

Original article

‘Healthy menopause’: The European menopause and andropause society (EMAS) 2026 framework for precision, digital, and interdisciplinary midlife health[☆]

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ABSTRACT

Introduction: On average, women now spend more than one-third of their lives in the post-reproductive period, yet menopause care across Europe remains fragmented and uneven. Since the first publication of its model of care by the European Menopause and Andropause Society (EMAS) in 2016, major advances in precision medicine, digital phenotyping, biomarkers derived from data collected by wearable devices, artificial intelligence, hybrid care delivery, and workplace health have reshaped clinical opportunities and societal expectations. At the same time, population aging, rising multimorbidity, and increasing public and employer awareness position menopause as a public health inflection point rather than a narrow reproductive transition.

Aim: This updated EMAS Position Statement, ‘Healthy Menopause’, sets out a future-oriented framework for the coming decade.

Materials and methods: This Position Statement was developed through iterative consultation and consensus among the authors, informed by current evidence, existing clinical guidance, and relevant regulatory frameworks.

Results and conclusions: The framework integrates risk stratification, validated digital tools, and clinical decision support. It also structures menopause healthcare considerations into a scalable tiered care architecture comprising digital access, trained menopause healthcare professionals, multidisciplinary specialist centers, and a supportive policy and governance environment. It provides actionable recommendations for clinicians, health systems, professional societies, employers, and researchers, including on competency-based training and accreditation, quality standards, governance requirements for digital health and artificial intelligence, and mechanisms to monitor outcomes and equity. By linking clinical innovation, digital ecosystems, and societal determinants, this Position Statement outlines a blueprint for equitable, preventive, and personalized menopause care across Europe.

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1. Introduction

Recent global estimates indicate that the world population exceeds 8 billion people, of whom more than 1 billion are women over the age of 50 years [1]. Menopause, occurring at a mean age of approximately 51 years, is therefore increasingly becoming a midlife life-course stage rather than a late-life transition. These demographic shifts highlight the implications of menopause for long-term health trajectories—the health consequences of estrogen deficiency extend beyond reproductive aging and are associated with several comorbidities—and therefore position it as an emerging public health priority [2,3]. As life expectancy continues to increase, women now spend on average more than one-third of their lives in the post-reproductive period [2,3]. During this phase, vulnerability to cardiometabolic disease, osteoporosis, musculoskeletal decline, cognitive changes, mental health disorders, and sexual health concerns rises substantially [4–8]. These changes reflect complex neuroendocrine, metabolic, inflammatory, and psychosocial processes and position midlife as a critical window for prevention and long-term health optimization [2–4,9].

In 2016, the European Menopause and Andropause Society (EMAS) published a Position Statement proposing a holistic interdisciplinary model of care for healthy menopause and aging [10]. That model emphasized woman-centered care, personalized counseling, and coordinated collaboration between lead clinicians, specialist nurses, and an interdisciplinary network of healthcare professionals [10]. It provided an important conceptual foundation for menopause care across Europe and highlighted the need for accreditation, education, and structured referral pathways [10].

Since that publication, the scientific, technological, and societal context of menopause care has evolved substantially [6,9,11]. Advances in precision medicine and biomarker-based risk stratification have expanded understanding of individual health trajectories in midlife [6,11]. Digital health technologies, including wearable derived biomarkers, telemedicine, and digital therapeutics, increasingly support symptom monitoring, lifestyle interventions, and continuity of care [12]. Decision support systems are beginning to assist clinical triage, risk assessment, and longitudinal follow-up, particularly in high-volume care settings [13]. At the same time, demographic aging, increasing multimorbidity, and rising public awareness have reframed menopause as a public health and health systems issue rather than a narrowly reproductive concern [1–3,9].

Societal expectations have also shifted. Menopause is increasingly recognized as a determinant of workforce participation, productivity, and gender equity [14,15]. Vasomotor symptoms, sleep disturbance, mood changes, fatigue, and cognitive complaints have been associated with reduced work performance, increased presenteeism and absenteeism, and premature exit from the labor market [14–16]. Despite growing awareness, workplace responses remain inconsistent and unequally distributed, contributing to persistent inequities in health and career outcomes [14,15].

Together, these developments expose the limitations of the 2016 EMAS model, which predates widespread digital integration, precision medicine, and structured workplace health initiatives [10,11]. There was therefore a need to update the EMAS framework to reflect contemporary evidence, emerging technologies, and system-level requirements for scalable, equitable, and future-oriented menopause care [6,9–13].

2. Updated definition of healthy menopause and the need for a new framework

This ‘Healthy Menopause’ framework builds on the original EMAS definition, which conceptualized healthy menopause as a dynamic equilibrium of physical, psychological, and social wellbeing during midlife and beyond [10]. In ‘Healthy Menopause’, the concept is extended from a holistic model of healthy aging to a structured,

prevention-oriented approach to midlife care that links symptom assessment, individual risk stratification, interdisciplinary management, and health-system governance. It positions menopause as a life-course inflection point with long-term implications for cardiometabolic, musculoskeletal, cognitive, sexual, mental, and occupational health trajectories [1,4,6,9,10,14–16].

From an epidemiological and clinical perspective, menopause coincides with a marked increase in cardiometabolic risk, musculoskeletal decline, and vulnerability to mental and cognitive health disorders [4–9]. Hormonal changes interact with aging-related metabolic and inflammatory processes, contributing to increased cardiovascular risk, bone loss, sarcopenia, sleep disturbance, mood symptoms, and sexual dysfunction [4–9]. Vasomotor symptoms, experienced by the majority of women, are increasingly recognized as markers of broader vulnerability, including sleep disruption, impaired daytime functioning, and reduced work capacity [5,7,8]. These interrelated processes position midlife as a critical window for prevention and long-term risk modification rather than a period limited to symptom management [2–4,9].

At the same time, patterns of multimorbidity in midlife women have become more complex [6,9]. Increasing numbers of women enter menopause with pre-existing cardiovascular risk factors, obesity, autoimmune disease, mental health conditions, or a history of cancer treatment [6,9,16]. Women with premature ovarian insufficiency or early menopause face particularly high lifetime risks [17,18]. These realities require coordinated, interdisciplinary, and prevention-oriented care pathways that extend beyond traditional gynecological models [10,16].

Technological advances further necessitate an updated framework [11–13]. Digital health tools, including symptom tracking, biomarkers derived from data collected by wearable devices, telemedicine, and digital therapeutics, now support longitudinal monitoring, lifestyle intervention, and continuity of care [12,13]. AI-based clinical decision support systems offer opportunities to assist triage, risk stratification, and follow-up, particularly in high-volume settings [13]. While these technologies hold promise for improving access and scalability, their integration into menopause care requires clear clinical frameworks, validation standards, and robust ethical and regulatory governance [11–13].

Societal and workforce-related changes also drive the need for a revised model [14,15]. Menopause is increasingly recognized as a determinant of ability to work, productivity, and gender equity [14,15]. Symptoms and complaints related to sleep disturbance, vasomotor instability, mood changes, and cognition can adversely affect performance and career progression [14–16]. Despite growing awareness, the responses of employers to the needs of women undergoing the menopausal transition remain inconsistent and unequally distributed [14,15].

Finally, persistent inequities in access to competent menopause care across Europe highlight limitations of existing pathways [10,16]. Variations in clinical training, uneven availability of specialist services, digital literacy barriers, and structural disadvantages affecting migrant and underserved populations contribute to delayed diagnosis, suboptimal treatment, and fragmented care [16]. Without a scalable and tiered system architecture, these gaps are likely to widen as demand increases [10].

Together, these developments demonstrate that the 2016 EMAS model, while foundational, no longer fully reflects the realities of contemporary menopause care [10]. ‘Healthy Menopause’ responds to this challenge by integrating prevention-focused clinical strategies, digital first-access pathways, interdisciplinary care, and system-level governance into a modern framework designed to support equitable, personalized, and sustainable menopause care across Europe [1,6,9,10,12].

3. The ‘Healthy Menopause’ model of care and tiered architecture

The original EMAS model of care for healthy menopause was built

around a woman-centered interdisciplinary triangle comprising the woman herself, a lead clinician, and specialist nurse support, embedded within a wider network of medical disciplines [10]. This conceptual foundation remains valid. However, changes in population needs, healthcare delivery, and digital capabilities require a reorganization of how menopause care is accessed, delivered, and scaled across health systems [6,9,11]. Models of menopause care vary considerably between European countries, with services delivered in primary, specialist, or mixed care settings depending on the structure of the national health system. For most women, menopause-related concerns are first addressed in primary or generalist care, and access to specialist menopause services and multidisciplinary clinics is variable. This variability is particularly relevant as women are living longer and increasingly are entering later life with multimorbidity and complex needs such as premature ovarian insufficiency, cancer-related menopause, or contraindications to standard therapies. Clear referral pathways and access to interdisciplinary expertise are therefore essential to support timely, consistent, and evidence-based care.

‘Healthy Menopause’ introduces a structured, tiered care architecture designed to ensure equitable access, efficient use of specialist resources, and continuity of care across varying levels of complexity [6,9,10]. The model integrates digital first-entry pathways, certified menopause-competent clinicians, multidisciplinary specialist centers, and supportive national and European policy frameworks [6,10–13]. This tiered architecture is illustrated in Fig. 1.

3.1. Tier 1: Digital first access and triage

Tier 1 provides an accessible entry point into menopause care [12,13]. It is designed to manage high demand, reduce access barriers, and support early identification of risk and symptom burden [6,9]. Core components may include evidence-based information resources, structured digital anamnesis, validated patient-reported outcome measures, symptom-tracking tools, and educational resources for women and healthcare professionals [12,13,19]. Where appropriate, wearable-derived data may support longitudinal monitoring of sleep, vasomotor symptoms, activity, and stress-related parameters, provided that these tools are validated, transparent, and embedded within appropriate data-protection and clinical governance frameworks [12,13,19–22].

AI-supported triage systems may assist symptom clustering, identification of red flags, and routing to appropriate levels of care [13]. However, such systems should be regarded as decision-support tools and should be implemented only where robust clinical oversight, transparency, regulatory compliance, and clear accountability are in place

[11–13,20–23]. Tier 1 does not replace clinical care but supports navigation, education, and prioritization within the broader system [6,9].

3.2. Tier 2: Certified menopause clinicians

Tier 2 comprises clinicians with recognized training and documented competence in menopause care, working in gynecology, primary care, or related clinical disciplines [10,16,24]. Because training and certification systems differ across countries, Tier 2 competence should be defined by transparent national or professional standards rather than by self-declaration. These clinicians provide evidence-based management of menopausal symptoms and midlife health concerns, including menopausal hormone therapy and non-hormonal treatment options, sexual and vulvovaginal health, sleep and mental health, bone and cardiometabolic risk assessment, and early identification of complex conditions such as premature ovarian insufficiency or cancer-related menopause [3–8,16–18].

Tier 2 clinicians also play a central role in shared decision making, longitudinal follow-up, and coordination of care [2,10]. They should recognize indications for escalation to Tier 3, including refractory symptoms, premature ovarian insufficiency, cancer-related menopause, significant multimorbidity, contraindications to standard therapies, or the need for multidisciplinary assessment [10,16–18]. Digital tools and telemedicine may support continuity of care, particularly for women with geographic, occupational, or mobility constraints, but should remain embedded within clinically governed care pathways [12,20–23].

3.3. Tier 3: Centers for menopause

Tier 3 consists of specialized multidisciplinary services for women with complex menopause-related needs and for cases requiring advanced expertise [6,10,16]. These centers integrate gynecology with relevant disciplines such as cardiology, endocrinology, rheumatology, psychiatry and psychology, sexual medicine, oncology, lifestyle and exercise medicine, pelvic health physiotherapy, and specialist nursing [6,10,16]. They support women with multimorbidity, refractory symptoms, premature ovarian insufficiency, early menopause, cancer-related menopause, endometriosis, high body mass index (BMI), neurological conditions such as epilepsy or neurodisability, and complex contraindications to standard therapies [10,16–18].

In addition to clinical care, Tier 3 centers function as hubs for education, training, and quality assurance [10,16]. They support Tier 1 and Tier 2 providers through consultation, shared care pathways, and continuing professional development, and consensus on the use of

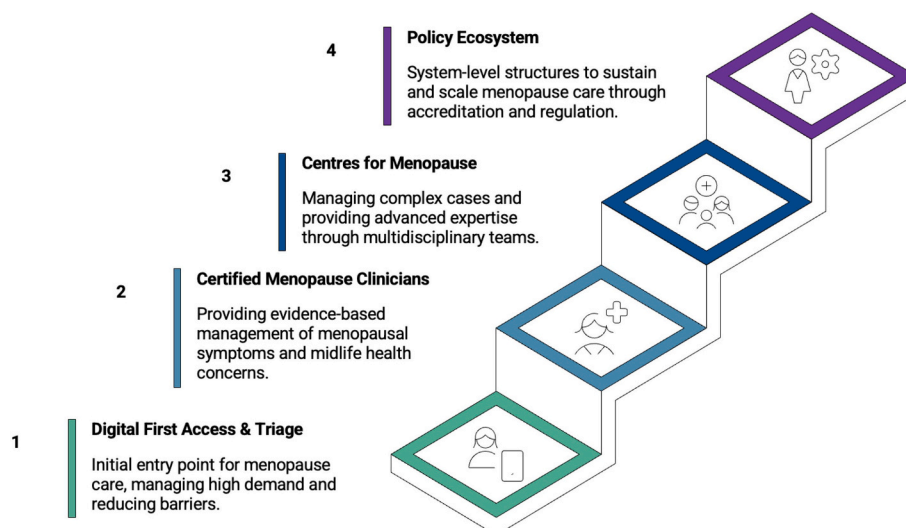


Fig. 1. Visual summary of the ‘Healthy Menopause’ framework, illustrating tiered access, clinical escalation, specialist care, and policy-level governance.

validated digital tools and patient-reported outcome measures [10,12,16,24]. They may integrate validated digital biomarkers and emerging precision-medicine approaches, provided that these remain embedded within ethical, regulatory, and clinical governance frameworks [11–13,20–23].

3.4. Tier 4: National and European policy ecosystems

Tier 4 represents the system-level structures required to sustain, scale, and govern menopause care [1–3,6]. At this level, national and international menopause societies and professional bodies have an important role in developing, updating, and disseminating evidence-based clinical guidance, training standards, and quality criteria for menopause care [10,16,24]. These recommendations should inform local care pathways, referral structures, accreditation processes, and the evaluation of digital tools used in clinical practice. Because the organization and regulation of healthcare differ across Europe, as well as the systems of reimbursement, implementation of Tier 4 of the ‘Healthy Menopause’ framework needs to be adapted to national and regional contexts. Alignment with public health strategies, occupational health systems, and workplace policies can help embed menopause care within broader agendas for healthy aging, disease prevention, and gender equity [1–3,14,15,24].

3.5. Core roles within the ‘Healthy Menopause’ model

Within this tiered architecture, clearly defined professional roles support coordinated care [10]. The lead clinician should be understood as the healthcare professional responsible for coordinating care at a given stage of the pathway, and this role may shift between primary care, Tier 2 clinicians, and Tier 3 specialists according to clinical need and care transitions [10]. Specialist nurses and other appropriately trained healthcare professionals may provide counseling, lifestyle support, education, follow-up, treatment monitoring, and, where permitted by national regulations and competencies, direct clinical management [10,16,24]. Where implemented, care navigators, including digital care navigators, may support women in accessing services, using digital tools, addressing health and digital literacy barriers, and maintaining continuity across care tiers [12,16].

Together, this tiered and role-based architecture transforms the original EMAS model into a scalable, digitally enabled, and prevention-oriented system [6,9,10]. It preserves woman-centered and interdisciplinary principles while responding to contemporary demands for access, efficiency, equity, and sustainability in menopause care [1–3,6,15].

4. Clinical application pathways in ‘Healthy Menopause’

Clinical care within the ‘Healthy Menopause’ framework is organized around integrated application pathways that link symptom management with prevention, risk stratification, and long-term health optimization [3,4,6,9]. The purpose of these pathways is not to provide detailed treatment algorithms, but to illustrate how menopause care can be delivered in a structured, coordinated, and scalable manner across the tiered system [10].

Across all pathways, care should be guided by structured assessment using validated patient-reported outcome measures, clinical evaluation of risk factors and comorbidities, and shared decision making that reflects a woman's values, preferences, and life context [2,10,16]. Escalation or de-escalation within the tiered system should be guided by symptom severity, treatment complexity, comorbidity, red flags, patient preferences, and response to therapy [10,16]. Digital tools may support symptom tracking, lifestyle interventions, and longitudinal follow-up, but do not replace clinical judgment [12].

Where implemented, pathways should include simple quality indicators, such as access time, referral appropriateness, symptom

response, treatment safety, patient-reported outcomes, and equity of access [16,24].

4.1. Vasomotor symptoms and sleep disturbance

Vasomotor symptoms remain the most common reason for menopause-related consultations and frequently coexist with sleep disturbance, fatigue, and impaired daytime functioning [25–27]. Within ‘Healthy Menopause’, assessment begins with structured symptom evaluation and identification of contributing factors such as sleep disorders, stress, mood symptoms, and cardiometabolic risk [4,6,9,26].

First-line management may include menopausal hormone therapy or non-hormonal pharmacological options, combined with lifestyle interventions targeting sleep, physical activity, and stress regulation [3–5,7,28]. Digital symptom tracking and sleep monitoring tools may support treatment evaluation and follow-up [12]. Women with refractory symptoms, complex comorbidities, or contraindications to standard therapies should be referred to specialized services within Tier 3 [10,16].

4.2. Genitourinary syndrome of menopause and sexual health

Genitourinary and sexual symptoms are prevalent, persistent, and frequently underreported [29,30]. ‘Healthy Menopause’ integrates sexual health as a core domain of menopause care rather than an optional add-on [10]. Assessment should include genitourinary symptoms, sexual wellbeing, pelvic floor function, psychosocial context, and partner-related factors where relevant [29–31].

Management typically follows a stepwise approach, beginning with education, moisturizers and lubricants, and progressing to local hormonal therapies, pelvic floor physiotherapy, and psychosexual counseling as needed [3,29,30,32]. In women with persistent low sexual desire causing distress, assessment for hypoactive sexual desire disorder should be considered, and testosterone therapy may be discussed where clinically appropriate and consistent with national guidance [30,31]. Referral to sexual medicine or urogynecology specialists is indicated for persistent pain, complex sexual dysfunction, or significant pelvic floor disorders [31,32]. Digital tools may enhance access to education and pelvic floor training but should complement, not replace, clinical care [12].

4.3. Cognitive and mental health

Cognitive complaints, mood symptoms, anxiety, and sleep disturbance commonly emerge during the menopausal transition and are often interrelated [33–35]. ‘Healthy Menopause’ emphasizes early recognition and holistic assessment, including evaluation of vasomotor symptoms, sleep quality, mental health, stress exposure, and cardiometabolic factors [4,6,9,34].

Management focuses on addressing modifiable contributors through sleep optimization, physical activity, stress reduction, psychological interventions, and targeted treatment of vasomotor or mood symptoms [3,7,28,35]. Referral to Tier 3 multidisciplinary services, including mental health or neurological expertise where appropriate, is indicated for persistent, severe, progressive, or diagnostically complex symptoms [10,16,34]. Digital mental health tools may support access and self-management but require appropriate clinical oversight [12].

4.4. Cardiometabolic and musculoskeletal health

The menopausal transition is associated with accelerated cardiometabolic and musculoskeletal risk, making midlife a key window for prevention [3,4,6,9,36]. Within ‘Healthy Menopause’, routine care pathways incorporate cardiovascular risk assessment, evaluation of bone health, muscle strength, and physical function, and promotion of structured physical activity, good nutrition, and weight management

[3,6,36,37]. Reproductive history, including adverse pregnancy outcomes such as hypertensive disorders of pregnancy, gestational diabetes, preterm birth, or pregnancy-related obesity should also be considered as part of individualized midlife risk assessment, as these factors may identify women who require closer cardiometabolic follow-up.

Preventive strategies should be individualized and integrated into routine menopause care rather than delivered as separate services [10]. Hormonal and non-hormonal therapies may play a supportive role where indicated [3–5]. Women with established disease, high-risk profiles, or rapid functional decline should be managed in collaboration with relevant specialists within Tier 3 [10,16].

4.5. Premature ovarian insufficiency and early menopause

Premature ovarian insufficiency and early menopause represent high-impact conditions requiring structured, long-term care [17,18]. ‘Healthy Menopause’ emphasizes timely diagnosis, initiation of hormone therapy where appropriate, until at least the average age of natural menopause, and regular monitoring of bone, cardiovascular, metabolic, and mental health [17,18].

Care pathways should include fertility and reproductive counseling, psychosocial support, and coordination with oncology services in cases of treatment-induced ovarian insufficiency [17,18]. Given the complexity and long-term implications, management is best coordinated within specialized services, with shared care arrangements where appropriate [10,17].

4.6. Cancer survivorship

Menopause-related symptoms in cancer survivors require individualized, management, with careful consideration of the contraindications [38,39]. ‘Healthy Menopause’ supports structured pathways that prioritize symptom assessment, quality of life, sexual health, and mental wellbeing, while ensuring close collaboration with oncology teams [38,39]. Non-hormonal therapies are often first line, with referral to Tier 3 multidisciplinary services for women with severe or refractory symptoms, complex oncological histories, uncertainty regarding hormonal treatment options, or the need for coordinated oncology–menopause decision making [10,16,38,39].

Table 1 illustrates how these core clinical domains are operationalized across the different tiers of the ‘Healthy Menopause’ model and where digital tools support care delivery.

5. Digital health, artificial intelligence, and governance

Digital health technologies are increasingly integrated into

menopause care and offer opportunities to improve access, continuity, and scalability of services [12,13,19]. Within the ‘Healthy Menopause’ framework, digital tools are viewed as enablers of structured care pathways rather than as stand-alone solutions [10,12]. Their clinical use should distinguish between established functions, such as education, symptom recording, teleconsultation, and follow-up, and emerging applications, such as digital biomarkers, AI-supported triage, and personalized risk estimation, which require further validation before routine implementation [11–13,19–23].

Digital applications may support structured symptom assessment, patient-reported outcome measures, longitudinal monitoring, lifestyle interventions, and follow-up across care tiers [12,19,40]. Data from wearable devices can provide complementary information on sleep, physical activity, and stress-related parameters, supporting prevention-oriented care when appropriately validated and clinically interpreted [19,40]. Telemedicine and hybrid care models may improve access for women facing geographic, occupational, or mobility-related barriers and can enhance continuity of care when integrated into established clinical pathways [12,40].

Future digital and precision-health approaches may also enable the assessment of broader determinants of menopause-related health, including exposure to endocrine-disrupting chemicals, climate-related factors, and lifestyle patterns. In addition, the role of the microbiome in menopause-related symptoms and long-term health is increasingly recognized as a potential area of interest, particularly in relation to cardiometabolic, neurological, and inflammatory pathways.

AI-based systems may assist menopause care through symptom clustering, risk stratification, triage support, and identification of atypical trajectories that require clinical review [13,23]. In high-volume settings, such tools may contribute to efficient routing within tiered care architectures [13]. However, AI must be understood as decision support rather than decision making [23]. Clinical responsibility remains with qualified healthcare professionals and human oversight is essential at all stages of care [23].

The integration of digital health and AI into menopause care requires robust governance frameworks to ensure safety, transparency, and equity [11–13,23]. Digital tools used in clinical contexts should comply with applicable regulatory standards, including data protection, medical device regulation, and emerging European AI legislation [20–22]. Core governance principles include transparency regarding data sources and algorithmic logic, validation in relevant populations, continuous performance monitoring, and mechanisms to detect and mitigate bias, particularly for underserved or minority groups [22,23].

Data protection and privacy are central to trust in digital menopause care [20]. Systems should adhere to principles of data minimization, secure storage, role-based access, and informed consent [20].

Table 1
Operationalization of clinical menopause care pathways across the ‘Healthy Menopause’ tiered model.

Clinical presentation	Entry at Tier 1 (digital first)	Management at Tier 2 (certified clinician)	Referral to Tier 3 (specialist center)	Role of digital tools across pathway
Vasomotor symptoms and sleep disturbance	Symptom logging, sleep tracking, triage	Menopause hormonal and non-hormonal therapy, sleep and lifestyle management	Refractory symptoms, complex comorbidities	Patient-reported outcomes (PROs), sleep wearables, follow-up monitoring
Genitourinary and sexual symptoms	Education, symptom questionnaire	Local therapies, pelvic floor, counseling	Sexual medicine, urogynecology, pain disorders	Pelvic floor apps, education tools
Cognitive complaints and mood symptoms	Screening tools, stress/sleep logging	Management of sleep, vasomotor symptoms, mood, lifestyle	Neurology/psychiatry referral, complex cases	Mental health apps, longitudinal monitoring
Cardiometabolic and musculoskeletal risk	Risk screening tools	Prevention plan, exercise, nutrition, bone assessment	Established disease, rapid decline, multimorbidity	Activity tracking, weight, lifestyle monitoring
Premature ovarian insufficiency / early menopause	Red flag identification	Long-term hormonal therapy, risk monitoring, counseling	Specialist long-term interdisciplinary care	Longitudinal tracking, tele-follow-up
Cancer survivorship	Symptom capture, triage	Non-hormonal management, focus on quality of life	Oncology-integrated menopause care	Telemedicine, symptom monitoring
Complex menopause-related needs	Red flags and complexity screening	Initial assessment and shared care planning	Multidisciplinary care for multimorbidity, high BMI, endometriosis, neurological conditions, or treatment contraindications	PROs, shared care records, teleconsultation

Interoperability with existing healthcare information systems is necessary to avoid fragmentation and to support continuity across care tiers [12,22].

Equity considerations are particularly important [14,15,19]. Digital tools should be designed and implemented in ways that do not exacerbate existing disparities related to health literacy, digital literacy, language, socioeconomic status, migration status, socio-cultural barriers, or disability [14,15,19]. Women affected by migration may face additional challenges due to language and cultural factors, and may therefore require adapted and accessible menopause services. Where digital pathways are used, alternative access routes and support mechanisms should be available to ensure inclusivity [14,15].

The influence of social media should also be recognized. Social media may improve awareness and peer support, but they can also amplify misinformation, commercial interests, unrealistic expectations, and non-evidence-based interventions. Menopause care pathways should therefore direct women towards reliable, evidence-based information sources and encourage critical appraisal of online content [12,19,24].

‘Healthy Menopause’ therefore supports the cautious, evidence-informed, and clinically governed integration of digital technologies and AI into menopause care, embedded within structured clinical pathways and governed by clear ethical, regulatory, and data-protection standards [10–13,20–23]. When appropriately validated and implemented, digital tools can enhance education, empowerment, prevention, and system efficiency while preserving the central role of clinical expertise, accountability, and shared decision making [2,10,12].

6. Menopause and work

Menopause is increasingly recognized as an important determinant of ability to work, productivity, and gender equity [41–43]. As more women remain in the workforce during midlife, menopausal symptoms intersect with occupational demands at a critical stage of career development [41,42]. Vasomotor symptoms, sleep disturbance, mood changes, fatigue, and cognitive complaints have been associated with reduced work performance, increased presenteeism, increased absenteeism, and, in some cases, premature exit from the labor market [42–45].

Workplace conditions can substantially influence symptom burden and functional impact [41,46]. High job demands, low autonomy, shiftwork, inflexible schedules, inadequate temperature control, and unsupportive organizational cultures may exacerbate symptoms and distress [41,46,47]. Conversely, supportive environments that include flexible working arrangements, awareness among managers and colleagues, and appropriate environmental adaptations have been associated with improved wellbeing, job satisfaction, and retention [42,43,46].

Despite growing awareness, workplace responses to menopause remain inconsistent across sectors and countries [42,43,48]. Many organizations lack formal menopause policies, and managerial training is often limited [43,48]. Occupational health services rarely integrate menopause into routine assessments, and access to workplace support is uneven, particularly for women in lower-paid, physically demanding, safety-critical, or shift-based roles [41,43,48]. These gaps contribute to inequities in health, career progression, and economic security [41–43].

‘Healthy Menopause’ emphasizes the integration of menopause support into occupational health and public health strategies [41,42,49]. Workplace interventions should be evidence-informed, proportionate, and adaptable to different organizational contexts [42,43,49]. Core elements include education for employees and managers, flexible working options where feasible, attention to environmental factors, and clear pathways to healthcare support [42,46,49]. Practical adaptations may include flexible scheduling or remote work where feasible, optimization of temperature and ventilation, access to rest areas, adaptations to work clothing where relevant, and temporary

workload adjustments during periods of increased symptom burden. Collaboration between healthcare providers, occupational health professionals, employers, and policymakers is essential to ensure alignment and sustainability [41,42,49].

From a health systems perspective, menopause at work should be recognized as both a clinical and a societal issue [41,42]. Integrating workplace considerations into menopause care pathways can support early intervention, reduce stigma, and promote continued workforce participation [42,43,49]. Organizational cultures that promote awareness, psychological safety, and non-stigmatizing communication are essential for effective implementation [41–43]. At a policy level, alignment with gender equity, diversity, and healthy aging frameworks can help ensure that menopause support contributes to broader social and economic goals, including workforce retention, reduced absenteeism, and access to menopause-informed occupational health support [41,42,50].

7. Implementation, quality standards, and accreditation

Effective implementation of the ‘Healthy Menopause’ framework requires alignment between clinical practice, workforce competencies, digital infrastructure, and health system governance [10,13,24]. Without structured implementation strategies, variation in access, quality, and outcomes of menopause care across Europe is likely to persist or even widen [24,51].

Primary care plays a central role in menopause care, as it represents the first point of contact for most women [3,10]. However, inconsistent training, limited confidence in menopause management, and fragmented referral pathways remain major barriers [24,51,52]. ‘Healthy Menopause’ therefore emphasizes the integration of standardized assessment tools, clear referral criteria, and decision support into primary care settings, supported by close collaboration with certified menopause clinicians and specialist centers [10,24,52].

Workforce development is a key prerequisite for high-quality care [10,16,24]. ‘Healthy Menopause’ supports formal recognition of menopause and midlife women’s health as a medical subspecialty [10,24]. Core competencies should include hormonal and non-hormonal therapies, cardiometabolic and musculoskeletal aging, sexual and mental health, sleep and cognitive concerns, shared decision making, and culturally competent communication [2,10,16,24]. Given the growing role of digital health, training should also encompass digital literacy and the appropriate use of AI-supported tools [12,13,23].

Quality standards are essential to ensure consistency, safety, and credibility of menopause services [24,53]. ‘Healthy Menopause’ supports the adoption of internationally recognized quality management frameworks, such as those developed by the International Organization for Standardization or the European Foundation for Quality Management [53,54]. Accredited services should demonstrate clearly defined care pathways, documented clinical governance and pharmacovigilance processes, routine use of validated patient-reported outcome measures, and monitoring of access, timeliness, and equity [24,53,54].

Digital health integration requires additional safeguards [20–23]. Digital tools used within menopause care pathways should be validated, interoperable, and embedded within clinical governance structures [22–24]. Reimbursement mechanisms for digital and lifestyle interventions remain inconsistent across Europe and represent a significant barrier to implementation [24]. Harmonized reimbursement and regulatory approaches are therefore necessary to support equitable access and sustainable service delivery [24].

Finally, implementation should be accompanied by systematic monitoring and quality improvement [24]. National or regional menopause observatories may support collection of standardized outcome measures, identification of inequities, and benchmarking of service performance [24]. Involvement of women in service design and evaluation is essential to ensure that care models remain responsive to lived experience and evolving needs [2,24]. Implementation will depend on

health-system capacity, workforce training, digital infrastructure, and reimbursement models, and may therefore vary across countries and regions.

8. Adaptation to resource-constrained settings

Although the 'Healthy Menopause' framework has been developed within a European health systems context, its core principles are applicable across diverse resource settings. In low- and middle-income countries, access to specialist menopause services, diagnostic infrastructure, and digital health technologies may be limited, and care is frequently delivered through primary care or community-based models. In such settings, implementation may prioritize structured clinical assessment, education, shared decision making, and prevention-oriented care pathways that do not rely on advanced technologies. Elements such as competency-based training, interdisciplinary collaboration, and integration of menopause care into existing non-communicable disease programs may support adoption.

Digital tools and AI-supported systems should be considered optional enablers rather than prerequisites for implementation. Scalable approaches, including teleconsultation, task sharing, and the involvement of community health workers, may support continuity of care where specialist services are scarce.

'Healthy Menopause' therefore supports context-specific adaptation of care pathways to ensure that menopause care remains accessible, equitable, and prevention-oriented across health systems with varying levels of resources.

9. EMAS recommendations for 2026–2030

- Menopause should be recognized as a public health priority and a critical midlife window for prevention, with lifelong implications for physical, mental, and occupational health.
- Women should have access to individualized assessment at midlife, including evaluation of symptoms, risk factors, comorbidities, and personal preferences, to guide tailored prevention and treatment strategies.
- Health systems should implement tiered menopause care pathways integrating digital access, trained clinicians, certified menopause clinicians, multidisciplinary specialist centers, and supportive policy frameworks.
- Structured education and competency-based accreditation in menopause and midlife women's health should be provided to all health-care professionals involved in menopause care.
- Access to evidence-based menopausal hormone therapy and non-hormonal treatment options should be supported through education, clear guidance, and shared decision making.
- Prevention of cardiometabolic disease, osteoporosis, musculoskeletal and cognitive decline, and mental health disorders should be embedded into routine menopause care.
- Women with premature ovarian insufficiency, early menopause, multimorbidity, or cancer-related menopause should have access to coordinated interdisciplinary long-term care pathways.
- Digital health tools and AI may be integrated only when validated, clinically governed, and implemented transparently, with appropriate human oversight and accountability.
- Menopause support should be integrated into occupational health strategies, with quality standards and outcome monitoring to ensure equitable access to care.

10. Conclusions

'Healthy Menopause' represents an evolution of the original EMAS model, responding to a decade of scientific, technological, and societal change. By integrating prevention-focused clinical strategies, digital first-access pathways, interdisciplinary care, and robust governance, the

framework positions menopause as a key determinant of lifelong health and wellbeing.

This updated Position Statement provides a pragmatic and scalable blueprint for menopause care across Europe. Its implementation has the potential to improve quality of care, reduce inequities, support workforce participation, and align menopause care with broader healthy aging and public health strategies. EMAS calls on clinicians, health systems, policymakers, employers, and researchers to adopt and operationalize this framework for the benefit of current and future generations of midlife women.

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