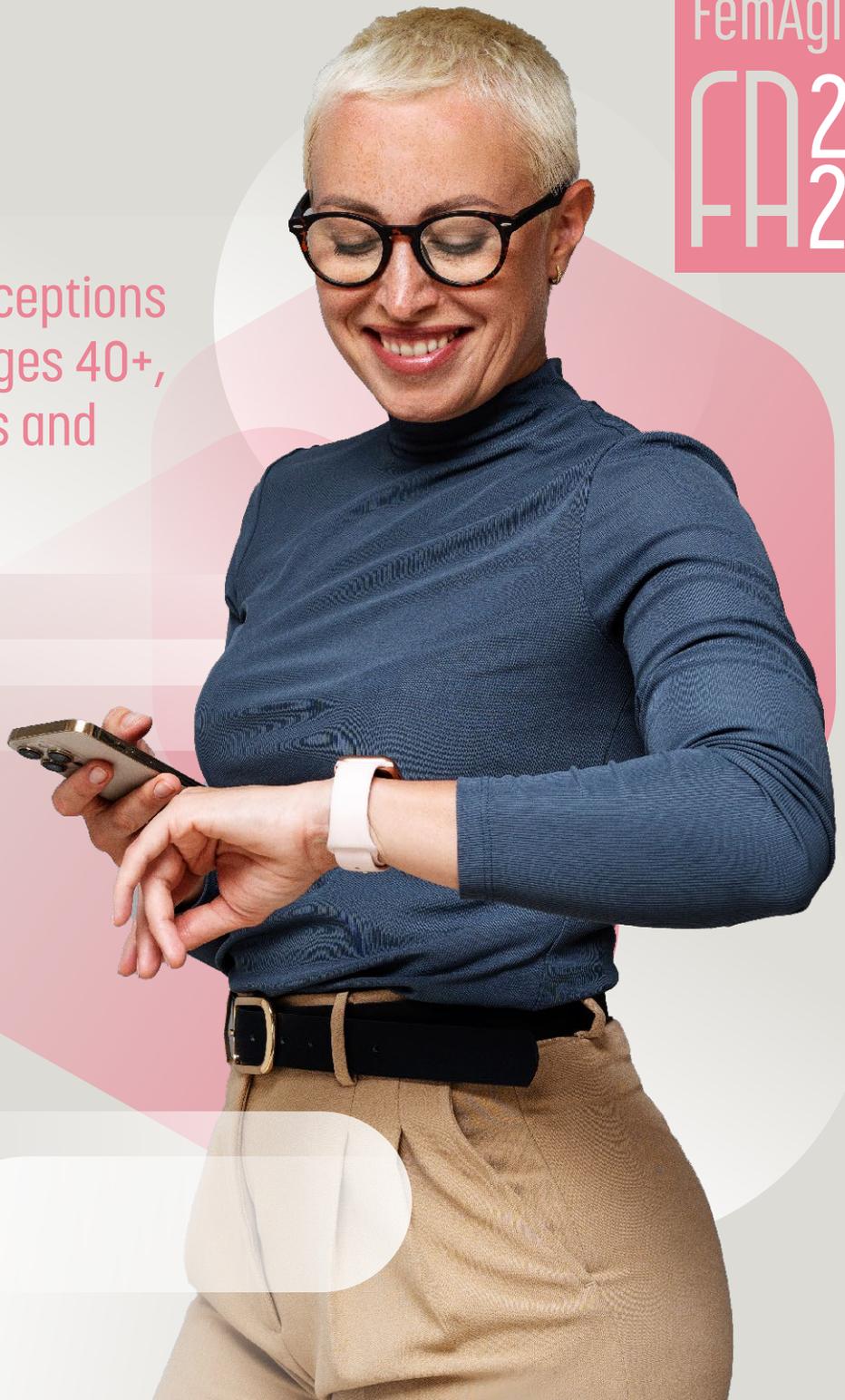


FemAging  
FA 20  
23

Challenging Perceptions  
About Women Ages 40+,  
Health, Wellness and  
Technology



A HealthTech  
Report

FemAging®  
Report 2023





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FemAging 2023:  
A HealthTech Report.



FemAging 2023 was developed by the FemAging Project, a global initiative launched in 2019 focused on highlighting, supporting and accelerating health, wellness and well-being innovations developed especially for women ages 40+.

The report was produced with the support of AARP.



In 2020, we published our first report and introduced a new industry sector, FemAging, featuring innovations in software, diagnostics, devices and wearables, as well as in clothing and haircare solutions, developed specifically for women ages 40+. This report provided the world's first in-depth research about what older women really want from products and services catering to them.

The FemAging 2023 report expands this research. The 2023 FemAging Index, a nationally representative survey of 1,000 U.S. women ages 40 to 65, reveals unique insights about the health and wellness concerns of women across various backgrounds and occupations, including white- and blue-collar workers and women of color. In this report, we oversampled up to 100 Asian American women to better understand their needs and preferences.

The FemAging Index was fielded between November 30 and December 5, 2022, by Wakefield Research using an email invitation and online survey. The survey's margin of error is plus or minus 3.1%.

In this report we refer to women ages 40 to 65, using a variety of terms, including "older women" and "women ages 40+."



FemAging 2020 Report Cover

For the latest FemAging 2023 research, events and pitch competitions, please visit [FemAging.com](https://www.femaging.com).

# Introduction

## Millennials Up Next: Perceptions of Aging and Health are Changing Rapidly

**We're used to thinking of Millennials as in their 20s and 30s, focused on their reproductive and sexual health.**

Yet, surprisingly, the oldest Millennials are about 43 years old. These women face very different health and life concerns, including perimenopause and caring for their children—and parents.

Millennial women have endured two economic downturns, including the Great Recession; the aftermath of the 9/11 terrorist attacks; the wars in Iraq and Afghanistan; and the COVID-19 pandemic. Add to that climate change, massive student loan debt, and increasing social and political strife, and it's hardly surprising that Millennials are burdened with monumental levels of stress.

Our research shows that the oldest Millennials, and their older peers, are clamoring for technologies that can help them manage their many health, wellness and mental health needs. The question is whether innovators can rise to the challenge.

Understanding the needs of these women is vital. The oldest Millennials are helping to change how once-taboo subjects such as menopause are viewed. And, because they grew up with access to powerful technologies and data, they will not tolerate the health status quo. As these women age, our research shows that their concerns about their ability to age well i.e., remain independent and active—will only increase. And, as these worries mount, so will demand for innovative FemAging products and services.

I'm pleased to present the 2023 edition of the FemAging report, which provides innovators, investors and others with much-needed data and a roadmap they can use to make a profound difference in the lives of the oldest Millennials and other women ages 40 to 65.



**Denise Pines,**  
Co-Founder, FemAging Project

# Winning the Era of Age Wellness



## Women's Health: Thinking Beyond the Norm

When many consider the topic of women's health, a simple picture of reproductive and sexual health emerges—mainly due to a traditional focus on factors that threaten a woman's well-being in pregnancy and childbirth.

Undoubtedly, reducing maternal and infant mortality, and improving quality of life for mothers, is critical for women around the world. Yet, there is another under-recognized and underappreciated aspect of female health: the hormonal, aging and sexual health concerns of women over the age of 40. This group makes up more than 25% of the global population. In fact, about 1.1 billion of the world's population will be women over the age of 40 by 2025, according to the North American Menopause Society.

The health needs of these women are broad and include heart disease, cancer, osteopenia and diabetes, conditions that can emerge during the perimenopause and menopause years. FemAging solutions targeting these life stages may improve health outcomes and potentially allow these women to maintain the energy and vigor they need to successfully steward the health of their families and others close to them.

# Older Women Worry About Staying Active, Engaged and Independent With Age After COVID



One of the key findings of the 2020 FemAging report was that many older women are concerned about their ability to age well. **Healthy aging** means having the physical and mental capacity to remain active and engaged with families, careers and other pursuits across the decades.

Our previous research revealed that 55% of women ages 40 to 65 had significant or very high concerns about staying active, healthy and independent as they age. In 2022, this percentage increased slightly, with **58% of women ages 40 to 65 worried about healthy aging**. COVID may have contributed to an increase in healthy aging concerns due to reductions in physical activity and social interaction, both of which are important for overall health and well-being—now and in the future.

## Menopause and Healthy Aging

Menopausal and postmenopausal women have heightened levels of worry, with 63% and 65% respectively expressing significant or very high worries about healthy aging. Women ages 56 to 65 are especially anxious: 66% of them reported significant or very high worries about their futures.



## Affluence Does Not Shield Against Healthy Aging Concerns

Age may not be the sole factor influencing anxieties surrounding healthy aging, particularly among more affluent older women.

**63%**

of women ages 40 to 65 making \$100,000 or more annually have very high or significant healthy aging concerns.

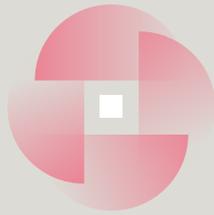


**Only 51%**

of the women in this age group who make less than \$50,000 per year have significant worries regarding their prospects for healthy aging.



# FemAging® Index 2023



## The FemAging Woman: Diverse, Educated, Younger

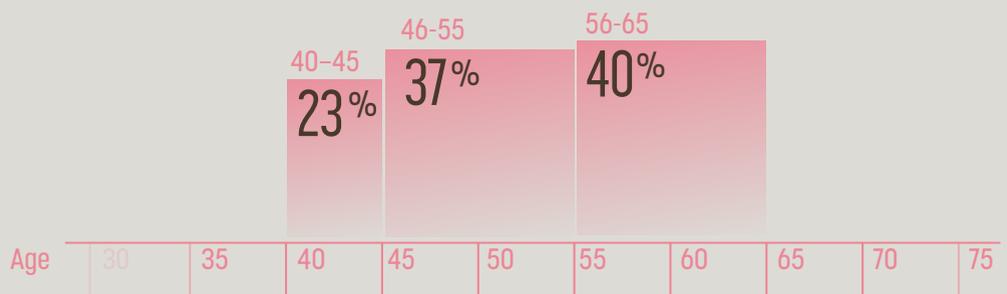
Women over the age of 40 are a diverse group across a range of factors, including socioeconomic status, employment and ethnic/racial background.

FemAging Index 2023 profiled a nationally representative group of 1,000 U.S. women ages 40 to 65, including an oversample of up to 100 Asian American women. Here's a snapshot of who they are:



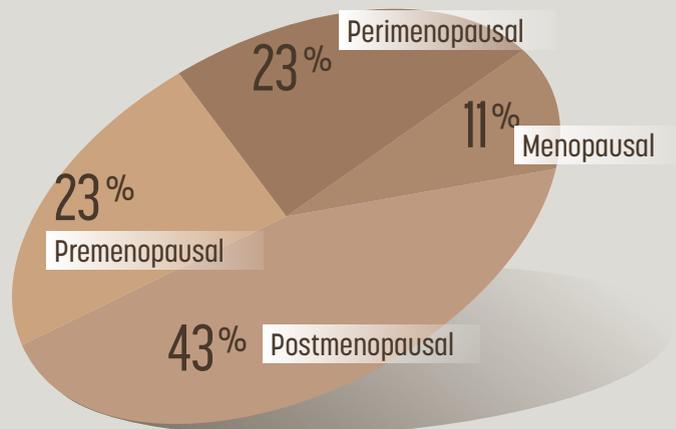
### Age

Nearly one-quarter of women ages 40+ are between 40 and 45



### Menopause Status

Almost one-quarter are in perimenopause



# Education

Two-thirds of women ages 40+ have college-level education—and beyond



\*Includes women with grade-school only education.

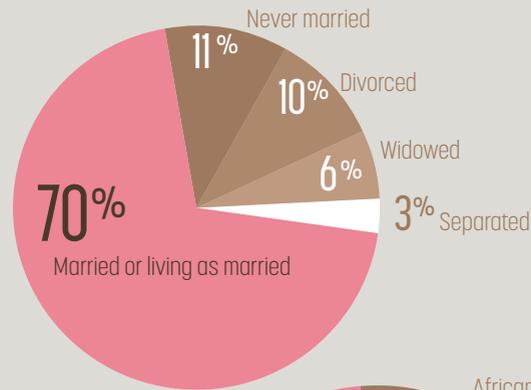
# Income

47% of women ages 40+ make \$100,000 or more annually



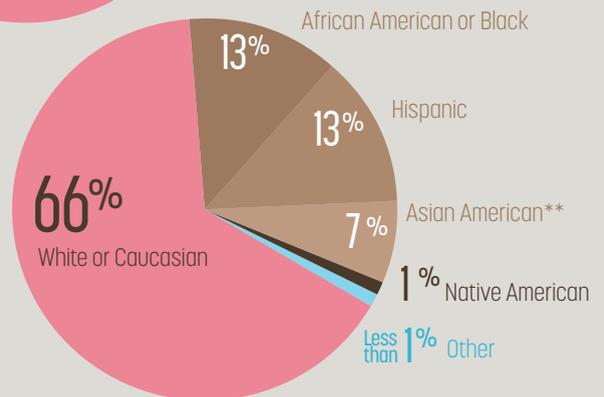
# Marital Status

Many women ages 40+ are married



# Ethnic and Racial Background

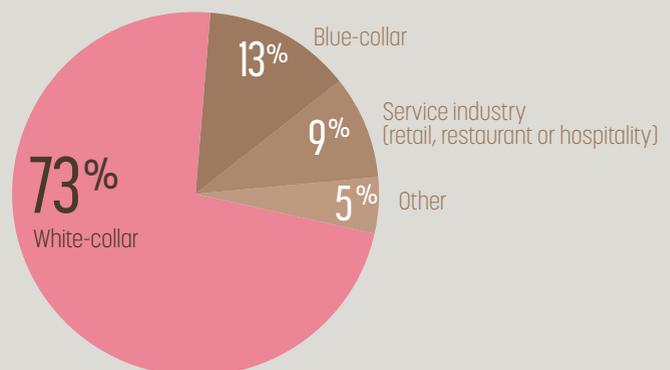
Women ages 40+ are from a range of backgrounds



\*\* This survey included an oversample of up to 100 Asian American women ages 40 to 65.

# Employment

Understanding the views of women ages 40+ across occupations



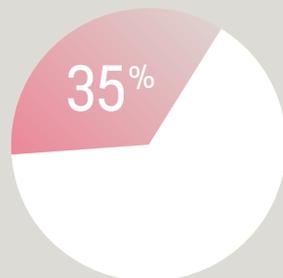
# Exploring the Caregiving Experiences of Older Women



41% mothers (with children living at home) are also providing care to others

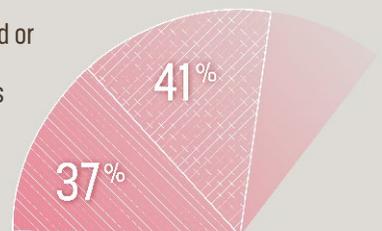
Women ages 40 to 65 are in a unique situation when it comes to providing care. They are often responsible for looking after family members, friends, spouses and others who have physical or mental health issues.

Overall, we found that **35% of U.S. women ages 40 to 65 are currently caring for another person.**



U.S. women ages 40 to 65

37% married or cohabiting women ages 40+ are caregivers



## Who caregivers are providing support to:



35%

caring for an elderly parent or parent-in-law



21%

aiding an extended family member



20%

attending to a spouse



20%

looking after a child (under 18) with a chronic illness



7%

caring for an adult child with a chronic health condition

Many caregivers are younger, with

**41% of women between the ages of 40 and 45 and 36% of women ages 46 to 55 providing health and medical support for others.**

From a healthy aging perspective,

**58% of caregivers have very high/significant concerns about their ability to remain active and independent as they age.**

# Older Women are Tech-Savvy and Trend-Setting



Our research reveals that women ages 40 to 65 are savvy users of many emerging technologies such as voice-enabled and “smart” home technologies, disproving long-held misconceptions that older women are tech-laggards.

## Trend-Setters and Adoption Leaders

41%



using voice-enabled technologies

35%



using wearables

30%



utilizing “smart home” technologies, e.g., thermostats, appliances and security devices

We discovered that even the oldest cohort of women are embracing key cutting-edge technologies. For instance, among women ages 56 to 65:

27%



use smart home technologies

42%



use voice-enabled solutions

4%



have used augmented reality innovations

(versus 7% of all women ages 40–65)

## Emerging Users of Digital/Cryptocurrencies

A 2021 survey conducted by the Pew Research Center revealed that many cryptocurrency users are male between the ages of 18 and 29, while our research suggests utilization of digital/cryptocurrencies may be emerging among older women.<sup>1</sup>

8%

of women ages 40–65 use digital/cryptocurrencies

16%

of women ages 40–45 use digital/cryptocurrencies



<sup>1</sup> “16% of Americans say they have ever invested in, traded or used cryptocurrency” by Andrew Perrin, Pew Research Center, November 11, 2021, <https://www.pewresearch.org/fact-tank/2021/11/11/16-of-americans-say-they-have-ever-invested-in-traded-or-used-cryptocurrency/>

# Women Ages 40+ Want More Sleep, Less Stress and Help in Managing Hot Flashes

Most older women have significant or high concern about their ability to age well, due to specific health, wellness and menopause-related issues they are facing. In this context, if they are experiencing various health issues, which ones do they feel are most important to manage?

Many older women say that sleep/fatigue-related issues are critical to manage:



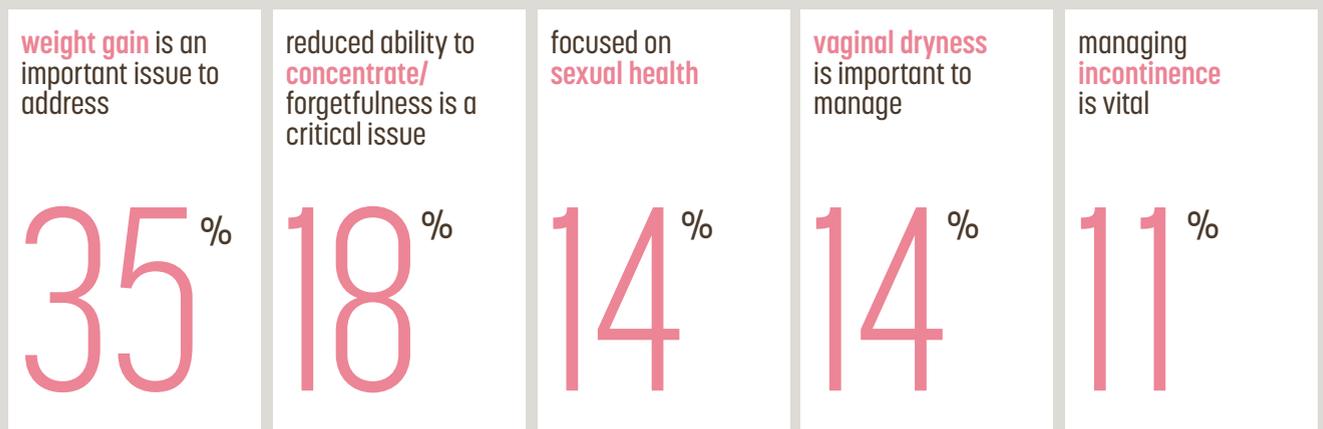
Some are also focused on menopause-related symptoms:



Mental health and mood issues are also an area of health management focus:



Other health/wellness concerns include\*:



\*Among women experiencing these health/wellness issues.



# Ages 40+

## Blue- and White-Collar Female Workers: Differences and Similarities

A new area of focus for us is the intersection between categories of workers and their uses of health-related technology. We are exploring differences in how older women in the white-collar, blue-collar and service industries use new and innovative technologies to improve their health and well-being, as well as how many of them are taking on a caregiving role.\*



### White-Collar Versus Blue-Collar Women Ages 40 to 65

#### Healthy Aging

60%  
White-Collar  
workers

55%  
Blue-Collar  
workers

report having significant or very high healthy aging concerns

#### Caregiving

41%  
White-Collar  
workers

31%  
Blue-Collar  
workers

report providing caregiving duties

\*Respondents were asked: "What best describes your occupation?" and asked to select between white-collar, blue-collar and service industry (e.g., retail, restaurant or hospitality).

## Technology Use

White-collar workers between the ages of 40 and 65 are more likely to use these technologies:



### Voice-enabled devices

(e.g., Alexa, Google Voice)

46%

32%



### Wearables

48%

28%



### Home smart technologies

41%

23%



### Digital/cryptocurrency

13%

4%

There were no significant differences in technology use between older female white-collar and blue-collar workers in these areas:



### Mobile phones

88%

87%



### Mobile applications

70%

68%



### Social media

77%

76%

## Health Concerns

Like many women ages 40 to 65, blue-collar/service workers and white-collar workers are equally as likely to say managing weight gain (34% versus 33%), difficulty sleeping (28% versus 29%) and fatigue (20% versus 19%) is important.\*

However, **blue-collar/service workers** were more focused on addressing:



### Thinning hair

24%

17%



### Joint and muscle pain

21%

16%

**White-collar** workers are more likely to say the following issues are more important to manage:



### Stress/anxiety:

31%

24%



### Reduced ability to concentrate

20%

13%

### Index

white-collar workers

blue-collar/ service workers

\*Among white- and blue-collar women ages 40-65 experiencing these health issues.

# Menopause : A Persistent Treatment Gap

Perimenopausal and menopausal symptoms are major challenges for many women ages 40 to 65, yet many are not receiving care—even when they seek it out.

Most women experiencing menopausal symptoms say they do not need treatment, even though these symptoms impact their daily lives. We found 40% of those who say their menopausal symptoms are debilitating or interfere with their lives greatly or sometimes are not interested in seeking care.

Yet, we found that some older women who seek care are not receiving it. Overall, 5% of women ages 40+ with menopausal symptoms looked for care but were not successful in finding it. Also, as discussed later in this report, some older women of color are much more likely to look for care but fail to receive it.

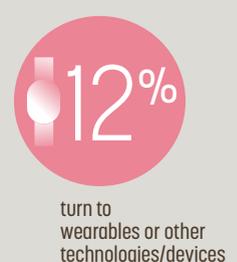
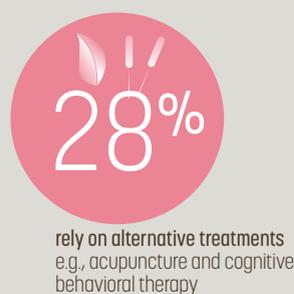
Ultimately, only 12% of women ages 40 to 65 report that they are in menopause treatment.



## How are Menopausal Symptoms Being Managed?

Menopause products are hitting retail shelves, hesitance about discussing menopause is waning and celebrities are sharing menopause management solutions—from supplements to hormone therapy. To understand how this changing environment is influencing treatment strategies, we looked at what specific types of products and services women with menopause are using to manage their symptoms. We learned that prescription medications (hormonal pills, pellets or injections) and supplements are the most popular treatment options among women ages 40 to 65.

Of the 28% of women who report using any menopausal symptom management solution:



How much are women ages 40 to 65 willing to spend on healthy aging, menopause or perimenopause products, services and solutions?

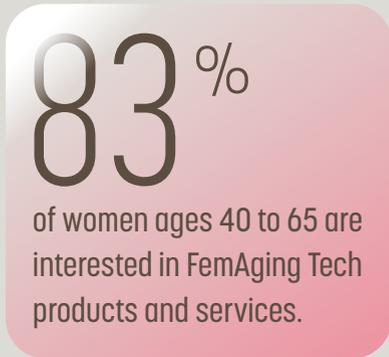


Note: Those with lower income willing to spend less.

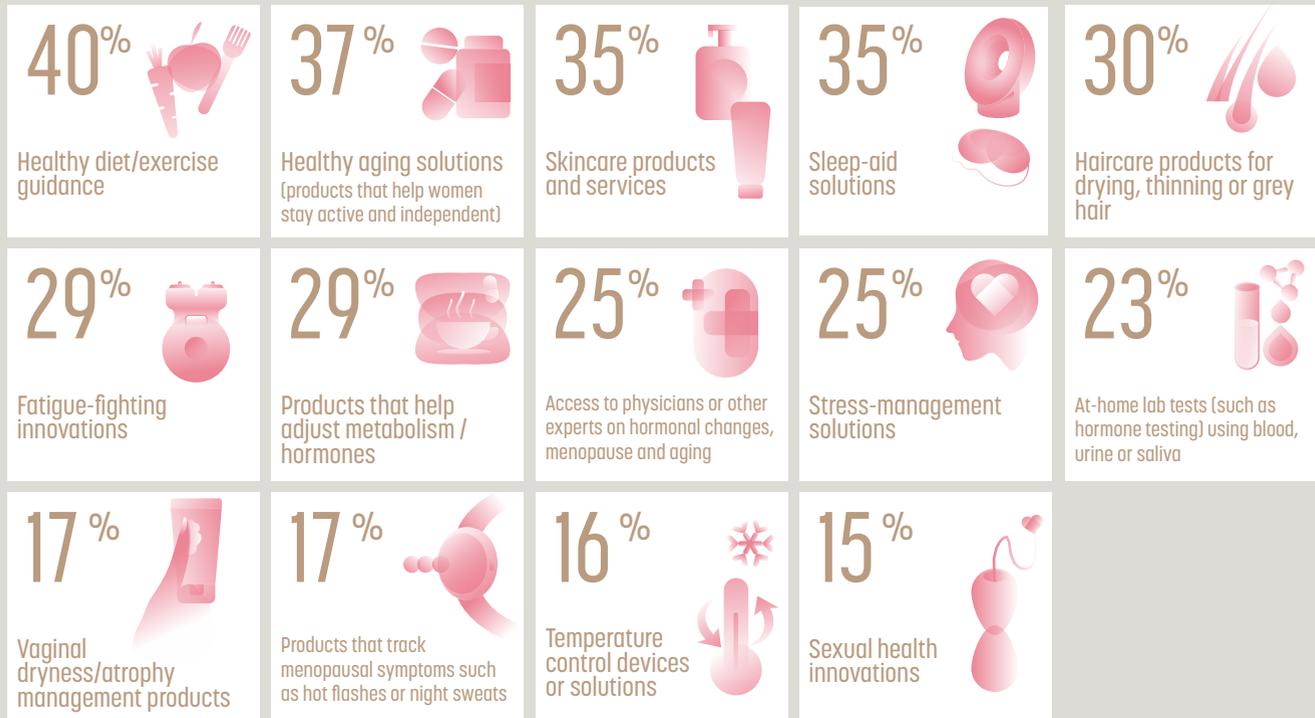
## The Secrets of FemAging: What Do Women 40+ Need and Desire?

FemAging Tech innovations include pharmaceuticals, devices, clothing and beauty solutions to address a range of issues from hot flashes and night sweats to vaginal dryness and incontinence associated with hormonal changes and aging.

Since 2020, the FemAging Project has focused on highlighting and accelerating FemAging Tech innovations via a series of global pitch competitions and events developed in partnership with Keiretsu Forum Southern California.



## Most-Wanted FemAging Tech Products and Services:





# FemAging in Color

Even though it happens to every woman, the menopause experience can vary greatly individual to individual. One woman may have a month of hot flashes and then a year later realize, casually, that she hasn't had a period in a full 12 months. Another woman may struggle through a range of perimenopausal symptoms, including fatigue and irregular periods, before she fully transitions into menopause.

**But one surprising differentiator in the aging and menopause/perimenopause experience is race and ethnicity.** As we will outline below, our research reveals how U.S. Black, Hispanic and Asian American women have unique health and wellness needs and even respond differently to menopausal symptoms—regardless of severity.



# Exploring the Menopause Treatment Gap and Technology Utilization Opportunities for **Black Women** Ages 40 and Over

Black women share many of the health and wellness challenges faced by other women during this life stage. But there are some key differences in their areas of focus, technology utilization and FemAging Tech preferences, which provide opportunities for innovators seeking to make a difference in this area.

## FemAging Focus

### Healthy Aging, Health Management and Menopause Care

62% of Black women expressed high/significant concern about healthy aging compared to 58% of all women.



## Health Management Concerns\*

Black women ages 40+ share many of the same health management areas of focus as all women in this age group, including:

Stress and anxiety

**33%**

All Women **31%**



Night sweats

**25%**

All Women **26%**



Older Black women are more likely to focus on the following health management issues:

Lack of sleep

**34%**

All Women **30%**



Weight

**38%**

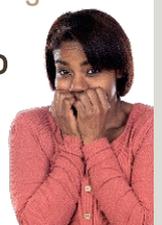
All Women **35%**



Mood swings

**29%**

All Women **23%**

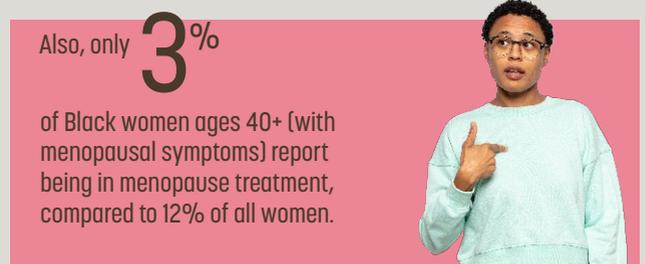


\*Among women experiencing these health/wellness issues.

Black women ages 40 to 65 are less likely to say it is important to manage the following health issues:

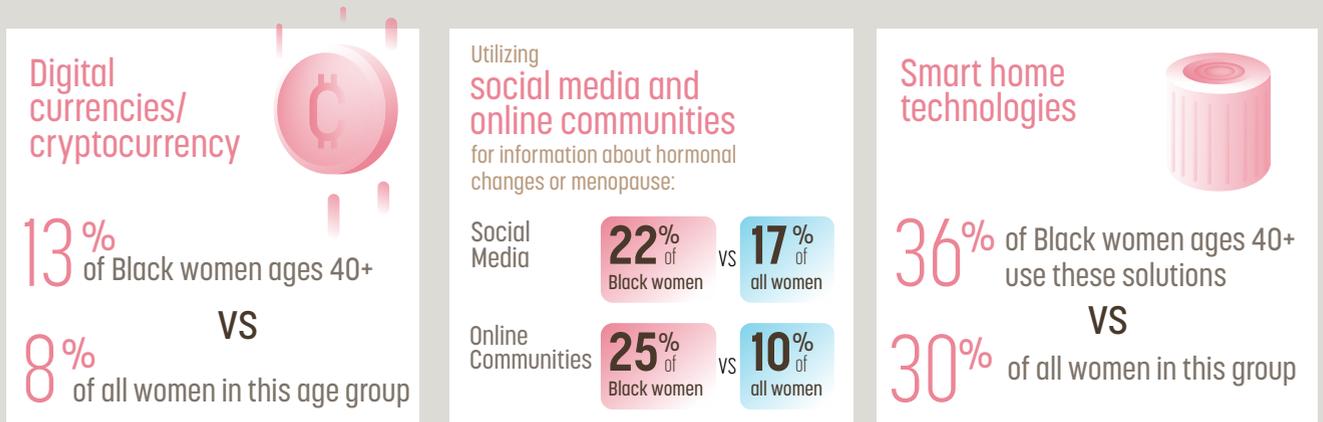


## Menopause Treatment is Not a Priority

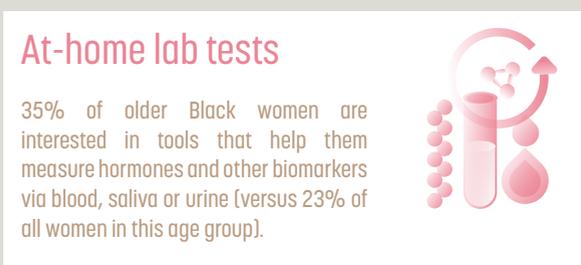


## Black Women are Emerging Technology Adopters; Community is Important

Black women use a range of innovative emerging technologies:



78% of older Black women are interested in using FemAging products and services. The FemAging preferences of Black women ages 40+ diverge from their peers in the following areas:



# Hispanic Women Over 40 Show Greatest Concerns for Healthy Aging and Highest Interest in FemAging Innovations

Hispanic women ages 40+ have distinct views when it comes to their health futures, menopause and FemAging solutions. In comparison to all women ages 40+, Hispanic women are 6 percentage points more likely to feel high or significant concern about their ability to maintain active, independent lifestyles as they age—64%, compared to 58%.

## FemAging Focus

### Menopause Treatment Care Limited, Heavy Supplement Users

Hispanic women ages 40 and over who are experiencing menopausal symptoms are more likely than their peers to report that these symptoms interfere with their daily lives sometimes, a great deal or are debilitating; 45% versus 27% of all women in this age group.

Older Hispanic women are receiving menopause care at higher rates, with 16% of those with menopausal symptoms receiving treatment compared to 12% of all women in this age group. However, some Hispanic

women in this age group are seeking care but not receiving it. 13% of Hispanic women with menopausal symptoms ages 40+ fall into this group versus 5% of all women 40 to 65.

Furthermore, older Hispanic women with menopausal symptoms are heavier users of supplements for treatment; 25% use supplements, compared to 14% of all women ages 40 to 65.



## High Trust in Doctors and Concern About Sexual Health

Older Hispanic women rely on physicians, alternative health practitioners and social media for health, wellness and menopause advice. They are most likely to:

Turn to physicians for health insights

72% vs 66%  
of Hispanic women ages 40+ vs of all women ages 40-65

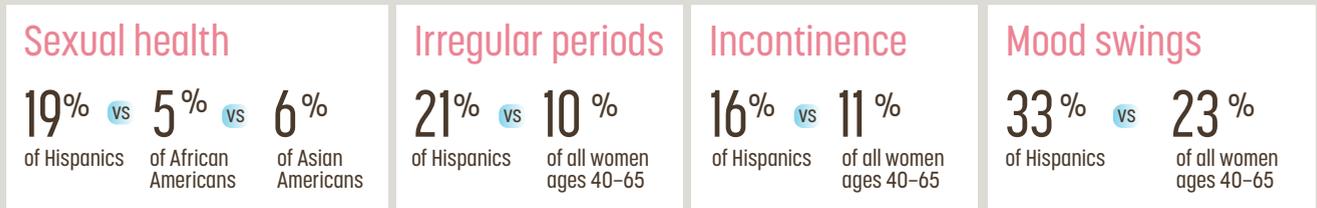
Use alternative healthcare practitioners (naturopath, chiropractor) for health information

16% vs 9%  
of Hispanic women ages 40+ vs of all women ages 40-65

Trust social media for information about age/hormonal changes/menopause

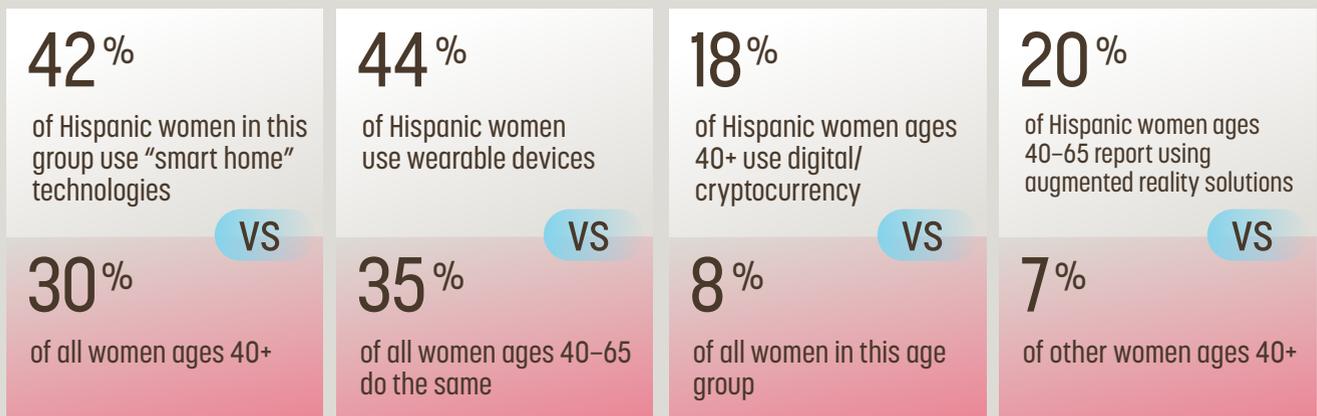
23% vs 17%  
of older Hispanic women vs of all women ages 40-65

From a health management perspective, Hispanic women ages 40+, experiencing various health symptoms, are more likely than other women in this age group to be focused on:



## Technology Trailblazers

Hispanic women ages 40 to 65 are users of a range of emerging and innovative technologies.\*



## Seeking FemAging Innovations

Older Hispanics were the most likely group of older women of color to be interested in FemAging innovations. 88% Hispanic women ages 40+ expressed interest in any FemAging product/service they were asked about versus 78% African Americans and 72% Asians.

Products Hispanic women ages 40+ are most interested in include:



Older Hispanic women are also more likely than other groups to be interested in products that provide access to physicians or other experts on hormonal changes, menopause and age-related issues. 36% expressed interest in these solutions.

This group is also interested in:



\*Hispanic women in the study were slightly younger than other groups, which may partially explain the higher use of certain innovative technologies. 33% of Hispanic respondents were 40-45 versus 22% of Blacks, 21% of Whites and 37% of Asians.

# Asian American Women Over 40: Optimistic About Their Healthy Aging Prospects

One key area of focus for our research was looking to understand the unique health, wellness, and innovation interests and concerns of Asian American women ages 40+.

Overall, we found that there are several areas where Asian American women differ from other women of color in terms of their technology utilization patterns and health concerns. For example, older Asian American women are more confident in their prospects for healthy aging than other groups and are least likely to rely on physicians for health information related to menopause, hormonal changes, aging and other topics.



## FemAging Focus

### Caregiving, Bone Health, Menopause Care

#### More Confident About Future Health

Asian American women were found to be the least likely group among women of color to have healthy aging concerns. Specifically, 51% of Asian American women ages 40 to 65 have high or significant concerns about their ability to remain active and independent as they age, compared to 64% of Hispanics and 62% of African Americans.

#### Caregiving

We found that 41% of Asian American women ages 40 and older are serving as caregivers. Additionally:

Caring for  
elderly parents  
or parents-in-law



Providing care  
for their spouses



## Rely on Alternative Sources for Health Information and Menopause Treatment

Asian American women ages 40 to 65 are the least likely demographic to rely on doctors for health information related to hormonal changes or menopause, with only 60% turning to physicians compared to 66% of all women ages 40+. Search engines are a popular health information resource for this group, with 41% using them for health research focusing on menopause/hormonal changes.

Although Asian American women are turning to non-physician sources for health information, when it comes to menopause or hormonal changes, Asian American women ages 40+ are not more likely to report using alternative therapies. 12% of Asian American women ages 40 to 65 experiencing menopausal symptoms use supplements, such as kava kava, for menopause care versus 14% of all women in this group.

### Use of Acupuncture, cognitive behavioral therapy or other alternative treatments



## Asian American Women Ages 40+ Report Menopausal Symptoms Have Least Negative Impact on Daily Life

Asian American women ages 40+ with menopausal symptoms are least likely to say that the symptoms interfere with their lives. 18% say that menopausal symptoms impact them sometimes, a great deal or are debilitating. This is in comparison to 45% of Hispanics, 22% of African Americans and 25% of whites who say that menopausal symptoms impact them sometimes, a great deal or are debilitating.

## Bone Health is a Top Health Management Concern

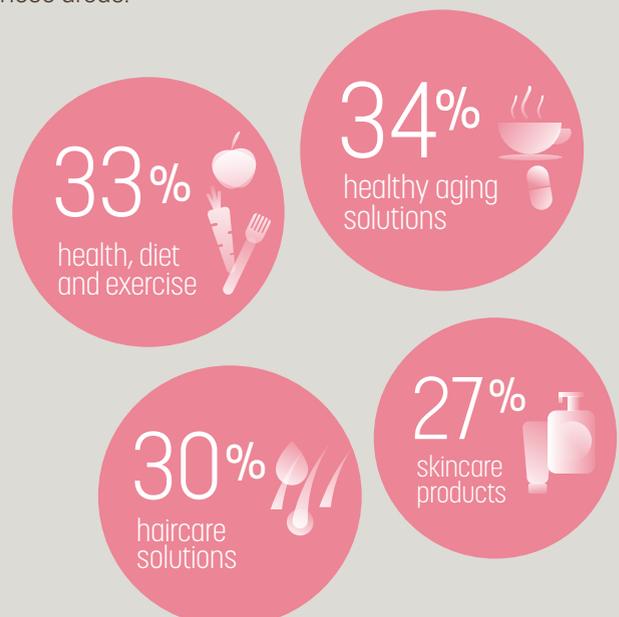
Bone health is a top health management concern, particularly for older Asian women. 28% of Asian women say bone health issues are critical to address, compared to 11% of all women ages 40 and over. Similarly, 30% of Asian American women ages 40 to 65 say joint and muscle pain is important to manage, while only 21% of all women in this group say the same.

## Popularity of Wearables and Home Smart Technologies Among Older Asian American Women

Wearable and home smart technologies are becoming more popular among Asian American women ages 40+, with 33% utilizing wearables and 29% having used “smart” home technologies. Additionally, 7% of these women have utilized digital or cryptocurrencies.

## Nearly 75% of Older Asian American Women Show Interest in FemAging Solutions

Overall, we found that 72% of Asian American women ages 40+ are interested in the range of FemAging innovations they were asked about. The highest product/service interests among these women lie in these areas:





# The Innovator's Guide to Winning the FemAging Era

The data and insights presented in this report provide important tools you can use to:

Provide evidence that **FemAging is a growing and important trend**

Determine where to focus from investment, product development and innovation acceleration perspectives

However, having access to data, analysis and insights is just one part of the innovation picture. Another is implementation. What tactics and strategies should FemAging innovators consider as they develop products and services in this area?

To help, we have developed this brief guide, which features a high-level roadmap grounded in nearly 20 years of research and evidence on health innovation. This roadmap focuses on:

Seeing the Future of FemAging Innovation: **What's Ahead?**

Becoming an Innovation Winner: **Mindsets and Habits**

Building is Only the Beginning: **The "Embedment" Strategy**

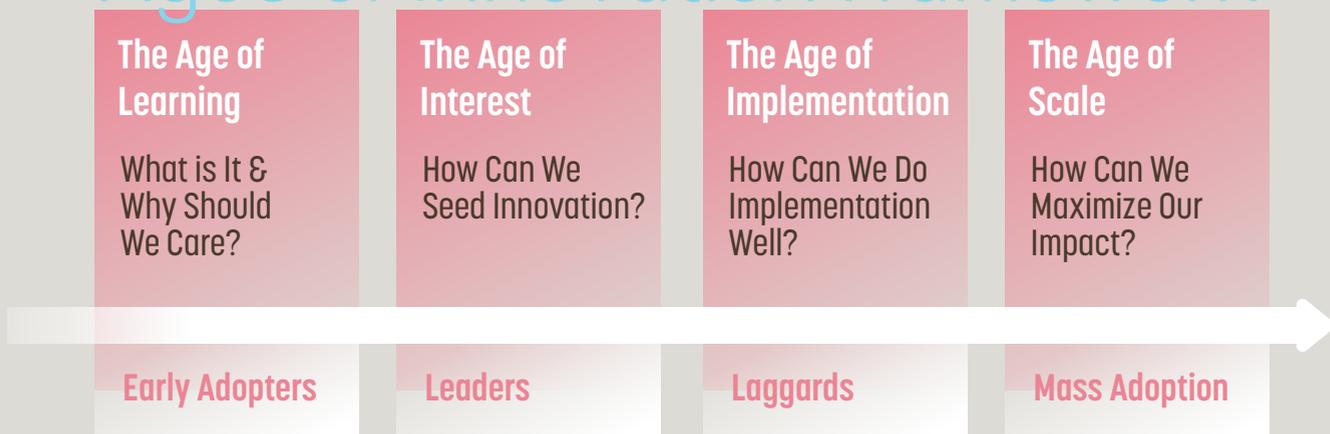
Crossing the Chasm: **From the Edge to Mainstream**



# Seeing the Future of FemAging Innovation: What's Ahead?

In 2015, FemAging Project Co-founder Fard Johnmar introduced the "Ages of Innovation Framework." This framework was based on an analysis of more than 500,000 datapoints focusing on how digital health innovation was being implemented at the time. It was validated over the next eight years as digital innovation accelerated and became widely adopted in global health.

## Ages of Innovation Framework



Source : **Fard Johnmar**, adapted from Johnmar's "Ages of Digital Health Innovation Framework."

The "Ages of Innovation Framework" outlines how **innovation evolves in health.**

### Age of Learning

Large-scale health innovation trends are seeded when people begin to take notice of a new mega trend and begin to work to define its key concepts and explain why it is important.

### Age of Implementation

During this age, questions about the fundamental importance and relevance of the trend begin to fade and attention turns to implementation.

Industry participants ask, "How can we ensure the innovations we have developed (or are developing) will be successful?" There is an intense focus on building evidence of success (financial, health outcomes, etc.).

### Age of Interest

As the trend matures, leaders in the field begin to ask how innovation can be seeded and supported. Investment in the trend accelerates, and many new products and services are introduced.

### Age of Scale

This age is characterized by the presence of large, established players in the market who are focused on scaling their operations via rapid development of new products and services, acquisitions and other activities.

**Currently, we are in the Age of Learning/Age of Interest stages of FemAging.** This report (and our 2019 research) helped to define the sub-sector and describe why it is important. We hope investors, innovators and others will use the data and insights presented in this report to validate their interest in FemAging and their product development/investment strategies.

# Becoming an Innovation Winner: Mindsets and Habits

One of the most difficult challenges associated with driving women's health innovation is overcoming the organizational, societal, individual and other barriers to success. FemAging is a brand-new field, and women's health has historically been under-recognized and underappreciated.

Thriving in spite of these significant barriers requires cultivating key behaviors, mindsets and habits at the individual and organizational levels. The most important include:



## Cultivating Curiosity

The FemAging Project started with three simple questions: Why are so many innovations in women's health focused on women of reproductive age? Is anyone developing products and services for women ages 40+? What do women in this age group want?

Likewise, we're sure that many of your most high-impact innovation ideas began from a place of curiosity, from asking "why?" and "why not?" Curiosity is a fundamental skill that can be practiced daily by seeking exposure to a diverse array of insights and innovations, and engaging with them to understand their importance and potential benefits. Curiosity can be cultivated at the individual and organizational levels and is an essential component to innovating in any area, including FemAging.



## Foregrounding the Human

We are confident that many focused on FemAging innovation understand the importance of putting humans—rather than technologies or products—first. Developing high-impact solutions requires a customer-first mindset. You can use the data, insights and analysis presented in this report (and via other FemAging Project offerings) to gain a deep understanding of what women ages 40+ want and need.



## Embracing Flexibility

Winning in innovation requires a willingness to be flexible about previous assumptions, existing products and new opportunities. Our FemAging research and engagement with innovators, via our pitch competitions and events, has helped us to appreciate the richness of the opportunity landscape in this area of women's health. Winning innovators are goal-oriented and flexible in their thinking and approach. Flexibility will be essential in FemAging, as new insights and innovations emerge and the sub-sector matures.

# Building is Only the Beginning: The “Embedment” Strategy

Successful innovators know that building is only the beginning. Shipping a product is one thing; making it a success is another. One famous recent example of this is OpenAI’s ChatGPT technology, which has taken the world by storm since its public launch in late 2022. What may be surprising to some is that OpenAI once viewed ChatGPT as a failed product. Releasing it to the public was a last-ditch effort to find product-market fit for the technology.<sup>2</sup>

What contributed to ChatGPT’s rapid adoption was its ability to become a part of users’ workflows and life flows. While this was a serendipitous occurrence for OpenAI, the strategy—what FemAging Project Co-founder Fard Johnmar calls “embedment”—can be practiced by any innovator. Embedment means working to make innovations:

## Invisible

ChatGPT is built with cutting-edge machine-learning technology. Yet, its user interface is simple. Users can simply ask ChatGPT for what they want. Invisible complexity has been one key to its initial success.

## Integrated

OpenAI’s engineers and beta testers had a hard time understanding how to use ChatGPT. The public answered the utilization question by integrating ChatGPT into their lives in ways OpenAI couldn’t have initially imagined.

## Relevant

Ensuring solutions are personalized and culturally/contextually appropriate (by leveraging data, analytics and research) is vital. ChatGPT’s white-hot popularity may not last as other products are introduced and the public’s fascination with the technology fades. However, the next phase of AI models like ChatGPT will be its integration into more specialized tasks utilizing domain knowledge to optimize efficiency and product relevance.



Keeping the principles of embedment in mind can help improve innovators’ odds of success as they develop and launch FemAging innovations.

<sup>2</sup>“OpenAI staff didn’t think ChatGPT would be ‘useful’ and it almost wasn’t released in its current form, cofounder says” by Beatrice Nolan, *Insider*, Feb. 6, 2023. <https://www.businessinsider.com/openai-chatgpt-greg-brockman-really-useful-project-shelved-2023-2>

# Crossing the Chasm: From the Edge to Mainstream

As FemAging solutions emerge over the coming years and the importance of this sub-sector becomes more widely recognized, many will start asking whether and how these solutions will reach broader adoption. We anticipate that adoption of FemAging solutions will be driven by the following forces common to digital and other innovations in health. Understanding these forces will help innovators anticipate the future and be prepared for how the FemAging market will evolve. These fundamental innovation forces are:

## Consumer and Business Leadership Support

As FemAging innovations become more established and popular among consumer and business organizations, support will increase for experimentation and development in these areas. These tailwinds will increase the availability of investment and revenue-generation opportunities for products and services.

## Economic Evidence and Innovation Maturity

For hospitals, insurers, governments and others, economic evidence of FemAging tech's benefits will come from studies and measurement activities looking at cost savings, productivity improvements and profit-generation potential.

## Supportive Policy Environment

Depending on how FemAging solutions touch upon important issues such as data privacy/security, financial services and other areas, increased attention will be focused on how to regulate these technologies appropriately. Regulatory and policy actions can have a positive or negative impact on FemAging tech's medium- and long-term prospects.

## Looking Ahead: More Innovation Tools, Techniques and Resources

We hope you have found this innovation guide useful. During 2023, the FemAging Project will be engaging in a range of innovation analysis, support and acceleration activities.

To stay up to date, visit  
[www.femaging.com](http://www.femaging.com)



# FemAging Tech 20 Champions:

## Global FemAging Tech Innovation

When some think of women's health innovation, they focus on femtech, a new industry segment that has shown rapid growth in recent years. According to research produced by FemTech Analytics<sup>3</sup>:

## Global Femtech Market

Valued  
in 2020

**\$40.2**  
Billion

Growth

grow at a compound  
annual growth rate

**13.3%**  
from 2020-2025

Projection  
by 2025

**\$75.1**  
Billion



<sup>3</sup> FemTech Market Overview, FemTech Analytics, <https://www.femtech.health/femtech-market-overview>



## A New Era of Women's Health

However, to date, many femtech products and services have focused on pregnancy, nursing and reproductive health. **Only 6% of femtech companies concentrate on menopause care.**<sup>4</sup>

This could soon change. Women are becoming much more vocal about the need for better menopause and aging care. For example, several high-profile celebrities have spoken publicly about their experiences. Changing societal norms may be eroding the stigma associated with menopause and management of other conditions relevant to women ages 40+.

Increasing societal comfort with menopause could drive increased investment into this area. For example, research conducted in 2020 by Female Founder's Fund suggests the menopause market may represent a \$600 billion opportunity.<sup>5</sup>

Despite these glimmers of progress, there is room for improvement. Much more must be done to broaden the reach, scope and focus of innovation to other areas of health concern to women ages 40 to 65, as highlighted in this report.

In the 2020 FemAging report, we profiled a range of companies focusing on issues unique to women between the ages of 40 and 65, including virtual menopause care provider Gennev, which was acquired by Unified Women's Healthcare in 2022 signifying growth in the market.<sup>6</sup>

We continue to highlight innovation in this area by introducing the 2023 edition of the FemAging Tech 20, a selection of companies focused on areas of interest to women ages 40 to 65.

4 FemTech Market Overview, FemTech Analytics, <https://www.femtech.health/femtech-market-overview>

5 "Menopause is a \$600 billion opportunity, report finds" by Emma Hinchliffe, Fortune, October 26, 2020, <https://fortune.com/2020/10/26/menopause-startups-female-founders-fund-report/>

6 "Unified Women's Healthcare acquires Gennev to become the leader in menopause care in the U.S.", yahoo!finance, October 18, 2022, <https://finance.yahoo.com/news/unified-women-healthcare-acquires-gennev-185600977.html>

# 2023

## FemAging Tech Champions

20 Companies  
Leading the Charge in  
Women's Health  
After Age 40 Innovation

Since the publication of the first FemAging report in 2020, we have had the opportunity to learn about and engage with dozens of companies developing solutions for women ages 40+. We have also been heartened to see that a range of companies we highlighted in our previous report have thrived. For example, Gennev was acquired by Unified Women's Healthcare, a major U.S.-based women's health company.

For the 2023 report, we analyzed more than 100 companies in the areas of women's health, femtech, clothing, sexual health, food, beauty and other areas to identify 20 "FemAging Tech Champions."

Our primary focus is on highlighting emerging, growing and established companies and innovators:



primarily focused  
on the female  
over-40 segment



that have developed  
solutions that align with  
critical health management  
concerns revealed in the  
2023 FemAging Index

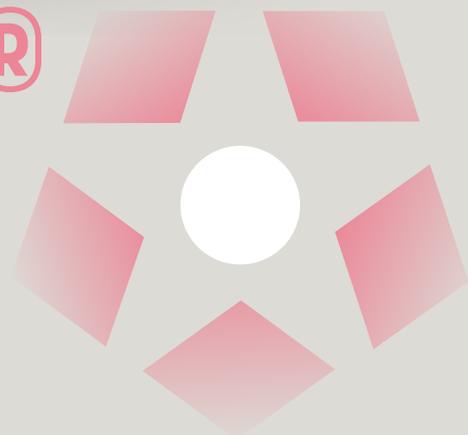
# FemAging Tech Champions

Innovators Developing Solutions Well-Aligned With Older Women's Most Critical Wellness and Needs





FemAging®  
TECH CHAMPIONS  
ALL-STARS



# Healthy Aging

Extending the female lifespan through innovation, data and cutting-edge science



## Website

[www.ovivatx.com](http://www.ovivatx.com)

## Founders

Daisy Robinton, David Pépin,  
Patricia K. Donahoe

## Primary Technology

BioPharma

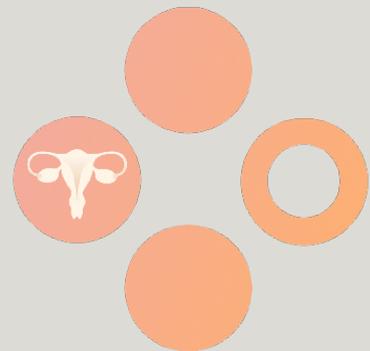
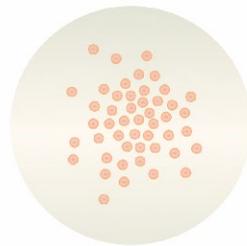
## Location

United States

## Oviva Therapeutics



Oviva is working on developing unique therapeutics that aim to extend and improve ovarian function. By doing so, Oviva is seeking to reduce the negative health consequences associated with menopause and extend women's lives.



# Healthy Aging

Helping women improve heart health



**Website**  
www.bloomertech.com

**Founders**  
Alicia Chong Rodriguez,  
Aceil Halaby, Monica Abarca

**Primary Technology**  
BioPharma

**Location**  
United States

## Bloomer Tech



The American Heart Association estimates that about 44 million women in the U.S. are living with some form of heart disease, which is a leading cause of death for women as they age. Bloomer Tech has developed a bra featuring sensors that capture vital data on heart health. This data can be plugged into machine learning models that can help identify biomarkers related to heart disease, heart attacks and stroke, and ultimately potentially prevent premature death.



# Menopause Care

Bringing healthcare solutions to the home



**Website**  
www.syronahealth.com

**Founders**  
Chantelle Bell, Anya Roy

**Primary Technology**  
Virtual Care

**Location**  
United Kingdom

## Syrona Health



Syrona Health is a virtual clinic that has been nicknamed the “Netflix of women’s health services”. Syrona Health is offered as an employee benefit. The company delivers hormone therapy, genetic kits and other services for women at all stages of their lives.

 Health Tracking



 24/7 Online Support

 Health Plans

 Community



# Menopause Care



Combatting menopausal symptoms with plant-based medicine

**Website**  
www.wilewomen.com

**Founders**  
Gwendolyn Floyd,  
Julie Kucinski, Corey Scholibo

**Primary Technology**  
Supplements and Nutrition

**Location**  
United States

## Wile

## WILE

As discussed in this report, women over 40 face a wide variety of health and wellness challenges, including stress, anxiety and mood swings. Funded by Serena Williams's venture firm, Serena Ventures, Wile is using plant-based medicine and clinical studies to develop products and services that address a range of health issues facing women ages 40+.



# Sexual and Vaginal Health

Addressing vaginal dryness and improving intimate health



**Website**  
www.iamstripes.com

**Founders**  
Naomi Watts

**Primary Technology**  
Intimate Care

**Location**  
United States

## Stripes

## Stripes

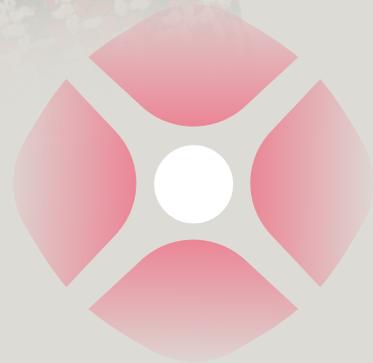
Topics such as vaginal dryness and other issues associated with menopause have long been taboo, and Stripes's founder, actress Naomi Watts, is looking to change all that. Stripes provides a range of lubricants and other products designed to improve vaginal health and sexual wellness among women with menopause.





# FemAging®

TECH CHAMPIONS



Category  
Sleep

Website  
[www.moonalisa.co](http://www.moonalisa.co)

Founders  
Victor Vanbremeersch,  
Paul Deschamps

Location  
France

moonalisa



Moonalisa is an early-stage start-up developing a virtual sleep clinic with professors from Stanford and Harvard. Moonalisa's solution will deliver teleconsultations, digital therapy and coaching to female employees.

Category  
Menopause Care

Website  
[www.joinmidi.com](http://www.joinmidi.com)

Founders  
Joanna Strober,  
Sharon Meers

Location  
United States

Midi



Midi has developed a virtual care clinic focused on meeting the healthcare needs of women going through perimenopause, menopause and other conditions associated with fluctuating hormones.

Category  
Bone Health

Website  
[www.bonehealthtech.com](http://www.bonehealthtech.com)

Founders  
Dan Burnett,  
Shane Mangrum

Location  
United States

Bone Health  
Technologies



Bone Health Technologies has developed OsteoBoost, a device that delivers mechanical stimulation equivalent to weight-bearing exercise.

Category  
Vaginal Health

Website  
[www.avetamedical.com](http://www.avetamedical.com)

Founders  
Paula Newell

Location  
Ireland

## AVeta Medical



AVeta Medical has developed a medical device designed to treat—without hormonal therapy—the underlying causes of vaginal atrophy.

Category  
Pelvic Health

Website  
[www.renalis.health](http://www.renalis.health)

Founders  
Missy Lavender,  
Yufan Chen

Location  
United States

## Renalis



Renalis is developing a range of digital therapeutics focusing on the management of pelvic health disorders, including overactive bladder.

Category  
Skincare

Website  
[www.cairebeauty.com](http://www.cairebeauty.com)

Founders  
Lorrie King,  
Celeste Lee

Location  
United States

## Caire Beauty



Caire Beauty is a skincare company focused on the needs of women experiencing perimenopause and menopause. It also is developing new innovations in mature skincare via its skincare science lab.

Category  
Hormonal Care/At-Home Care

Website  
[www.hormona.io](http://www.hormona.io)

Founders  
Karolina Löfqvist,  
Jasmine Tagesson

Location  
United Kingdom

## Hormona



Founded in 2019, Hormona started as an online community and has since evolved into an at-home hormone monitoring system.

Category  
Food as Medicine

Website  
[www.bossabars.com](http://www.bossabars.com)

Founders  
Julie Gordon White

Location  
United States

## Bossa Bars



Bossa Bars are nutrition bars formulated especially for women in menopause featuring a range of ingredients that support weight loss, energy management and more.

Category  
Pelvic and Sexual Health

Website  
[www.maternamedical.com](http://www.maternamedical.com)

Founders  
Tracy MacNeal

Location  
United States

## Materna Medical



Materna Medical has developed a vaginal and pelvic floor dilator with adjustable, incremental sizing for women who are trying to achieve improved intimate health.

Category  
Temperature Control

Website  
[www.embrlabs.com](http://www.embrlabs.com)

Founders  
Matt Smith,  
Sam Shames

Location  
United States

## Embr Labs



Embr Labs has developed the Embr Wave, a wrist-worn, personal thermostat that aims to improve sleep, relieve anxiety and help better manage hot flashes.

Category  
Stress Management

Website  
[www.rogalife.com](http://www.rogalife.com)

Founders  
Dr. Alison Smith,  
Ami Lebendiker

Location  
United States

## Roga



Roga is a therapeutic wearable, designed to be worn discreetly, like a pair of headphones. It works by sending gentle pulses to the brain that signal safety to the nervous system, and may help alleviate stress and anxiety.

Category  
Menopause Management

Website  
[www.evernow.com](http://www.evernow.com)

Founders  
Alicia Jackson,  
Aaron Gotwalt

Location  
United States

## Evernow



Evernow provides virtual access to clinicians, hormone therapies and other treatments. The company is also conducting menopause research and emphasizing and fostering health equity in menopause care.

Category  
Sexual Health

Website  
[www.heytabu.com](http://www.heytabu.com)

Founders  
Natalie Waltz

Location  
United States

## Tabu



Tabu provides sexual and health wellness solutions specifically geared toward addressing intimacy challenges associated with menopause, including vaginal atrophy.

Category  
Healthy Aging

Website  
[www.xbyx.de](http://www.xbyx.de)

Founders  
Peggy Reichelt,  
Monique Leonhardt

Location  
Germany

## XbyX: Women in Balance



XbyX is a marketplace focusing on the health and wellness needs of women ages 40+. The platform provides herbal supplements, video education on menopause, and hormones and general fitness insights.

Category  
Menopause Management

Website  
[www.elektrahealth.com](http://www.elektrahealth.com)

Founders  
Alessandra Henderson,  
Jannine Versi

Location  
United States

## Elektra Health



Elektra Health is focused on improving the awareness, education and understanding of menopause. The company offers virtual care and coaching, personalized learning experiences and community support.

# Appendix

FemAging Index  
Methodology

Glossary of Terms

About the  
FemAging Project

Copyright and  
Usage





# FemAging Index Methodology



The FemAging Index survey was commissioned by the FemAging Project and conducted by Wakefield Research [www.wakefieldresearch.com](http://www.wakefieldresearch.com), an independent research firm. 1,000 U.S. women ages 40 to 65, including an oversample of up to 100 Asian American women ages 40 to 65, participated between November 30 and December 5, 2022, using an email invitation and an online survey. The data was weighted to ensure an accurate representation of U.S. women ages 40 to 65.

Results of any sample are subject to sampling variation. The magnitude of the variation is measurable and is affected by the number of interviews and the level of the percentages expressing the results. For the interviews conducted in this particular study, the chances are 95 in 100 that a survey result does not vary, plus or minus, by more than 3.1 percentage points for the main sample (U.S. women ages 40 to 65), and 9.8 percentage points for oversample of Asian American women, from the result that would be obtained if interviews had been conducted with all persons in the universe represented by the sample.

FemAging®  
Index 2023



# Glossary of Terms

## FemAging

A focus on the physical and mental well-being of women ages 40+.

## FemAging Tech

A new industry sector featuring innovations such as clothing, nutritional products, wearables, sensors, pharmaceuticals and digital applications developed specifically for women over 40 years old.

## femtech

A term applied to a category of software, diagnostics, products and services that focus on women's health. Generally, the sector has focused on younger women and featured fertility and parenting-related solutions, pregnancy and nursing care aids, and sexual wellness tools.

## urinary incontinence

Unintentional bladder leakage caused by childbirth, menopause and other factors.

## menopause

A reduction in estrogen and other hormones that ultimately results in the permanent cessation of menstrual periods. Menopause typically begins around age 51 after women have missed their menstrual periods for 12 consecutive months. Women in menopause can no longer bear children.

## perimenopause

A period signaling the onset of menopause, marked by physical symptoms such as hot flashes and irregular periods. This transition begins in the early to mid-40s.

## postmenopause

Begins one year after menopause, the period of time after a woman has experienced 12 consecutive months without menstruation.

## vaginal atrophy

Defined as a lack of elasticity in the vaginal walls caused by a decline in estrogen during perimenopause and menopause. Can lead to painful intercourse and other symptoms.

## vaginal dryness

A lack of moisture in the vagina caused by mucus membranes that provide less lubrication to the vaginal walls. Generally caused by a drop of estrogen due to menopause and perimenopause.

## wearable

A category of electronic devices that can be worn as accessories, embedded in clothing, implanted in the body or tattooed on the skin. These devices are hands-free, can be used for many practical purposes, are powered by microprocessors, and can send and receive data via the internet.

# About the FemAging Project

The FemAging Project provides health and tech industry leaders and investors with research and education that help drive global innovation focused on the health and wellness needs of women ages 40+.

In Q2 2023, the Project introduced Femmaya, a unique women's health intelligence platform powered byGPT, the same technology behind OpenAI's ChatGPT.

Learn more about the project at  
[www.femaging.com](http://www.femaging.com)

## ASK Femmaya



Companies & Insights    FemAging Index

Find companies in FemAging and beyond.

None (Tick when your research begins an ends)     Find Companies

Engage in Q&A, generate, summaries topic fact sheets and emails

None     General Q&A     In-Depth Summary     Email     Fact Sheet

Select data volume : Femmaya takes longer to process medium and heavy data volumes

None     Light     Medium     Heavy

Select from the options above and ask Femmaya a Question!

**SUBMIT QUESTION**

# Authors



**Denise Pines**

Co-Founder,  
FemAging Project

Co-producer of the FemAging 2023 report, and longtime community health advocate and media pioneer, Denise is a trusted resource for women as they pursue midlife wellness. She's the founder of WisePause Wellness ([www.wisepause.com](http://www.wisepause.com)), an event and membership platform for women's health leading up to and including menopause. Denise is the immediate past president of the Medical Board of California and serves on the Federation of State Medical Boards and the National Minority Health Association. A recognized global leader in femtech, an award-winning marketer and serial entrepreneur, Denise has participated in 10 start-ups in entertainment, publishing and consumer package goods. A legendary event planner, Denise has directed over 300 nationwide events and designed marketing strategies that put three books on *The New York Times* Best Sellers list in one year.



**Fard Johnmar**

Co-Founder,  
FemAging Project

Fard Johnmar, co-producer of the FemAging 2023 report, is the global best-selling co-author of *ePatient 2015: 15 Surprising Trends Changing Health Care*. Since 2005, he has helped to research, document and lead the evolution of the digital health industry. Fard regularly works with leading companies, start-ups, investors and others seeking to understand, document and chart the many ways emerging technologies are transforming health and well-being globally, with a special focus on women's health and aging.

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