. A 10-item knowledge assessment was administered before and after the course and a course evaluation survey was administered after the course. Twenty-five OB/GYN clinicians completed the intervention, including the pretest and posttest assessments. Pretest and posttest scores revealed significant knowledge improvement (7.1/10 vs. 8.1/10, $P = 0.0021$). Participant feedback emphasized the modules’ clarity, relevance, and practical application.

Effectiveness of Menopause Curriculum in Resident Education

Jiang et al. (2012) examined the impact of a menopause clinic on resident physicians’ knowledge and preparedness to manage menopause-related conditions. This single-center study involved 73 OB/GYN, internal medicine, and family medicine residents who completed a weekly rotation in a menopause clinic between 2004 and 2007. The research team administered pretest and posttest examinations that developed by a practitioner certified by The North American Menopause Society and reviewed by other practitioners with expertise in menopause and consisted of questions about menopause and general questions about women’s health that are pertinent to management of menopause. The study revealed significant knowledge gains, with menopause-specific scores increasing by 14% and total scores by 13% ($P < 0.0001$ for both). There was no correlation between the change in scores and the number of clinic sessions attended, the residents’ specialties (OB/GYN vs non-OB/GYN), or the level of training (postgraduate year 1 or 2). Residents reported enhanced confidence in clinical care for postmenopausal women, emphasizing the importance of focused clinical exposure paired with didactic instruction.

Christianson et al., 2016 reported on the effects of a 2-year menopause medicine curriculum (July 2011–June 2013) at a single academic hospital-based OB/GYN residency program on changes in knowledge and self-assessed competency. Thirty-four of 36 residents participated annually (9 post graduate year 1, 9 post graduate year 2, 8 post graduate year 3, 8 post graduate year 4; two chief residents helped teach and were excluded from testing). The curriculum comprised seven 60-minute lectures and two 2-hour small-group labs with case presentations across core topics (menopause physiology, hormone therapy, breast health, bone health, cardiovascular disease, autoimmune disease). Pretest surveys regarding knowledge and comfort with topics addressed by the curriculum were completed by 91.0% of residents and posttest surveys were completed by 76.5%. Posttests were completed 2 days to 4 weeks after each lecture. Knowledge improved significantly across all topics, with mean test scores increasing from 57.3% pretest to 78.7% posttest ($p < 0.05$). Knowledge gains were similar for junior (post graduate year 1–2, +23.1 percentage points) and senior (PGY3–4, +21.1 percentage points) residents (no significant difference). At baseline, 10%–23% of residents felt very or competently knowledgeable in the core menopause topics of menopause physiology (17%), hormone therapy (23%), nonhormone therapy (10%), and bone health (10%). After the 2-year curriculum 84%–85% of residents felt very or competently knowledgeable about the core menopause topics of menopause physiology (85%), hormone therapy (85%), nonhormone therapy (84%), and bone health (85%). Comfort in caring for menopause patients shifted from the majority reporting “barely comfortable” (75.8%) or “not at all comfortable” (8.4%) to the majority reporting “comfortable/very comfortable” (85.7%). Residents rated the curriculum highly, with 95.2% deeming it “extremely useful.”

Shinnick et al. (2020) investigated menopause knowledge retention among OB/GYN and family medicine residents through a randomized crossover study. Forty-five residents completed a series of self-administered modules (Power point slides) on menopause basics, hormone therapy, and GSM. Residents were randomly assigned to three different presentation styles (typical presentation, pictures and narration, and interactive). Immediate posttest results showed significant knowledge gains ($P < 0.05$), but scores returned to baseline within three months, except for sustained improvement in hormone therapy knowledge ($P = 0.047$). While comfort in managing menopause persisted, the study suggests that longitudinal reinforcement may support durable knowledge retention.

Vesco et al. (2024) examined the effectiveness of a multispecialty menopause curriculum using a flipped classroom model. This study included 127 OB/GYN, internal medicine, and family medicine residents across six residency programs from 2019 to 2020. Content of the study curriculum was informed by evidence-based clinical practice guidelines developed by the Endocrine Society, The North American Menopause Society, the American College of Obstetrics and Gynecology, and the US Preventive Services Task Force. Residents completed six podcast episodes followed by a case-based classroom learning session. The research team assessed knowledge about menopause management and self-reported preparedness to care for women experiencing menopause. Knowledge scores improved significantly across specialties, increasing 18.3% (CI 15.4-21.2%; Cohen's $d = 1.2$), and self-reported preparedness (feeling adequately or very prepared to treat menopausal patients) rose from 5% pre-curriculum to 46% post-curriculum. There were larger gains for residents who listened to all six podcast episodes ($P < 0.001$) and who attended the classroom session ($P = 0.003$). Residents rated convenience and effectiveness compared with an equivalent amount of reading and 74% ($n = 64$) of residents who listened to at least part of one podcast episode agreed or strongly agreed that the podcast was more convenient, and 62% ($n = 53$) agreed that it was more effective.

Summary of Findings

Findings from six studies suggest that targeted menopause education improves clinician knowledge and preparation. Residents and clinicians who have completed training showed significant gains after curricula ranging from clinic rotations to didactic curriculum delivered via in-person lectures, podcasts, or online modules.

- Studies consistently found that completion of structured training was associated with increases in knowledge and confidence in ability to care for patients experiencing menopause symptoms.
- Accessible formats work: asynchronous podcasts and interactive online modules were viewed as convenient and effective.
- Retention of knowledge requires reinforcement: immediate gains from brief modules waned by three months, underscoring the need for longitudinal, repeated learning.
- Implementation matters: a large clinic-based intervention increased use of EHR decision-support tools and patient education but did not change diagnosis or prescribing at one year, highlighting system-level barriers and the need for targeted approaches.

Discussion

The findings of this review highlight substantial gaps in provider knowledge about management of menopause. Primary care and reproductive health clinicians often lack familiarity with evidence-based guidelines, which negatively impacts patient outcomes. Accreditation standards for training programs do not consistently mandate menopause education, leading to variability in provider competency. Furthermore, while dedicated menopause curricula have been shown to improve provider knowledge and clinical skills, the literature suggests that such programs are not widely implemented. These findings underscore the need for policymakers and academic institutions to prioritize menopause education in health professions training.

Research and Policy Implications

Recommendations

Practice Recommendations

1. Provide all students and residents in primary care and reproductive health specialties with didactic and clinical education regarding menopause and conditions associated with menopause.

All training programs for primary care and reproductive health physicians, NPs, and PAs should provide trainees with didactic education about evidence-based guidelines from ACOG, The Endocrine Society, and the Menopause Society, for screening, diagnosis, and treatment of menopause and associated conditions (e.g., osteoporosis, cardiovascular disease) and with clinical training on how to apply guidelines to meet the needs of patients experiencing menopause.

2. Establish faculty development programs to enhance expertise in menopause care among faculty teaching in primary care and obstetrics/gynecology residency programs and NP and PA education programs.

Provide faculty with more opportunities to improve their knowledge of evidence-based guidelines for management of menopause and conditions associated with menopause and to learn about effective strategies for teaching learners about menopause care and developing curricula.

3. Systematically implement the recommendations of evidence-based practice guidelines to improve and standardize patient care.

Use electronic health records, chart audits, and other tools to remind clinicians to follow evidence-based guidelines for menopause management to increase the likelihood that all persons experiencing menopause have timely access to treatments that alleviate symptoms.

4. Implement continuing education initiatives to ensure clinicians remain current with evolving guidelines for management of menopause and encourage them to provide patient-centered care.

Provide clinicians with continuing education so that they can learn about changes in evidence-based guidelines and apply this knowledge in a culturally sensitive manner when evaluating patients and engaging them in shared decision-making about treatment options.

Policy and Research Recommendations

Policy Recommendations

1. Require primary care and reproductive health training programs of physicians, NPs, and PAs to incorporate menopause education.

Accreditors should require medical schools, medical residency programs and NP programs in primary care and reproductive health specialties, and PA programs to include menopause education in their didactic and clinical curricula, covering its physiology, symptoms, and treatments. Clinical training should be longitudinal to enable trainees to repeatedly apply what they learn about menopause management in didactic courses. Education should emphasize the importance of an evidence-based, individualized approach to menopause management.

2. Provide grants to training programs for primary care physicians, PAs, and NPs to develop and implement didactic and clinical curricula regarding management of menopause.

Create and fund sustained, long term, standardized menopause competency training for clinicians who provide most longitudinal care to midlife women—family physicians, general internists, physician assistants (PAs), and nurse practitioners (NPs).

3. Support menopause education learning collaboratives.

Fund learning collaboratives in which educators can learn from one another about best practices in educating clinicians about menopause. Topics could include the latest updates to evidence-based guidelines, modalities for delivering didactic education (e.g., in-person vs. virtual), models for providing clinical training (e.g., dedicated menopause clinic), and interdisciplinary approaches to management of menopause.

Research Recommendations

1. Fund multi-site, controlled studies to identify (a) identify best practices for educating clinicians about menopause during their training, and (b) best practices for providing clinicians with continuing education about advances in menopause management.

Most existing studies of educational interventions to enhance knowledge of and adherence to evidence-based guidelines for menopause management did not have rigorous research designs and many did not enroll participants at multiple sites. Multi-site studies that include control groups are needed to provide stronger evidence regarding best practices for educating trainees and clinicians about caring for patients experiencing menopause.

Limitations

Studies of clinicians' knowledge and confidence regarding menopause management and the effectiveness of educational interventions to improve knowledge have important limitations. All of the studies of clinicians' knowledge and confidence about menopause management relied on surveys. Clinicians' actual practice may have differed. Moreover, the response rates for some of the surveys were quite low (less than 10 percent), which raises questions about whether the respondents are representative of all primary care and reproductive health clinicians. In addition, three of the surveys were conducted at only one or two sites which limits ability to generalize their findings to all primary care and reproductive health clinicians.

The research designs that authors used to conduct most of the studies of educational interventions also were not strong. Only one of the studies randomized clinicians to intervention and control groups, a design that enables researchers to isolate the effect of the intervention from other factors that may affect knowledge and confidence about menopause management. Five of the six studies were pre-post studies without a comparison group. For these studies, the possibility that knowledge and confidence would have increased over time without the intervention cannot be ruled out. (One of

the five studies randomized the order in which participants received content via three different modalities but did not have a comparison group that did not receive the intervention.) Four of the studies that assessed the impact of educational interventions did not assess whether gains in knowledge persisted over time. In addition, three of the studies were conducted in a single residency program. Those findings may not generalize to other residency programs or to clinicians who have completed training.

Conclusion

As the population affected by menopause continues to grow, so does the need for proper training within the healthcare workforce. This review of the current evidence has identified substantial, cross-disciplinary gaps in primary care clinicians' knowledge of evidence-based menopause care, lack of confidence, and practice inconsistent with evidence-based guidelines. Accreditation standards are uneven and for the most part lack of requirements for menopause-specific training. Educational interventions improved knowledge, preparedness, and confidence, but brief interventions are not sufficient to sustain gains in knowledge over time and change clinical practice. These findings support elevating guideline-based menopause education across the training continuum by enhancing faculty members' knowledge, strengthening accreditation requirements, and funding curriculum development, learning collaboratives and research to identify best practices in promoting patient-centered care for menopause.

Appendix

PRISMA Flow Diagram

Stage	Number of Studies
Records identified	191
Duplicates removed	49 duplicates
Records screened	142
Records excluded	114
Full-text articles assessed for eligibility	26
Full-text articles excluded (with reasons)	14
Studies included in synthesis	12

PubMed was used for a general search and later utilized for refining the search using Medical Subject Headings (MeSH) to organize and access relevant articles. The general search was initially conducted using broad keywords to search for relevant articles. The keywords searched in PubMed included:

The search was conducted on PubMed for each individual research question using the MeSH terms: Research Question 1:

("primary care provider*" OR "family physician*" OR "general practitioner*" OR "MD*" OR "DO*" OR "PA*" OR "physician assistant*" OR "NP*" OR "nurse practitioner*" OR "reproductive health provider*") AND ("menopause" OR "perimenopause" OR "postmenopausal women" OR "menopausal symptoms" OR "vasomotor symptoms" OR "hot flashes" OR "vaginal atrophy" OR "sleep disturbance*" OR "mood change*" OR "osteoporosis" OR "urogenital symptom*" OR "cardiovascular risk") AND ("evidence-based" OR "clinical guideline*" OR "hormone therapy" OR "HRT" OR "non-hormonal therapy") AND (ACOG OR "American College of Obstetricians and Gynecologists" OR USPSTF OR "U.S. Preventive Services Task Force" OR "North American Menopause Society" OR NAMS OR "Endocrine Society") AND ("knowledge" OR "awareness" OR "attitude*" OR "practice patterns" OR "clinical decision making" OR "care delivery" OR "patient care") AND ("United States" OR "US")

Research Question 2:

("medical education" OR "graduate medical education" OR "nurse practitioner education" OR "physician assistant education" OR "clinical training" OR curriculum OR residency) AND (MD OR DO OR "nurse practitioner*" OR NP OR "physician assistant*" OR PA) AND ("accreditation" OR "standards" OR "curriculum standards" OR "program requirements" OR competencies) AND ("menopause" OR "perimenopause" OR "menopausal symptoms" OR "menopause education") AND ("ACGME" OR "Accreditation Council for Graduate Medical Education" OR "ARC-PA" OR "Accreditation Review Commission on Education for the Physician Assistant" OR "NONPF" OR

"National Organization of Nurse Practitioner Faculties" OR "National Task Force on Quality Nurse Practitioner Education") AND ("United States" OR "US")

Research Question 3:

("medical education" OR "medical school*" OR residency OR "graduate medical education" OR "undergraduate medical education") AND ("menopause" OR "perimenopause" OR "menopausal symptoms" OR "menopause education") AND ("effectiveness" OR "evaluation" OR "outcomes" OR "impact" OR "knowledge" OR "attitudes" OR "competency" OR "curriculum assessment") AND ("United States" OR "US")

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