

## **Towards positive ageing: Collaboratively removing barriers for sustainable person-centred system support**

Marzena Nieroda, University College London,  
Abdul Seckam, Healthcare Business Solutions UK,  
Dania Posso, University College London,  
Rodrigo Rodriguez-Fernandez, International SOS,  
Orlanda Allen, HCA Healthcare,  
Andre Couthino, GO FW CIC,  
Thalia Anagnostopoulou, University College London,  
Nicky Keay, University College London  
Joyce Harper, University College London

Menopause, a natural biological phase typically occurring at the average age of 52, marks the end of women's reproductive years as menstruation ceases<sup>1</sup>. The symptoms associated with menopause, such as mood swings, night sweats, hot flushes, sleep disturbances, and cognitive challenges, can significantly impact a woman's wellbeing, confidence, and her performance at work.

A recent study conducted by the Institute of Fiscal Studies<sup>2</sup>, utilising data from Norway and Sweden, sheds light on the diverse effects of menopause on women's lives. The study indicates a sudden but temporary surge in both primary care and specialist doctor visits during the menopausal transition, alongside a sustained increase in the use of medications. This rise is primarily driven by the uptake of Hormonal Replacement Therapy (HRT) and antidepressants aimed at managing menopausal symptoms. From an economic standpoint, the study highlights substantial and enduring declines in employment rates and earnings among menopausal women, accompanied by a greater reliance on social welfare assistance. These adverse economic consequences are particularly notable among women without a college education, as well as those working in larger workplaces or with fewer female coworkers aged 45 or older.

The notable challenges associated with this natural process contribute to emergence and existence of menopause stereotypes, influencing societal perceptions and support for women undergoing this natural transition. Stigmatisation portrays menopause as a symbol of ageing and decline, potentially leading to shame and reluctance to seek help, especially among those who might need it most. Stigma can impede understanding and support, affecting well-being, confidence, work performance or relationships, potentially further deepening negative impact of this process on health, quality of life and overall happiness. Misinformation and false beliefs surrounding menopause, coupled with cultural taboos and societal norms that discourage open discussion, contribute to stigma, and create barriers.

Efforts to challenge stereotypes, foster acceptance, and shift perceptions regarding ageing and menopause necessitate a holistic approach encompassing education, enhanced support services, and social, familial, and workplace backing. However, achieving these objectives demands a systemic transformation driven by mission-oriented innovation, characterised by clear, ambitious, and time-bound goals capable of effecting transformative change. Inspired

by the Observatory of Public Sector Innovation and supported by the OECD<sup>3</sup>, mission-driven innovation encompasses the development or enhancement of technological, social, or organisational solutions aimed at addressing significant societal challenges and generating public value. We view the need to overcome the prevailing stereotypes and barriers surrounding positive ageing and menopause as a mission, prompting collaborative efforts to confront this issue. The removal of existing stigma can serve as an initial step needed to support menopausal females, ensuring that they do not perceive themselves as lesser or less valuable. This can encourage more open discussions, facilitate the search for support, and inform and propel the broader adaptation process that females undergo.

Furthermore, as this form of systemic innovation is likely to involve engagement with commercial entities to support females (e.g., at their workplaces), these endeavours are closely aligned with the Environmental, Social, and Governance (ESG) sustainability objectives<sup>45</sup>. This alignment is particularly evident in relation to environmental and social impacts. Beginning in 2024, the Corporate Sustainability Reporting Directive (CSRD) mandates companies to disclose a broader spectrum of ESG impacts over short, medium, and long-term horizons<sup>6</sup>. This encompasses a comprehensive assessment of the environmental and social ramifications of their operations across their value chain.

Of notable significance in these new regulations is the heightened focus on social factors, including aspects such as working conditions, community impacts or product safety and quality. It is imperative for commercial enterprises to comprehend the origins of these social impacts across diverse stakeholder groups to garner support from investors. As highlighted by George Serafen in his publication in the Harvard Business Review<sup>7</sup>, companies must effectively engage in various ESG practices to secure backing from investors and other pertinent stakeholders. Central to this endeavour is the integration of ESG efforts into both strategic planning and operational activities.

Given the extensive nature of the challenge and the potential avenues of assistance for menopausal individuals, our team of authors, representing diverse backgrounds, coordinated and participated in a knowledge exchange workshop centred on Workplace Equity to Support Healthy Ageing and Women's Health. This workshop was convened at UCL Global Business School for Health on March 20, 2024. During the workshop, we delved into various hurdles that must be addressed to offer support to women and subsequently proposed potential solutions. Within this chapter, we consolidate the diverse discussions held during the event and advocate for a cultural shift that acknowledges menopause as a natural stage of life, thereby fostering holistic wellbeing. An illustration of the identified barriers and solutions is listed in Figure 1 below. We trust that our reflections and ideas will serve as food for thought for various stakeholders capable of influencing and contributing to women's wellbeing.

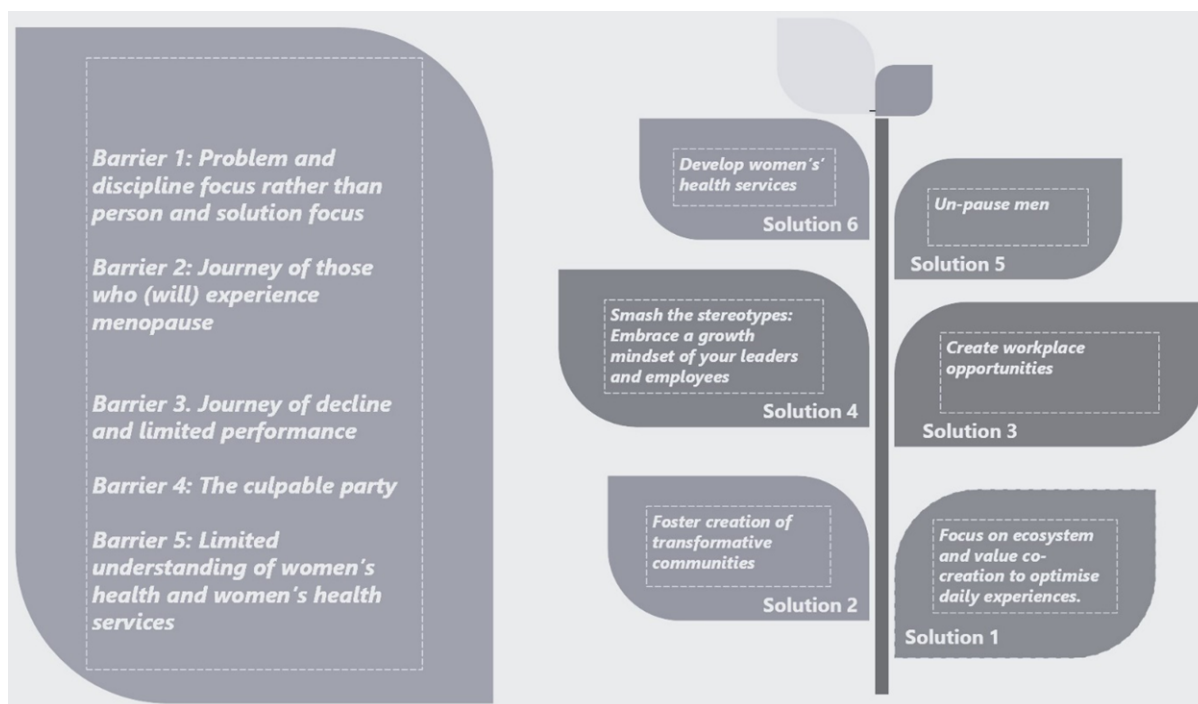


Figure 1. Barriers and solutions to positive ageing.

### **Barrier 1: Problem and discipline focus rather than person and solution focus.**

Menopause is frequently examined through singular disciplinary lenses, resulting in a fragmented understanding of the topic. Discourse typically revolves around different facets of menopause, such as symptoms, their understanding, processes, treatments, and associated experiences. As a result, various fields of science and expertise, including medicine, education, digital health, policy, and specific therapies like HRT, are pivotal in addressing peri-menopause symptoms. However, the lack of integration and coordination among these disciplines can perpetuate stigma by framing menopause solely as a medical issue. Despite recent efforts to combat stigmatisation and overmedicalisation associated with menopause, the persistent use of terms like "patients"<sup>8</sup> and the focus on the role of health services may inadvertently reinforce a medicalised perspective. Additionally, framing menopause in terms of economic challenges posed by an ageing population can further stigmatise it, overlooking its broader societal and individual impacts as a natural life transition<sup>9</sup>.

However, in a research study carried at University College London we found out that individuals often find themselves and their daily experiences at the centre of this contemporary problem framing, only to encounter stigma as a result. Paradoxically, they are the ones most in need of assistance and support during this transitional phase. However, the challenges they often experience are outside of the medical and healthcare sectors, and voiced by Anna (all names used throughout this chapters are pseudonyms allocated to each research participant), 53 years old:

*"I think society needs to take responsibility for breaking down some of those stereotypes. But building that into the systems that we have, whether that's education*

*or whether it's social care or whatever but we should be normalising ageing and not seeing this as a barrier to people getting something out of their life."*

Therefore, a viable solution may involve reframing the issue from the perspective of their needs. Interestingly, in our research about their perceptions and experiences of menopause, many women revealed challenges stemming from broader societal perspectives and emphasised the need for a range of solutions, including medical, natural, or social resources to support this transition. Many of them noted that their experiences, symptoms, and subsequent feelings of shame or embarrassment occur either at home or in the workplace. Helen, 62 years old said to us

*"No one had ever told me about the menopause. That moment, I just think. Ohh embarrassing. Yeah, embarrassing. I don't like to use the word shameful. Shame. Yeah, yeah, I think I felt ashamed. Yeah. And embarrassed"*

Consequently, effective solutions should adopt a multidisciplinary approach, placing women and their daily experiences at the core of all activities and interventions. Josephine, 54 years old reflected:

*"I think from my perspective, it's the physical. It's the emotional, it's the mental, maybe even the spiritual as well. It's about a combination of all those factors and how they inform each other, but also how they support us to live to our maximum as individuals who are ageing"*

This necessitates facilitating cross-disciplinary collaboration to dismantle silos and offer support to women.

## **Barrier 2: Journey of those who (will) experience menopause.**

In contemporary approaches to supporting women through hormonal changes, the focus is often segmented based on the stage of their journey. This segmentation typically includes females who have not yet reached menopause, those experiencing perimenopause, those who have reached menopause, and those who have moved beyond it. However, such labelling can evoke feelings of worry among women, as indicated by Sandra, 52 years old

*"I'd be seen as being lesser if I did that (admitted she is peri-menopausal), and I'm not that"*

Younger females may be reluctant to confront the idea of ageing, while older females may feel ashamed or uncomfortable when labelled, particularly if they experience symptoms in professional settings. Lily, 30 years old female says *"I'm not a huge fan of ageing, to be honest. So yeah. Like, I'm not ready"*, pointing to the thirst for maintaining youth also voiced by Zoe, 41 years old: *"I think we're all trying to maintain the youth for longer"*

The emphasis on distinct groups and stages of menopause within various research areas such as healthcare, public health, or education can perpetuate stereotypes and hinder efforts to challenge them. To overcome this barrier and confront existing stereotypes effectively, it's imperative to view the challenge through the lens of an ecosystem that supports transition, and position different groups as part of that ecosystem.

The journey of ageing and menopause involves behavioural changes that require adaptation from a young age and support from the broader environment. It's essential to acknowledge that ageing begins from conception, and lifestyle behaviours related to exercise, nutrition, sleep, and stress management play crucial roles in promoting healthy ageing and menopause. Research from Yale School of Public Health highlights the significant impact of lifestyle factors on chronic health conditions such as cancer, diabetes, obesity, and cardiovascular disease. Unhealthy body weight, sedentary behaviour, and poor diets have been associated with increased incidence and mortality rates for various cancers and metabolic diseases. Additionally, lifestyle factors can influence hormone levels, energy metabolism, cellular growth, inflammatory responses, DNA repair, and immune function<sup>10</sup>. Many women we spoke to in our research emphasise the importance of lifestyle choices for managing menopause symptoms, a sentiment supported by health and menopause centres like the Australian Menopause Society, which recognises that lifestyle modifications can improve wellbeing and symptom tolerance<sup>11</sup>. Therefore, as stressed by these women, lifestyle changes should be introduced early in life. One of our research participant, Rona, 50 years old stated:

*“I think you can be healthy, but I think it needs to be healthy at the beginning is what I'm saying. I think you need to be healthy throughout. I think if you're abusing your body when you're in your teens and you're 20s, that won't help you. When your menopause, I think personally think it will mock up your metabolism and your you know, your functioning of your body and also your habits and the way that you behave”*

Furthermore, understanding, support, and adaptation strategies should be available throughout the lifespan from various stakeholders within the surrounding ecosystem. In our research, we've recognised that ageing transitions necessitate support from one's social circles, including partners, family members, and colleagues in the workplace. It's crucial to challenge myths surrounding gender and age in the context of menopause support. Engaging with males is relevant to combat the misconception that menopause is solely a female concern.

#### *What is 'Man-On-Pause' – A Male Perspective*

Too often we hear the following labels about our female colleagues and counterparts: 'Ageing lady, unhealthy lady, all flushed and flustered Jane, lady, weighty Betty and the list is endless! Misogynistic, lack of understanding, lack of empathy, rude....Yes to all these! Contrary, to the lack of support, supportive language and phrases, males need to educate, empower, and embed an empathetic approach. We need to understand the woman who is fulfilling her life potential and going through natural processes and stages in life. Understanding menopause is crucial for everyone, regardless of gender, as it impacts not only women but also their partners, families, and communities. Whilst males do not experience menopause themselves, having knowledge and empathy about this natural transition can greatly benefit relationships and support ecosystems. Jane, 68 years old, mentioned

*“It's back to that education I mentioned earlier both for men and women and not being embarrassed about talking about it. This is a natural thing that women go through, and how can men support them?”*

There is plenty of work to be done in that department. A qualitative study by Hidiroglu and colleagues<sup>12</sup> explored menopause among males in Istanbul, Turkey. They provided a better

understanding of this phase to improve the care delivered to menopausal women. Thirty-three (n=33) married men took part in in-depth one-to-one interviews. It was suggested that the males lacked knowledge about both menstruation and menopause and defined menopause as loss of fecundity, increased weight, and loss of beauty. These experiences and views were from an age range of 40-77-year-old men. Moreover, these sorts of findings are seen among males from various backgrounds and cultures. In our study involving women, similar sentiments were noted, from their perspectives on males in line with knowledge, culture, and religious beliefs on menopause, exacerbating the misconceptions and myths around this topic. Such findings only add to the misuse and inappropriate language, increased cultural taboos and lack of education and support around menopause. As Jane, 68 years old, elaborates:

*“In my home I'm really proud of the fact, actually, that the way we've brought the boys up mean they've got a really positive attitude to women. But, in general there are more things that perhaps could be done in the home to get that balance and to support the women, particularly menopause shouldn't be seen as an illness. Menopause should be seen as a phase of the life cycle”*

### **Barrier 3. Journey of decline and limited performance**

The emphasis on menopause as a health condition often leads to the use of specific medical terminology that shapes the narrative surrounding this natural transition. This focus can result in discussions about menopause centred on concepts such as hormone deficiency, loss of ovarian function, disability, or cognitive decline, among other factors<sup>13</sup>. The language used to describe symptoms and their impact on daily life and work performance tends to be negative, reinforcing a sense of limitation and fixed capabilities. This use of limiting language may act as a barrier to the development of dynamic and adaptive coping ageing strategies<sup>14</sup>. It has the potential to activate a fixed mindset in how people approach ageing and how women approach menopause. Of note is that menopause can occur relatively early in a woman's life, compared to perceived ageing in men.

The framework of mindset was developed by world-renowned Stanford University psychologist Carol Dweck. Mindsets are beliefs about oneself and the world that influence perceptions, thoughts, feelings, and actions. Dweck<sup>1516</sup> identified mindsets, or implicit theories, about the malleability of abilities as significant drivers of responses to challenges and learning. In fixed mindsets, individuals believe abilities are static, while growth mindsets view abilities as malleable. Most people hold a combination of both mindsets about different aspects of themselves. Holding a growth mindset is associated with adaptive self-regulatory strategies. There are various strategies, including rituals that promote a growth mindset, recommended for the context of ageing, although these were initially developed based on research with children, which is the most common application of this learning framework<sup>17</sup>. Those strategies include rituals eliciting positive memories, perceptions, and goals. The way individuals and others perceive, write about, and speak about ageing can influence the development of a fixed mindset, potentially making adaptation through the menopausal transition and ageing more challenging if the framing implies decline.

In the context of ageing, individuals with a fixed mindset may perceive ageing as an inevitable decline, believing that their abilities and health will inevitably deteriorate as they grow older. They may be more prone to adopting passive coping strategies and avoiding challenges related to ageing, leading to decreased engagement in activities that promote physical and mental wellbeing. Fixed mindset individuals may also be less likely to seek out

opportunities for personal growth and development as they age, potentially leading to feelings of helplessness or resignation.

On the other hand, individuals with a growth mindset may view ageing as a dynamic process with opportunities for continued learning, growth, and adaptation. They are more likely to adopt proactive adaptation strategies and embrace challenges associated with ageing, such as adopting healthy lifestyle habits, engaging in lifelong learning, and seeking out new experiences. A growth mindset can lead to greater resilience in the face of age-related changes and a more positive outlook on the ageing process overall.

To facilitate better adaptation to ageing and menopause, fostering a more growth-oriented perspective through language and communication can be vital in promoting resilience and wellbeing during this life stage. Similarly, a growth mindset can also be beneficial in supporting men during andropause, the male equivalent of menopause. By adopting a growth mindset, men experiencing “andropause” (slight gradual decline, rather than cessation of testosterone production<sup>18</sup>) can view this transitional phase as an opportunity for personal growth and development rather than a decline in vitality, wellbeing and masculinity.

Although unlike men, women experience a dramatic drop in reproductive hormones<sup>19</sup>, it is crucial to recognise the similarities in coping mechanisms needed to positively adapt to naturally declining levels of sex steroid hormones occurring at both menopause and andropause. The disproportionate focus on menopause and women in media, research, and public attention may inadvertently reinforce perceptions of fixed or diminishing abilities in women, while men's experiences during andropause receive less visibility. An example of such initiatives and negative language includes recent UK policy changes posing a risk for employers to be sued for disability discrimination if they fail to make 'reasonable adjustments' for menopausal women, in accordance with Equality and Human Rights Commission<sup>20</sup>. While such considerations are very important and women's needs should be accommodated, the language linking menopause with disability is likely to create certain perceptions of ability, which might further impact how women perceive their capabilities and ageing. This discrepancy in attention and negative language could potentially influence employee perceptions and opportunities, leading to disparities in how menopause and andropause are perceived and supported in the workplace. Therefore, it is essential to foster inclusive dialogue and support systems that acknowledge the unique experiences of individuals of all genders navigating hormonal transitions associated with ageing.

#### **Barrier 4: The culpable party.**

The absence of a multidisciplinary approach to address challenges related to ageing and menopause, coupled with limited consideration of the potential impacts of addressing these issues, contributes to the development of narratives that may not effectively address the problem holistically. This approach can create perceptions of blame for certain stakeholders within the ecosystem and hinder collaborative efforts that could support the positive change from coming to fruition.

Currently, it is not uncommon to encounter research or popular media articles highlighting pressing issues reported by women and other stakeholders related to menopause. Some narratives point to uninformed general practitioners who struggle to recognise menopause symptoms or are hesitant to prescribe HRT treatments. Others highlight the profit-driven motives of commercial companies that capitalise on the mediatisation of menopause for

financial gain. There is also significant attention on the marketing of health claims, which is perceived as contributing to uninformed decisions.

While each of these findings contains elements of truth, it's essential to consider whether they represent objective or slightly partial perceptions influenced by the visible aspects of the broader system. Let's elaborate with an example: the surge in health and wellness supplements, accompanied by growing criticism of false claims. Undeniably, there are many instances where such criticism is valid. However, solely focusing on these claims represents only a partial problem within the wider system.

The Supplement Research Programme, led by Dr. Pieter Cohen, an associate professor at Harvard Medical School and an internist at Cambridge Health Alliance, has uncovered alarming discrepancies in supplement contents<sup>21</sup>. For instance, melatonin gummies, marketed for sleep and stress relief, were found to contain up to 347% more of the stated ingredient<sup>22</sup>. Furthermore, combining dietary supplements with medications can pose serious risks, including life-threatening effects. For instance, St. John's wort, an herbal supplement, can reduce the effectiveness of drugs for HIV/AIDS, heart disease, depression, organ transplants, and birth control pills. Depending on the medication, the consequences can be severe. Additionally, substances like warfarin, ginkgo biloba, aspirin, and vitamin E can all thin the blood. Mixing any of these products together may elevate the risk of internal bleeding or stroke<sup>23</sup>. Dr. Cohen advises against weight loss, sexual performance, and cognitive enhancement supplements due to insufficient evidence of efficacy, as supplements are not required to be tested for efficacy in human trials<sup>24</sup>. Crucially, he urges consumers to opt for supplements from reputable brands with third-party certification, such as the National Institutes of Health, U.S. Pharmacopeia, or NSF International, to ensure safety and efficacy.

As this example alone illustrates, the existence of any health solution on the market is enabled by a range of different stakeholders (e.g., regulatory bodies, policymakers, manufacturers, marketers, healthcare providers), each responsible for and impacting the final product or solution available on the market. If we consider the existence of these solutions from a systemic perspective, rather than an individual stakeholder perspective, it could be more likely that transparency in relation to all these processes could be enhanced. This, in turn, hopefully leads to collaborative efforts to address any existing problems and barriers to safe and effective solutions. Additionally, considering the quickly evolving space of ESG sustainable practices, many commercial companies might realise that they could face reputational and financial damage if rating low on various social impact measures – which relate to wellbeing outcomes or product quality and safety.

### **Barrier 5: Limited understanding of women's health and women's health services**

Defining women's health, understanding its scientific underpinnings, and translating this knowledge into comprehensive and inclusive healthcare services for women pose significant and persistent challenges. While certain health issues, such as those related to reproductive organs like contraception, fertility, maternal health, menopause, gynaecology, and women's oncology, are well-recognised, there remains a gap in support and care for women facing conditions beyond reproductive health concerns<sup>25</sup>. This includes conditions like cardiovascular disease, diabetes, and Alzheimer's disease<sup>26</sup>, which affect women differently than men, as well as those such as migraines, autoimmune diseases, osteoporosis, anxiety, depression, urinary tract infections, and lung cancer, which disproportionately impact women<sup>27</sup>. Moreover, it's crucial to acknowledge and address racial disparities and inequalities



in women's healthcare and services<sup>28</sup>. Women of colour often experience unique health challenges due to unequal access to care, disparities in the quality of care, a shortage of culturally competent healthcare providers, and systemic biases within the healthcare system.

The study, conducted by one of the authors with physicians in leadership roles, aimed to explore gender bias in healthcare and organisational settings and find ways to address challenges in women's healthcare services. The findings revealed several barriers that require attention.

While women's health was defined as encompassing all bodily systems affecting women, men participating in the study tended to focus on maternity and conditions related to the female reproductive system and menopause. This discrepancy was evident in the reluctance of women, especially those with young children, to seek healthcare unless in emergencies, due to the lack of integration in services. Moreover, healthcare services in England are not adequately tailored for pregnant women, leading to delays in accessing specialised care for non-pregnancy-related issues during pregnancy. Many clinicians felt the gender of the patient didn't affect their clinical decision making with patients and treated them based on symptoms regardless of the gender.

### **Towards sustainable solutions**

To effectively address all the aforementioned challenges, it is crucial to adopt a comprehensive, interdisciplinary perspective that acknowledges the complex interplay of biological, psychological, social, and environmental factors impacting individuals' experiences of ageing and menopause. This inclusive approach can help foster understanding, promote collaboration, and facilitate the development of effective solutions that support the wellbeing of individuals across the lifespan. Grounded in this principle, our efforts have focused on identifying and addressing the root causes of challenges faced by females, as illustrated in the barriers section above. Through research, we have identified that a significant portion of these challenges arises within the spheres of work and home, influenced by broader environmental factors. As a result, we have prioritised initiatives within the workplace and the wider ecosystem, recognising their potential to catalyse systemic innovation and positively impact the experiences of females. In the sections below, we present an ecosystem approach to developing support, which connects different elements of the ecosystem for support.

#### **Solution 1: Focus on ecosystem and value co-creation to optimise daily experiences.**

While many health transformations have very complex biology, processes and solutions, the key to recognise is that those transformations take place during daily experiences, where the health sector and services do not always reach. That is why it is important to understand the ecosystem that can either support or hinder how people progress towards health behaviours. This type of system solutions have been recognised in the context of other complex societal challenges, like obesity for example<sup>29</sup>. Systems approaches to societal challenges focus on understanding those challenges as a complex problem influenced by multiple interacting factors within various systems, including individual, social, environmental, economic, and policy domains, as illustrated in Figure 2 below. At its core, systems approaches recognise that health problems are not simply a result of individual choices or behaviours but is instead influenced by a wide range of interconnected factors, coming from different stakeholders like workplace, home, family, social groups, technology, etc.

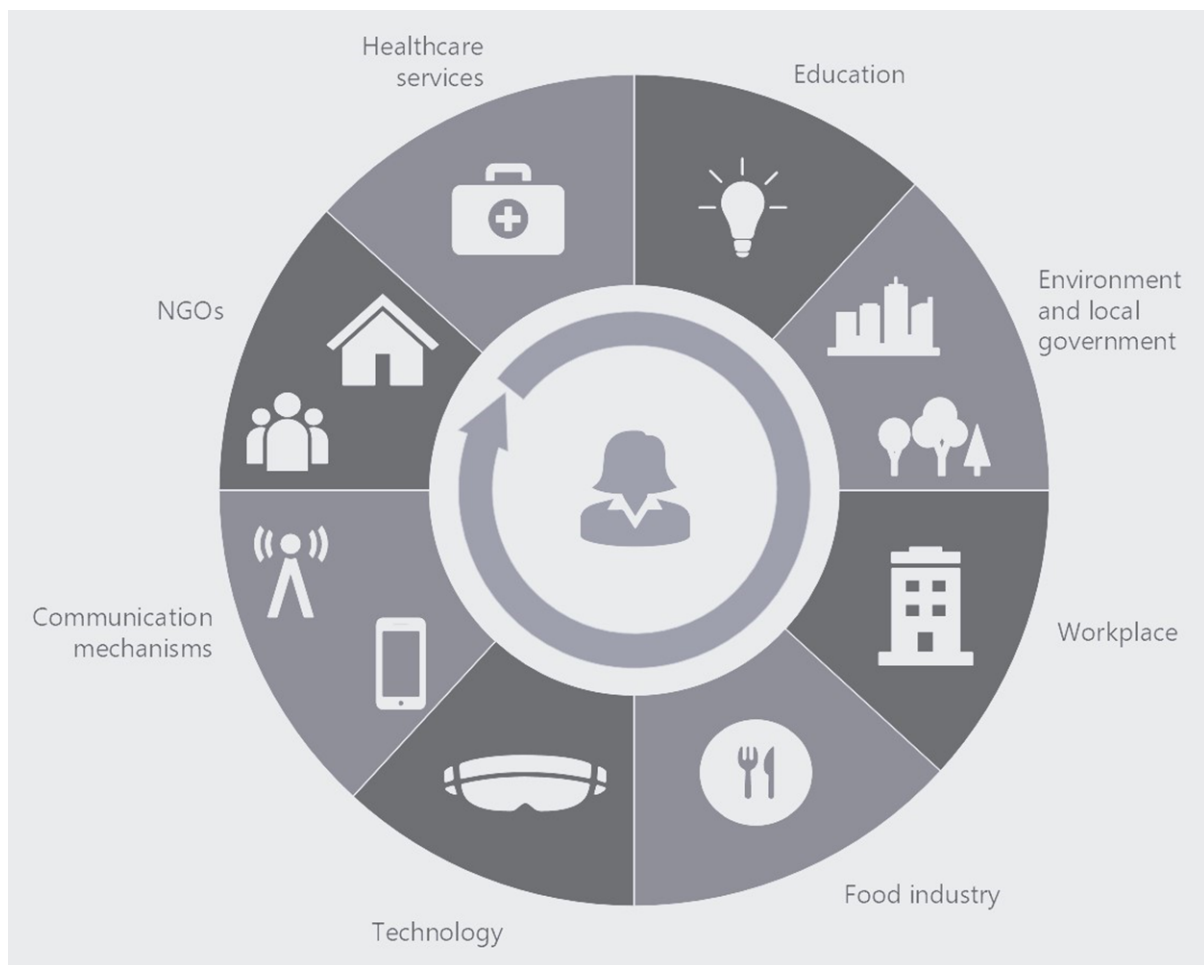


Figure 2. Systems approach to wellbeing

Consequently, understanding the menopausal transition as an ageing and behavioural change journey is crucial for women navigating this period, as this journey approach recognises needs and processes that lead to adapting lifestyles and choices to cope effectively. In order to change behaviours, we need to be aware that a change is needed and could be beneficial, we need to understand different options and choices we have to support our behaviour, we need to have an opportunity to interact with different elements of the system that could support our efforts and we need system support to reward the changes we managed to introduce, support ongoing efforts and habit formation. This journey doesn't happen in isolation; it's influenced by social circles, such as those at home or work.

Service research offers valuable insights into utilising the ecosystem's structure and dynamics to support behavioural change<sup>30</sup>. By considering service design and the wider support ecosystem, akin to diverse societal groups collaborating, we can create value and collectively facilitate behavioural change<sup>31</sup>. When individuals find value in certain actions (e.g., physical activity), they're more likely to sustain them. This body of research emphasises the importance of leveraging resources from various sources within the ecosystem to make activities and behaviours more accessible and achievable. For example, cancer patients often

collaborate with healthcare providers, explore complementary therapies, educate themselves about their condition, and involve loved ones in their care<sup>32</sup>. These strategies help patients navigate cancer treatments and enhance their quality of life. By tapping into a range of resources, individuals can better cope with health challenges and improve their overall wellbeing.

Supporting menopausal transition as part of an ecosystem can enable organisations to fulfil social impact objectives outlined by ESG standards. By viewing menopause as a journey of behavioural change and drawing from service research, organisations can design interventions that effectively leverage the ecosystem's structure and dynamics. In evaluating the social impact of such initiatives, potential ESG measures include improvements in physical and mental health outcomes, gender equality promotion, community engagement levels, enhancement of employee satisfaction and productivity, and ensuring inclusivity and diversity in organisational policies and practices. Through a concerted focus on these measures, organisations demonstrate their commitment to supporting women through the menopausal transition while fostering holistic wellbeing within their ecosystems.

## **Solution 2. Foster creation of transformative communities**

Transformational communities are groups of people who gather together to bring about positive and sustainable change in society. By generating flows of engagement and activating ecosystems, community members challenge existing models to lead social, economic, cultural, regulatory or environmental impact through collaboration and coordination, or by enacting each respective institution they represent like businesses, social organisations, governments or universities. Transformational communities are driven by the desire to create and foster inclusive, empowered and marked shift in the current state of things. Transformational communities by design can activate the collective agency for the good, amplify culturally rooted experiences, generate dynamic capabilities and deploy effective governance systems. Here are some examples of such communities addressing healthy ageing and female health ageing:

*Ageing@Coimbra*<sup>33</sup>: Situated in the Centro Region of Portugal, Ageing@Coimbra is a consortium led by the University of Coimbra. It aims to enhance the well-being of elderly individuals through improved social services and healthcare. By fostering quadruple helix collaboration involving academia, government, healthcare institutions, and the private sector, it promotes active and healthy ageing. The consortium initiates innovative projects and supports young entrepreneurship in health services, with action groups focusing on areas like prescription adherence and falls prevention.

*Healthy Ageing Community of Practice*<sup>34</sup>: This collaborative learning community brings together businesses, researchers, investors, and policymakers to advance knowledge and innovation in healthy ageing. With over 1,000 members, it offers workshops, networking opportunities, and informative sessions to drive impactful projects and insights. Part of the UK Research and Innovation's Healthy Ageing Challenge, it strives to empower older adults to remain active, independent, and socially connected as they age.

*AGE Platform Europe*<sup>35</sup>: As the largest European network representing older people, AGE Platform Europe advocates for the diverse needs and aspirations of the older population in the European Union. Through projects addressing age-friendly cities, urban exploration for seniors, combating violence against older women, and promoting awareness against ageism,

it ensures that older adults' voices are heard in policymaking at the European level. AGE Platform Europe emphasizes a rights-based and life-course approach to ageing, advocating for policies that support older individuals throughout their lives.

### **Solution 3. Create workplace opportunities.**

The pursuit of workplace wellness for healthy ageing demands a strategic blend of awareness building, resources, and planning, which can support the behaviour change journey. By anchoring interventions in evidence-based practices and leveraging insights from academic research, organisations can cultivate environments that promote holistic wellbeing and empower employees to thrive. As we navigate the complex landscape of modern workplaces, let us remain steadfast in our commitment to fostering health, vitality, and resilience among all members of the workforce.

#### ***The First Pillar: Creating awareness and support.***

Understand the importance of awareness and mitigate the challenge of undiagnosed conditions: In the domain of workplace wellness, fostering awareness assumes a crucial role in both preventing and managing health adversities, particularly those linked with menopause. Evidence consistently reveals that timely recognition and intervention substantially improve health outcomes across various health conditions. For instance, Mosca et al. (2004)<sup>36</sup> underscored the profound impact of awareness campaigns in reducing the prevalence of undiagnosed hypertension in women, thus preventing potential complications like stroke and heart attack. Given that postmenopausal women are already susceptible to conditions such as osteoporosis and cardiovascular disease, it becomes imperative to address modifiable physical and cognitive factors that could exacerbate medical complexities<sup>37</sup>. The complexities associated with undiagnosed conditions underscore the urgent necessity for proactive strategies in tackling menopause-related health challenges in the workplace promptly. This underscores the critical significance of early intervention in safeguarding the health and overall well-being of employees, accentuating the interconnectedness of menopausal symptoms with other diseases and long-term health outcomes.

Deploy strategies for raising awareness: Effective initiatives within the workplace must encompass multifaceted strategies to engage and support individuals experiencing menopause. Drawing from behavioural science principles, interventions may leverage various channels, such as interactive workshops, targeted messaging campaigns, and incentives for participation<sup>38</sup>. Furthermore, integrating digital health technologies, such as mobile applications and wearable devices, enhances accessibility and engagement among tech-savvy employees<sup>39</sup>. By adopting a comprehensive approach, organisations can foster a culture of health literacy and empower employees to take proactive steps towards wellness.

#### ***Second Pillar: Providing adequate resources and skills.***

Provide holistic wellness support: Beyond raising awareness, workplace wellness programs must offer comprehensive support mechanisms to address the multifaceted needs of employees. This entails not only access to medical services but also resources for mental and emotional wellbeing. Research underscores the interconnectedness of physical and mental health, emphasising the importance of integrated approaches to wellness<sup>40</sup>. Thus, organisations must prioritise initiatives that promote stress management, resilience-building, and work-life balance alongside traditional healthcare services.

Empower through education and training: Empowerment lies at the heart of effective wellness programming. By equipping employees with knowledge and skills, organisations empower individuals to take ownership of their health journeys. Educational workshops, skill-building sessions, and personalised coaching foster a culture of self-efficacy and proactive health management<sup>41</sup> Moreover, investing in employee training programs enhances organisational capacity for promoting health and wellness, creating a ripple effect that extends beyond individual empowerment to organisational culture transformation.

### ***Third pillar: The role of strategic planning***

Move from vision to action and sustainable impact: The planning imperative: Strategic planning forms the bedrock of successful workplace wellness initiatives, guiding organisations from vision to action. Goetzel et al. (2014) emphasise the importance of systematic planning in achieving sustainable outcomes. Central to this approach is the articulation of clear goals, objectives, and performance metrics, which serve as guiding beacons for program implementation and evaluation. A well-crafted strategy encompasses not only the initial rollout of interventions but also long-term sustainability and impact. This necessitates careful consideration of resource allocation, stakeholder engagement, and scalability<sup>42</sup>. By integrating feedback loops and iterative processes into the planning framework, organisations can adapt to evolving needs and maximise the effectiveness of their wellness initiatives.

### **Solution 4: Smash the stereotypes: Embrace a growth mindset of your leaders and employees**

In terms of a growth mindset during the menopause it is important that this is not just an individual responsibility but a collective one. The attitude towards people ageing in the workplace and women is deeply ingrained in society as one of stagnation and often referred to as “going into cruise-control”. This is quite a dangerous assumption and one that negates the idea of ageing as an asset and contribution which it is. In order to thrive organizations should be looking to widen the range of employees and strive for a wide range of employees that represent the fabric of society and not reinforce the notions of a “sell by date” when it comes to age and also age and intersection. This of course is an attitude that is deeply ingrained in society and we can try to change it by taking recruitment actions that challenge this notion.

Institutional data from one of the author’s employers, shows that when it comes to women, in particular the highest representation at a senior level is between the ages of 25 to 34 at 75%. Women over 55 only occupy 27% which is concerning but also validating in terms of backing up anecdotal evidence that age has an impact on the professional trajectory of women. If we take said UK organisation as an example, the majority of over 55 are concentrated in the middle and junior roles. There is of course the school of thought that some women due to child rearing and caring responsibilities choose to remain in these roles but what about those who haven’t and who in this contributor’s opinion are the majority. Interestingly, are organisations looking closely enough at their employment and performance data by age and gender groups?

In a sense it is the Line manager’s responsibility, if not institutional responsibility, to celebrate and support the development of older women who have hit a glass ceiling. We

propose that positive action extends to age and that some senior role interviews plus a place on Leadership Programmes for high-potential individuals are ringfenced for those women who have been trying to progress for several years. Diagnostics and focus groups should be made available to women over 55 in junior grades to assess whether they are there by choice or because of institutional and societal barriers. In the build-up to these interviews, coaching and workshops to identify gaps should be provided. This is by no means a novel idea in terms of positive action; what is novel is that the focus is usually on other protected characteristics.

We are not arguing that there is no representation of women over 55's in senior roles, we are saying that progression is stunted so if you are already not senior therein lies the challenge. It is about acknowledging that there is room for growth, evolution and learning during and post menopause and that organizations should not shy away from what can be seen as an awkward challenge for those who do not share the experience.

### **Solution 5: Un-Pause Men**

As mentioned above menopause is a multifaceted, natural process women will endure in their lifetime. Males have a pivotal role in educating themselves and using evidence-based supportive literature and interventions to increase awareness regarding menopause to help and to be able to better support their female counterparts; so that all counterparts can have a smooth transition into postmenopausal years.

In a study by Koyuncu, *et al.*,<sup>43</sup> to evaluate the effectiveness of health education, the efficacy of a training program, information about menopausal symptoms, knowledge, and attitude toward menopause was collected before and after health education. It was suggested that there was a decrease in the somatic and psychological subdimensions of the menopausal symptom evaluation scale and the total score. Positive changes were observed in the levels of knowledge about menopause, and positive and negative emotional subscales of the menopause attitude assessment scale. This study highlighted that health education is an effective method to positively change the perceived severity of menopausal symptoms and menopause-related levels of knowledge and attitude.

Education resources and materials are available and can be used to help men understand menopause better; including books, reputable online sources, articles and attending seminars, workshops and engaging with health professionals around this topic. Another supportive measure for heterosexual men attending medical consultations with their partners or asking questions during visits with healthcare providers. Understanding the medical aspects of menopause, such as symptoms, hormonal changes and associated health risks, can enhance empathy and supportive dialogue with males. This could be translated into the workplace and community settings.

Other solutions include better open and honest communication between men and women, and women with other women, to foster and engender better relationships. Support groups in the workplace and among partners can offer a safer space to share experiences, seek advice, and break down the barriers and taboos around menopause. Additionally, an empathetic approach will then develop, enabling the understanding and supportive strategies for men, especially if it starts early in life. This was also voiced by research participants in our study, with Jackie, 62 years old, mentioning:

*“For example, my partner, I don't think that he would like to sit down and watch a program about the menopause, whereas I think younger men would, yeah.”*

As men we need to do better in understanding menopause; it is not just about the physical changes women go through, but the psychosocial implications and aspects of this transition. Furthermore, being engaged, empowered, informed and supportive can play a significant role in helping us navigate the menopause journey with empathy and dignity. Jackie, 62 years old mentioned:

*“...I'm wondering if it needs to be touched on in schools. When people are older..., I think young people need to know about it, but not...just females. Men need to know. Young men need to know about it as well”*

While ageing discussions often centre on women due to menopause, it's crucial to recognise that men also undergo significant changes with age. Andropause, the gradual decline in testosterone levels in men, is one such change, yet it's often overlooked or under-discussed compared to menopause. Societal expectations of masculinity can hinder men from openly addressing their experiences with andropause and seeking support.

By acknowledging the impact of ageing on both genders and promoting open dialogue and support, we can diminish the stigma surrounding ageing. This inclusive approach not only benefits women but also creates a supportive environment where men feel more comfortable discussing their ageing-related challenges and seeking help. Ultimately, fostering support for both men and women in navigating the ageing process can enhance the wellbeing and quality of life for everyone involved.

### **Solution 6. Develop women's health services.**

There is also the need to focus on creating health services for women that are focused on biological, emotional and social needs of females. The proposed solution could focus on a life course approach, which acknowledges that the rate of decline in function is influenced by the highest level of function achieved earlier in life, shaped by developmental processes and early environmental influences<sup>44</sup>.

Therefore, for women's health services to align with a life course approach, they must recognise (and be able to capture for a better understanding of health history) reproductive health needs as well as other general health needs that are likely to affect females at different stages of their lives. As a result, either through a questionnaire, existing healthcare records, or healthcare practitioner inquiries, informed decisions and support should be enabled based on (1) reproductive health needs including prior HPV vaccination, menstrual health, gynaecological conditions, cervical screening, gynaecological cancers, sexual health and well-being, contraception, pregnancy, fertility, pregnancy loss, abortion care, postnatal support, pelvic floor health, perimenopause, and menopause, as well as breast cancer screening; and (2) general health needs, including well-being and lifestyle, weight, exercise, and smoking, mental health, long-term conditions, the health impact of violence against women and girls, osteoporosis and bone health, as well as Dementia and Alzheimer's.

To exemplify the life course approaches in integrated health services, we'll delve into a case study from a hypothetical women's health hub. A 46-year-old woman sought help at the clinic, presenting a constellation of symptoms. These included dry mouth, jaw pain, and a swollen right ankle, along with discomfort in her sole and heel, hindering her mobility. She

had two children aged 9 months and 2 years. Juggling the responsibilities of a working mother, fatigue weighed heavily on her, exacerbated by disrupted sleep due to her young children's needs. She also reported feeling mentally less sharp, attributing this decline to her exhaustion. Additionally, she had a medical history of premenstrual syndrome (PMS) and autoimmune hypothyroidism. During her pregnancies, she experienced hand joint swelling and carpal tunnel syndrome, believed to be linked to pregnancy-related changes. Despite still experiencing menstrual cycles, these were gradually becoming irregular, occurring every 3 to 6 weeks and her PMS was a lot worse. She thought that all her symptoms were due to being a working mother with young children.

Upon attending the women's health hub, after listening carefully to her story, the medical doctor explained that given her age and symptoms, most likely she was experiencing perimenopause. Irregular menstrual cycles and exacerbation of PMS are recognised as being suggestive of perimenopause. Although musculoskeletal issues can be a symptom associated with perimenopause, in view of her history of autoimmune hypothyroidism and worsening of joint issues during pregnancy, blood tests were conducted to check on thyroid function, autoantibodies and inflammatory markers. Although thyroid function was fine, the other findings, in the context of her clinical history were very suggestive of rheumatoid arthritis. In addition to advice around lifestyle in terms of exercise, nutrition and stress management, treatment for rheumatoid arthritis was started, together with hormone replacement therapy (HRT) patches. Advice was given about contraception. Her mouth symptoms ameliorated, and she noticed improvements in her sleep, energy levels, and cognitive function. Morning stiffness ceased to be an issue, marking a significant improvement in her overall wellbeing.

### **A way forward**

Removing stigma surrounding menopause and ageing, and promoting equality, could foster a more inclusive and supportive environment for all individuals navigating the challenges of ageing and menopause. Moving forward to ensure person-centred systems, sustainability, and social impact involves recognising and addressing barriers individuals face during menopause and ageing. Solutions including ecosystem-focused approaches, engaging men, creating workplace opportunities, and enhancing women's health services offer a glimpse into a system of holistic support. Collaboration and knowledge exchange among stakeholders are crucial for effective implementation, while monitoring impact ensures interventions make a meaningful difference. While collaboration in this case will not always be easy, focusing on initiatives that foster a culture of continuous improvement ensures long-term success. By taking these steps, we can create supportive systems that prioritise individual wellbeing, contribute to sustainability, and drive positive social change.

This challenge and the process of addressing it as described in this chapter highlights the relevance of research and universities in ensuring that the various types of knowledge that traditionally come from disciplinary and narrow areas are actually connected into a meaningful whole, where social impact is likely to realise. While there are various challenges with knowledge exchange and mobilising different stakeholders and resources, adopting person-centred approaches to identify the root of the needs shaping social impact is the key to knowledge exchange. Considering the fact that universities often operate within their own ecosystems, and co-create knowledge within those ecosystems, it is critical for those institutions to facilitate multidisciplinary teams which could connect the depth and breadth of knowledge for greatest impact.



---

<sup>1</sup> Faubion S S, Enders F, Hedges M S, Chaudhry R, Kling J M, Shufelt C L, Saadedine M, Mara K, Griffin J M, Kapoor, E. Impact of Menopause Symptoms on Women in the Workplace. *Mayo Clinic proceedings* 2023; 98:6 pp.833–845.  
doi:10.1016/j.mayocp.2023.02.025

<sup>2</sup> Conti G, Ginja R, Persson P, Willage B. The menopause "penalty". *Institute for Fiscal Studies* 2024 [Preprint]. Available at: [https://ifs.org.uk/sites/default/files/2024-03/WP202405-The-menopause-penalty\\_0.pdf](https://ifs.org.uk/sites/default/files/2024-03/WP202405-The-menopause-penalty_0.pdf). doi: 10.1920/wp.ifs.2024.0524 (Accessed: 3 April 2024).

<sup>3</sup> Observatory of public Sector Innovation, Organisation for Economic Co-operation and Development. Setting clear outcomes for ambitious missions 2021. Available at: <https://oecd-opsi.org/work-areas/mission-oriented-innovation/#:~:text=Mission%2Doriented%20innovation%20refers%20to,%2C%20climate%20mitigation%2C%20clean%20oceans%2C> (Accessed: 3 April 2024).

<sup>4</sup> Henisz W, Koller T, Nuttal R. Five ways that ESG creates value. *McKinsey Quarterly* 2019 available at: [https://www.mckinsey.com/~/\\_media/McKinsey/Business%20Functions/Strategy%20and%20Corporate%20Finance/Our%20Insights/Five%20ways%20that%20ESG%20creates%20value/Five-ways-that-ESG-creates-value.ashx](https://www.mckinsey.com/~/_media/McKinsey/Business%20Functions/Strategy%20and%20Corporate%20Finance/Our%20Insights/Five%20ways%20that%20ESG%20creates%20value/Five-ways-that-ESG-creates-value.ashx) (Accessed: 3 April 2024).

<sup>5</sup> Philip Morris International. Integrated Report 2023. Available at: <https://www.pmi.com/sustainability/reporting-on-sustainability> (Accessed: 4 April 2024).

<sup>6</sup> Farzam R, Bartels W, Stanley K, Pahmer G. Beyond Environmental Impact: The Case of Social in ESG. *Deloitte* 2024. Available at: <https://www2.deloitte.com/nl/nl/pages/sustainability/articles/beyond-environmental-impact-the-case-of-social-in-esg.html> (Accessed: 4 April 2024).

<sup>7</sup> Serafeim, G. Social-impact efforts that create real value. *Harvard Business Review* 2020; 98:5 pp 38-48. Available at: <https://hbr.org/2020/09/social-impact-efforts-that-create-real-value> (Accessed: 4 April 2024).

<sup>8</sup> Hickey M, LaCroix A S, Doust J, Mishra G D, Sivakami M, Garlick D, Hunter M S. An empowerment model for managing menopause. *The Lancet* 2024;403:10430 pp 947–957. doi:10.1016/S0140-6736(23)02799-X.

<sup>9</sup> Ferguson B, Belloni A. Ageing and health expenditure. *Health Profile for England* 2018. Available at: <https://ukhsa.blog.gov.uk/2019/01/29/ageing-and-health-expenditure/> (Accessed: 4 April 2024).

<sup>10</sup> Yale School of Public Health. Lifestyle Factors: Tobacco and Alcohol, Obesity and Physical Activity, Nutrition and Diabetes. Available at: <https://ysph.yale.edu/public-health-research-and-practice/interdepartmental-foci/lifestyle-factors/> (Accessed: 4 April 2024).

<sup>11</sup> Australian Menopause Society. Lifestyle and behavioural modifications for menopausal symptoms. 2019. Available at: <https://www.menopause.org.au/hp/information-sheets/lifestyle-and-behavioural-modifications-for-menopausal-symptoms> (Accessed: 5 April 2024).

<sup>12</sup> Hidiroglu S, Tanrioer O, Ay P, Karavus M .A qualitative study on menopause described from the man's perspective. *J Pak Med Assoc* 2014;64:9 pp. 1031-1036 PMID: 25823183

- 
- <sup>13</sup> Jaspers L, Daan N M P, van Dijk G M, Gazibara T, Muka T, Wen K-x, Meun C, Zillikens M C, Roeters van Lennep J E, Roos-Hesselink J W, Laan E, Rees M, Laven J S E, Franco O H, and Kavousi M. Health in middle-aged and elderly women: A conceptual framework for healthy menopause, *Maturitas* 2015; 81:1, pp. 93-98. doi: 10.1016/j.maturitas.2015.02.010
- <sup>14</sup> What is health? The ability to adapt. *The Lancet*. 2009; 373 (9666): 781.  
[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(09\)60456-6/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(09)60456-6/fulltext)
- <sup>15</sup> Dweck C S. Motivational processes affecting learning. *American Psychologist* 1986; 14 pp 1040–1048. doi:10.1037/0003-066X.41.10.1040
- <sup>16</sup> Dweck C S. Self-theories: Their role in motivation, personality, and development. *Psychology Press* 2000: Philadelphia, PA.
- <sup>17</sup> Haslin P A, J Burnette, N G Ryu. Does a growth mindset enable successful aging? *Work, Aging and Retirement* 2021;7:2 pp 79–89. doi: 10.1093/workar/waaa029
- <sup>18</sup> Vermeulen, Alex. "Andropause." *Maturitas* 34, no. 1 (2000): 5-15.
- <sup>19</sup> Male menopause: myth vs. fact. *The Journal of clinical endocrinology and metabolism* 2014; 99:10, 49A–50A. doi:10.1210/jc.2014-v99i10-49A
- <sup>20</sup> The Guardian. Employers must make 'reasonable adjustments' for women going through the menopause 2024. Available at:  
<https://www.theguardian.com/society/2024/feb/22/employers-must-make-reasonable-adjustments-for-women-going-through-menopause> (Accessed: 10 April 2024)
- <sup>21</sup> Challiance Organisation Supplement Research Program 2024. Available at:  
<https://www.challiance.org/academics/research/supplements/about-our-work> (Accessed: 10 April 2024)
- <sup>22</sup> Cohen, P A, Avula B, Wang Y H, Katragunta K, and Khan I. Quantity of melatonin and CBD in melatonin gummies sold in the US. *JAMA* 2023; 329:16, pp 1401-1402. doi:10.1001/jama.2023.2296
- <sup>23</sup> U.S. Food and Drug Administration. Mixing Medications and Dietary Supplements Can Endanger Your Health. Available at: <https://www.fda.gov/consumers/consumer-updates/mixing-medications-and-dietary-supplements-can-endanger-your-health> (Accessed: 10 April 2024).
- <sup>24</sup> American Medical Association. Pieter Cohen, MD, explains dietary supplements and regulations 2014. Available at: <https://www.ama-assn.org/delivering-care/public-health/pieter-cohen-md-explains-dietary-supplements-regulations> (Accessed: 10 April 2024).
- <sup>25</sup> Weisman C S. Changing definitions of women's health: implications for health care and policy. *Maternal and child health journal* 1997; 1:3 pp. 179-189. doi: 10.1023/a:1026225513674
- <sup>26</sup> Merone L, Tsey K, Russell D, Nagle C. Mind the Gap: Reporting and Analysis of Sex and Gender in Health Research in Australia, a Cross-Sectional Study'. *Women's Health Reports* 2022; 3:1 pp. 759-767 doi.org/10.1089/whr.2022.0033

---

27 Kmietowicz Z. Health Inequality: “Women’s Health Ambassador” Will Help Deliver Strategy to Close Gender Gap in England. *BMJ* 2021; 375 pp. n3142-n3142. doi: [10.1136/bmj.n3142](https://doi.org/10.1136/bmj.n3142)

28 Department of Health and Social Care UK Women's Health Strategy 2021. Available at: <https://assets.publishing.service.gov.uk/media/62d93c65d3bf7f2862f26a48/Womens-Health-Strategy-easy-read.pdf> (Accessed: 13 April 2024)

29 Public Health England. Whole systems approach to obesity 2019. Available at: <https://www.gov.uk/government/publications/whole-systems-approach-to-obesity> (Accessed: 13 April 2024)

30 Gallan A S, McColl-Kennedy J R, Barakshina T, Figueiredo B, Jefferies J G, Gollnhofer J, Hibbert S, Luca N, Roy S, Spanjol J, Winklhofer H. Transforming community well-being through patients' lived experiences *Journal of Business Research* 2019; 100: pp. 376-391. doi: 10.1016/j.jbusres.2018.12.029

31 Patrício L, Fisk R, Cunha J C, Constantine L. Multilevel service design: from customer value constellation to service experience blueprinting. *Journal of service Research* 2011;14:2 pp. 180-200.

32 McColl-Kennedy J R, Vargo S L, Dagger T S, Sweeney J C, van Kasteren Y. Health care customer value cocreation practice styles. *Journal of service research* 2021; 15:4 pp 370-389. doi: [10.1177/1094670512442806](https://doi.org/10.1177/1094670512442806)

33 <https://ageingcoimbra.pt/en/best-practices>

34 <https://iuk.ktn-uk.org/programme/healthy-ageing-community/>

35 <https://www.age-platform.eu/about/our-vision-and-mission/>

36 Mosca L, Ferris A, Fabunmi R, Robertson RM. Tracking women’s awareness of heart disease: an American Heart Association national study. *Circulation* 2004; 109: 5 pp 573-579. doi: 10.1161/CIR.0b013e318287cf2f

37 Santoro, N, Epperson C N, Mathews S B. Menopausal symptoms and their management. *Endocrinology and Metabolism Clinics* 2015; 44:3 pp 497-515. doi:10.1016/j.ecl.2015.05.001

38 Huang H, Mattke S, Batorsky B, Miles J, Liu H, Taylor E. Incentives, program configuration, and employee uptake of workplace wellness programs. *Journal of occupational and environmental medicine* 2016; 58:1 pp 30-34. Available at: <https://www.jstor.org/stable/48500833>. (Accessed: 16 April 2024).

39 Howarth A, Quesada J, Silva J, Judycki S, Mills P R. The impact of digital health interventions on health-related outcomes in the workplace: a systematic review. *Digital health* 2018;4 doi: 10.1177/2055207618770861

40 Goetzel R Z, Roemer E C, Kent K B, McCleary, K. Integration of workplace prevention programs and organizational effectiveness. *American Psychological Association* 2019 pp. 279–294. doi: 10.1037/0000149-017

41 Goetzel RZ, Henke RM, Tabrizi M, Pelletier KR, Loeppke R, Ballard DW, Grossmeier J, Anderson DR, Yach D, Kelly RK, McCalister T, Serxner S, Selecky C, Shallenberger LG, Fries JF, Baase C, Isaac F, Crighton KA, Wald P, Exum E, Shurney D, Metz RD. Do

---

workplace health promotion (wellness) programs work? *J Occup Environ Med* 2014;56:9 pp 927-34. doi: 10.1097/JOM.0000000000000276.

<sup>42</sup> Goetzel, Z. Designing and implementing successful workplace health and well-being initiatives. *American Journal of Health Promotion* 2020;34:1 pp 112-112. doi: [10.1177/089011711988785](https://doi.org/10.1177/089011711988785)

<sup>43</sup> Koyuncu T, Unsal A, Arslantas D. Evaluation of the effectiveness of health education on menopause symptoms and knowledge and attitude in terms of menopause. *Journal of epidemiology and global health* 2018;8:1 pp 8-12. doi: 10.2991/j.jegh.2018.08.103.

<sup>44</sup> Dodds RM, Syddall HE, Cooper R, Benzeval M, Deary IJ, Dennison EM, Der G, Gale CR, Inskip HM, Jagger C, Kirkwood TB, Lawlor DA, Robinson SM, Starr JM, Steptoe A, Tilling K, Kuh D, Cooper C, Sayer AA. Gripstrength across the life course: normative data from twelve British studies. *PLoS One* 2014;4:9:12: e113637. doi: 10.1371/journal.pone.0113637.