

# ALL THE WOMEN FROM VENUS

Improving the menopausal experience  
of marginalised women in Zuid-Holland



“What you see and what you hear depends a great deal on where you are standing.”

- *C.S. Lewis* writer  
*Professor, literary scholar and Christian apologist*

**ALL THE WOMEN FROM VENUS**

Improving the menopausal experience of marginalised women in Zuid-Holland

PROGRAM

Strategic Product Design  
Industrial Design Engineering  
Delft University of Technology

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MASTER THESIS

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IN COLLABORATION WITH

Ruixuan Zhang, representative of the research consortium, including TU Delft, Erasmus MC, Hogeschool Leiden, and Health Coach Program BV

COMMITTEE

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Department of Design, Organisation and Strategy  
**Dr. T. Wang** - Mentor  
Department of Human-Centered Design

## PREFACE

Before you lies the master thesis 'All the women from Venus: Improving the menopausal experience of marginalised women in Zuid-Holland.' It has been written to fulfil the graduation requirements of the MSc Strategic Product Design at Delft University of Technology. The research and writing took place between April and October 2025.

This project stems from a desire to make a meaningful impact in the world by creating equality in an often unjust society. During this journey, I was confronted with inequality in unexpected ways, including through my own assumptions. I discovered that, despite considering myself open-minded, I still carried unconscious biases about age, literacy, and cultural background. This experience revealed how deeply inequality is woven into me and the systems that shape our lives, systems created by people and sustained by the values we choose to uphold.

Within this broader context, I chose to focus on menopause, a topic that is increasingly gaining global attention, yet still remains underrepresented in design. It affects half of the world's population directly, and the other half indirectly. On a more personal note, I was motivated by the understanding that I, too, will one day experience this phase of life. This realization deepened my curiosity and sense of responsibility to explore how design can contribute to a more inclusive and supportive experience for all women.

Through this work, I hope to inspire others to adopt a systems-based design approach that addresses inequality and gives space to voices that are too often unheard.

*Enjoy the read!*

*Sarah Duister  
Delft, November 2025*

## ACKNOWLEDGEMENTS

I would like to thank a number of people, without whom this project would not have been the same.

First, I would like to thank my graduation committee, Dr. V.P. Pannunzio and Dr. T. Wang, for your valuable feedback, guidance, and ongoing encouragement throughout this journey. Valeria, thank you for your detailed and thoughtful feedback on my reporting, for generously sharing your network, and for the comforting conversations during the moments when the project felt like a bumpy road. Tingting, thank you for your sharp eye for detail, your expertise in conducting high-quality research, and your availability, even during your holidays.

A special thanks goes to Ruixuan Zhang, for the insightful consultations on the research and for jointly organising and presenting the work at Dutch Design Week. I would also like to thank the research consortium, Dr. C. Figueroa, Dr. J. Roeters van Lennep, Dr. P. Siemonsma, and L. Simons, for their openness to collaborate and for sharing thoughtful insights.

My sincere gratitude also goes to all collaborating parties like community center De Vleugel, GGD Haaglanden, Stichting Burgers, Stichting Ester, Stichting Sewa by Do Saathi, and OPEN. Without your help and enthusiasm, this project wouldn't have been possible. To all the participants who took part in interviews and opened up about your personal experiences, thank you very much. Your honesty and stories formed the foundation of this project, and I deeply appreciate the trust you placed in me.

A giant thanks to all my fellow graduating friends. Your laughter, spontaneous coffee breaks, and support during tough times made this intense half year both motivating and memorable. I am also deeply grateful to my parents, without their support, I would not have been able to pursue my studies. Lastly, a big thank you to my boyfriend for his patience, encouragement, and support throughout this somewhat emotional journey.

## EXECUTIVE SUMMARY

Menopause affects half of the world's population directly and the other half indirectly, with significant consequences for women's health and well-being. Yet, it remains under-researched and shrouded in silence and taboo. During this project, the urgency to improve the menopausal experience became evident through the voices of marginalised women in Zuid-Holland, who shared sentiments such as: "I feel like I have no use anymore," "I really don't want anything to do with the stupid menopause," and "I wasn't taken seriously."

This project explored how the menopausal experience of marginalised women in Zuid-Holland can be improved through research and

design using intersectionality theory and a macro-, meso-, and micro-level framework. At the macro-level, negative societal perceptions of ageing strongly impact women's experiences. A tested intervention to reframe these beliefs was integrated into a global anti-ageism campaign to promote awareness and institutional reform. At the meso-level, interviews and a survey disclosed that the GP-patient interaction is crucial for shaping women's menopausal journeys. Strengthening this interaction through improved GP education, regularly updated clinical guidelines that reflect new insights, a more supportive, midwife-like approach, and integration of AI communication tools could have a broad ripple effect. Additionally, normalising and accessible information

through a national, evidence-based information hub, eventually evolving into a personalized menopause guide app can deepen inclusivity. At the micro-level, co-creation sessions and interviews revealed that feelings of doubt and disempowerment can be counteracted through open communication within women's close social networks. Community-based workshops, awareness campaigns, educational initiatives, and products addressing hormonal changes across ages can create the needed dialogue and understanding.

Together, these interventions form a multiple-level strategy, focused on increased awareness through stigma reduction and open communication, targeting the underlying factors that currently shape negative menopausal experiences. Their collective outcomes form a force to create the paradigm

shift necessary for a future, visible in Figure 1, in which menopause is shared, supported, and understood. While the project focused on marginalised women, most participants had Surinamese roots, leaving many intersectional identities underexplored. Future research should include women from other cultural backgrounds and investigate the experiences of LGBTQ+ individuals. There are also opportunities to expand beyond stigma-reduction, particularly through inclusive preventive health programmes, though further study is needed to define these interventions.

Menopause remains a largely misunderstood phase of life requiring greater attention. The strategy proposed in this project addresses marginalisation, reduces stigma, and opens dialogue where it is most needed, transforming fear and grief into a celebration of life.

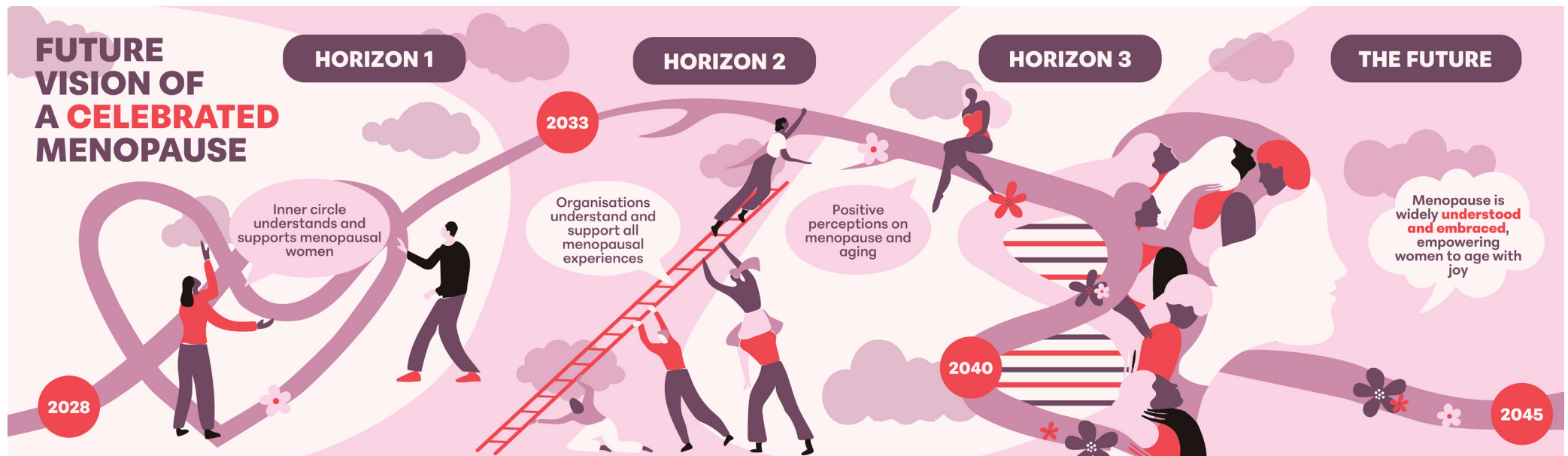


Figure 1 - Future vision of a celebrated menopause

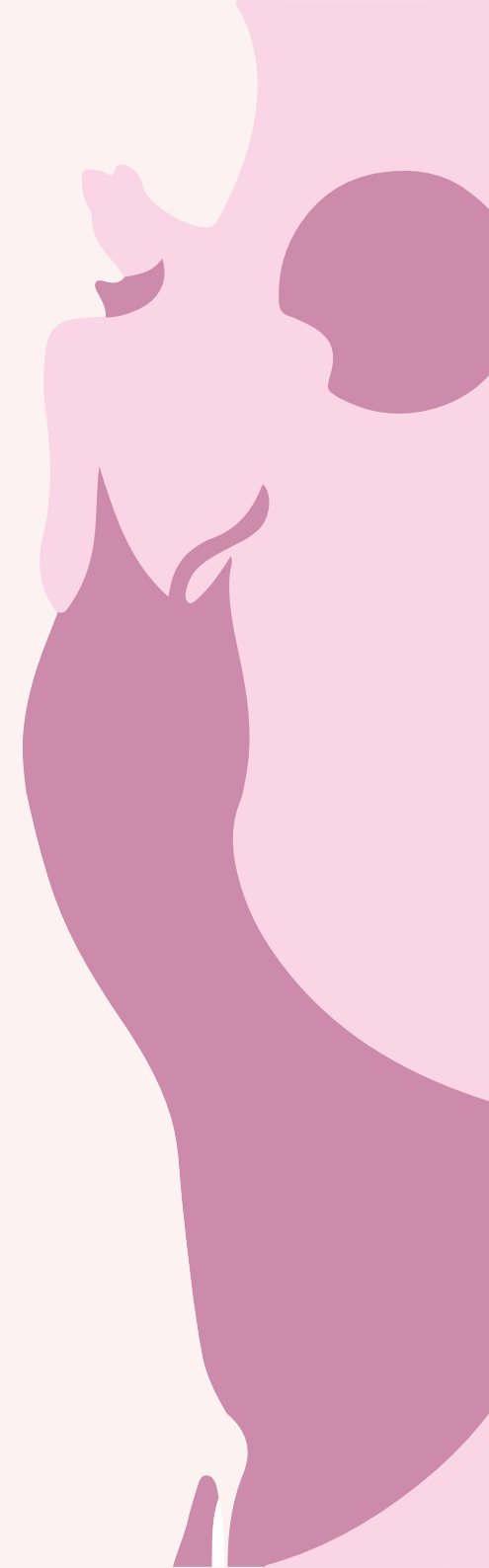
## LIST OF ABBREVIATIONS

<b>VWS</b>	Volksgezondheid, Welzijn en Sport. Referring to the Dutch governmental Ministry of health
<b>HCP</b>	Health Coach Program BV
<b>HT</b>	Hormone Therapy
<b>ZN</b>	Zorgverzekeraars Nederland
<b>NZA</b>	Nederlandse Zorgautoriteit
<b>ZvW</b>	Zorgverzekeringswet
<b>WPG</b>	Wet Publieke Gezondheid
<b>Wmo</b>	Wet maatschappelijke ondersteuning
<b>IZA</b>	Integraal Zorg Akkoord
<b>GALA</b>	Gezond en Actief Leven Akkoord
<b>NPA</b>	Nationaal Preventie Akkoord
<b>VNG</b>	Vereniging van Nederlandse gemeenten
<b>SPUK</b>	Specifieke Uitkering
<b>GLI</b>	Gecombineerde Leefstijl Interventie
<b>GP</b>	General Practitioner
<b>NVOG</b>	Nederlandse Vereniging voor Obstetrie en Gynaecologie
<b>DMS</b>	Dutch Menopause Society
<b>SGF</b>	Samenwerkende Gezondheid Fondsen
<b>LIP</b>	Lifestyle Intervention Program
<b>MMM</b>	Menopause Marginalisation Matrix
<b>WHO</b>	World Health Organisation
<b>DDW</b>	Dutch Design Week
<b>DEI</b>	Diversity, Equity, and Inclusion

## CREDITS AND AI STATEMENT

AI tools were used as a brainstorming partner to explore possible solutions and to suggest content for certain texts. Specifically, ChatGPT was used to improve the fluency and readability of texts that I had already structured and written.

Freepik, Pinterest and Flaticon were used for most pictures. Therefore, I would like to thank the creators of these images and give them credit for their work. Freepik's and Google's AI tools were also used for some image creation.



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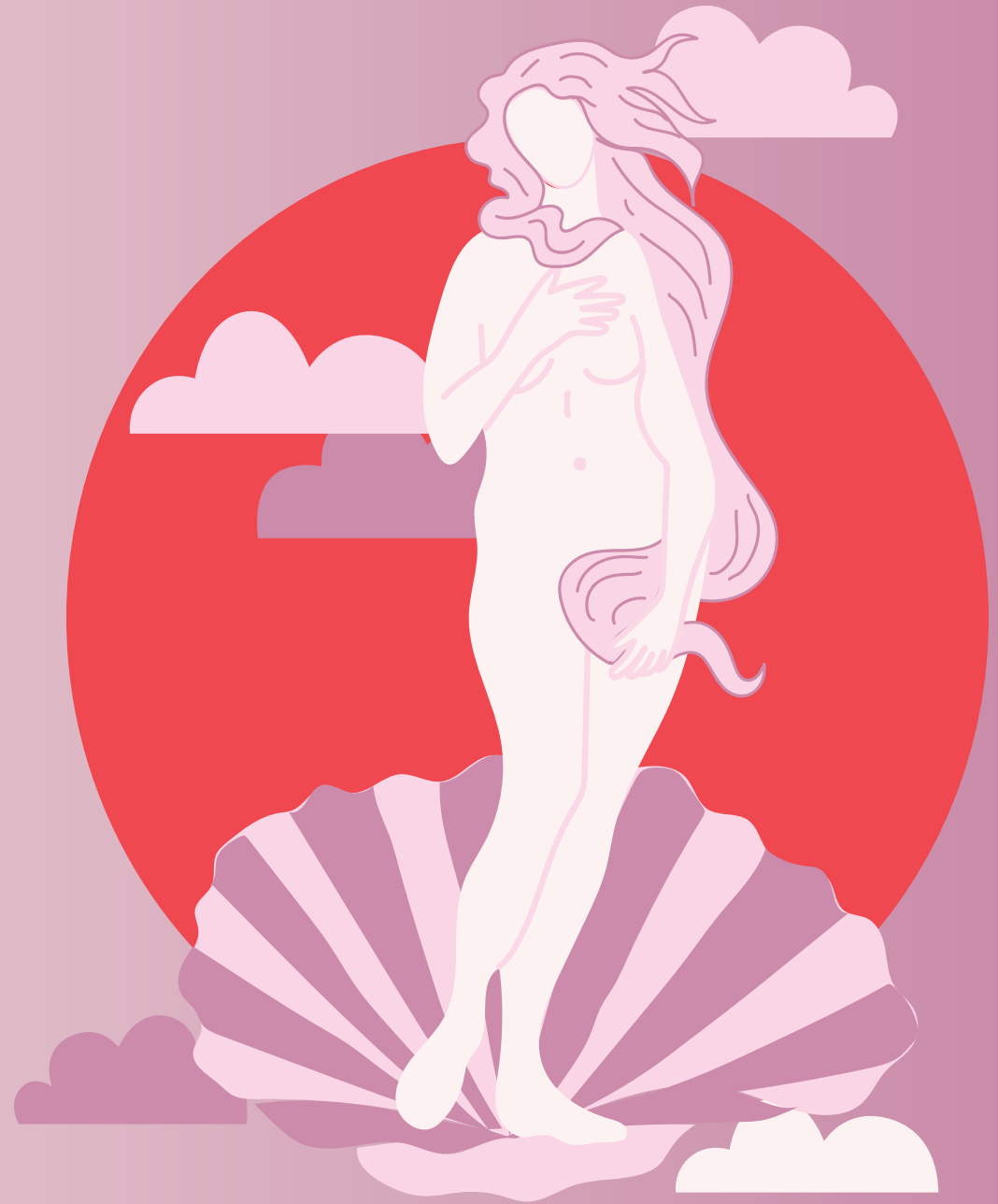
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# 1.

## PROJECT INTRODUCTION



ALL THE WOMEN FROM VENUS  
IMPROVING THE MENOPAUSAL EXPERIENCE OF MARGINALISED WOMEN IN ZUID-HOLLAND

## 1.1 BACKGROUND

### 1.1.1 Menopause defined

The World Health Organization (2024) defines menopause as the permanent cessation of menstruation for 12 months due to the loss of ovarian follicular activity, typically occurring between ages 50 and 52 (Rostami-Moez et al., 2023). The transitional phase preceding menopause, known as perimenopause, usually begins around age 45 and is marked by irregular ovulation and declining oestrogen production (Rhesus Medicine, 2023). The period following menopause is referred to as postmenopause.

### 1.1.2 Neglected female health

Health sciences research mostly focussed on male bodies for 2 reasons. First, 'bikini vision' assumed that male and female bodies are essentially the same, apart from the parts covered by swimwear (Trouw, 2014). Second, researchers avoided hormonal fluctuations in women, fearing these would complicate results (Mastroianni et al., 1999). This has left major knowledge gaps, limited funding, and few clinical guidelines for female-specific issues such as menopause.

### 1.1.3 Consequences of menopause

Menopause is an underresearched issue with major consequences for women's health. Hypertension is common during peri- and post-menopause, raising the risk of cardiovascular disease (Bazella & Gross-

Sawicka, 2023). This issue often goes unnoticed, especially among marginalized women who face cultural and social barriers to care. To address this, an interdisciplinary research consortium, including TU Delft, Erasmus MC, Hogeschool Leiden, and Health Coach Program BV (HCP), launched the MenoPressure personalized project. Its goal is to redesign the Blood Pressure Challenge specifically for marginalized menopausal women. This 6-week program educates and motivates participants to improve their lifestyle and track changes in blood pressure. It became the starting point of this graduation project with the aim to improve the menopausal experience of marginalised women in the Netherlands, with a specific focus on Zuid-Holland.

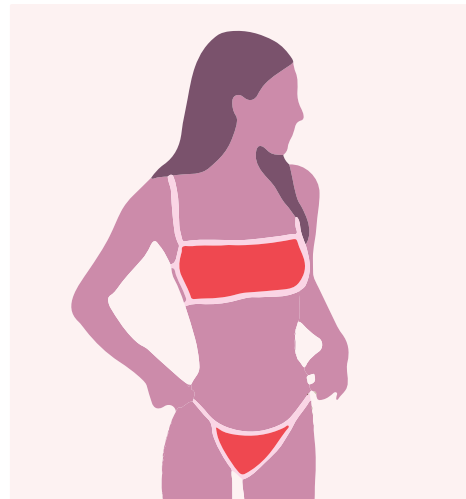


Figure 2 - Bikini vision

## 1.2 SCOPE

To clarify what is meant by marginalisation, it is important to draw on intersectionality theory. This theory highlights that each individual's experience of disadvantage arises from the interplay of multiple aspects of social identity, as illustrated in Figure 3 (Cho et al., 2013). In this project, factors such as gender, age, poverty status, education, race, and indigeneity are considered to varying degrees as potential sources of marginalisation (UN Women & UNPRPD, 2021).

The project addresses these complexities by developing accessible materials that acknowledge information and communication barriers, while also prioritising and learning from the perspectives of those who are often excluded from research and design (UN Women & UNPRPD, 2021).

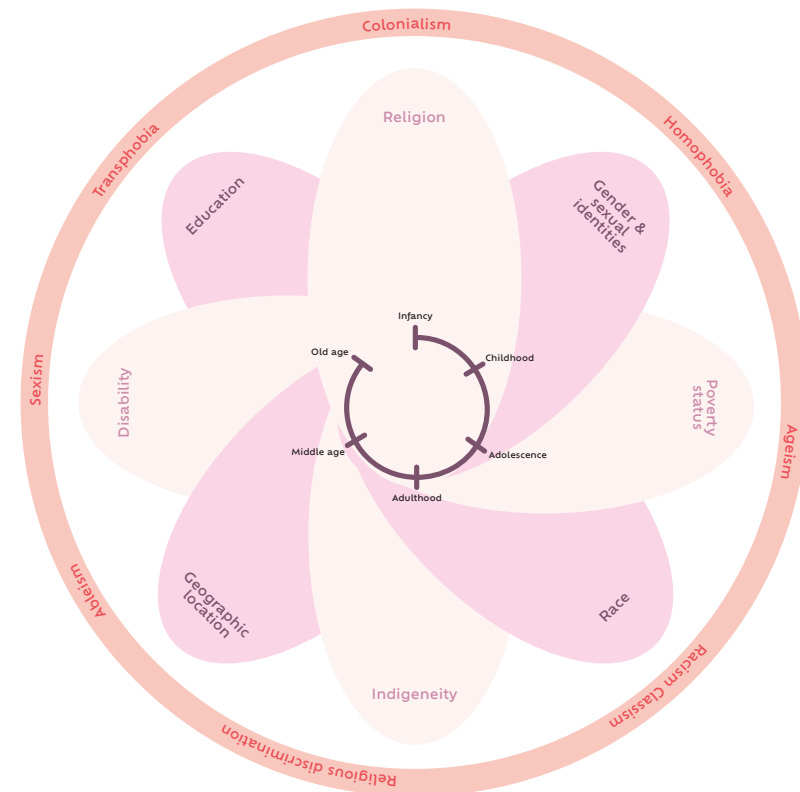


Figure 3 - Intersectionality model

## 1.3 RESEARCH QUESTIONS

### 1.3.1 Main research question

**How can the menopausal experience of marginalized women in Zuid-Holland be improved?**

### 1.3.2 Sub-questions

- *How can global societal perspectives be addressed to improve the menopausal experience of marginalized women?*
- *How could Dutch organizational practices be adapted to better support marginalized women in Zuid-Holland during menopause?*
- *How could personal experiences and close social networks be supported to enhance the menopausal experience of marginalized women in Zuid-Holland?*

### 1.3.3 Design goal

The goal of this project is to create a tactical roadmap that guides the development of interventions aimed at improving the menopausal experience of marginalized women in Zuid-Holland.



## 1.4 APPROACH

During the project, a structure emerged that supported a holistic and systematic approach, as visualised in Figure 4. This structure is built on three dimensions. The first dimension concerns the forces shaping the menopausal experience, which operate at different levels: societal forces at the macro-level, organisational forces at the meso-level, and individual forces at the micro-level. The second dimension relates to location and moves from macro to micro, ranging from the worldwide context to the Netherlands and finally Zuid-Holland.

The third dimension is implementation time. Here, interventions that influence individual lives are generally easier and quicker to implement, while those that require societal change are more complex and time-consuming. These levels are not completely separated since the larger layers above influence the smaller layers below.

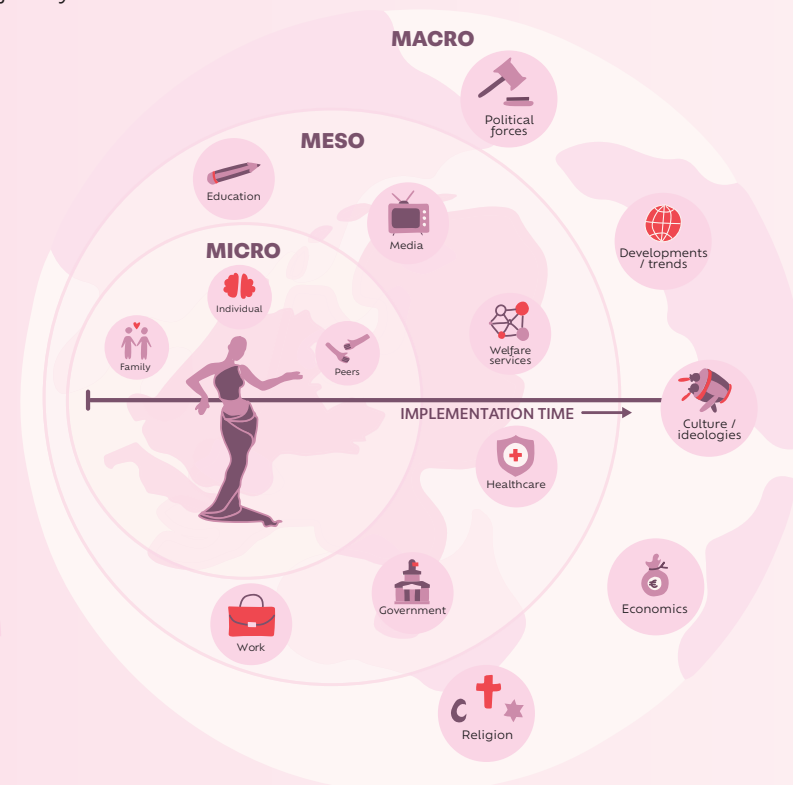


Figure 4 - Structure of macro-level, meso-level, and micro-level

Given the project's focus on a health-related topic, Cambridge's 'Improving Improvement Toolkit' was adopted to guide the process. This holistic, systems-based framework supports healthcare innovation by identifying meaningful leverage points for system change (University of Cambridge, 2024). The approach, illustrated in Figure 5, outlines a five-stage improvement process supported by seven recommended activity strands.

The Initiate stage was completed through the establishment of this graduation project. Chapters 2 to 4 correspond to the 'Understand' phase, in which the activities in the 'understanding the context', 'defining the problem', and 'gathering evidence' strands were conducted across macro-, meso-, and micro-levels. The evidence gathered at each level is summarised in the concluding sections of those chapters, while the resulting design insights form the basis for the initial 'Make the Case' activity strand.

The outcomes of the activities in the 'Make the Case' and 'Manage the Plan' strands are presented in Chapter 5, which concludes the research phase. The midterm evaluation served to confirm and refine the project's scope, marking the transition to the 'Co-Design' phase. During this phase, the improvement model was largely followed, though some steps were iteratively revisited or adapted. Chapters 6 to 8 describe this design phase, each concluding with a strategy for 'managing the plan'.

Finally, Chapters 9 and 10 represent the 'Deliver' stage, presenting an overarching implementation strategy and the final project conclusions.

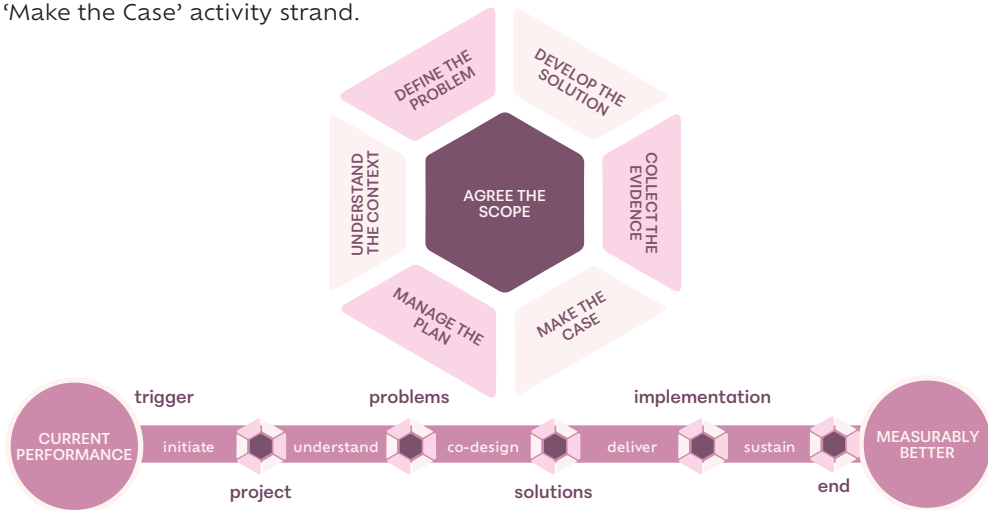


Figure 5 - Improving Improvement Toolkit

## 1.5 INVOLVED PARTIES

The general project structure is visualised in Figure 6 and explained in Paragraphs 1.5.1 till 1.5.5.

### 1.5.1 Medical Delta

Medical Delta is a transdisciplinary collaboration of educational institutions, companies, healthcare institutions, and governments. Together, they work on innovative solutions for sustainable healthcare. MenoPressure personalised is a scale-up project part of this collaboration and includes the following representatives.

- Dr. Caroline Figueroa and Ruixuan Zhang from Technology, Policy, and Management Faculty of the TU Delft.
- Dr. Jeanine Roeters van Lennep, internist vascular medicine of the erasmus MC.
- Dr. Petra Siemonsma, lector at Hogeschool Leiden.
- Dr. Luuk Simons, founder-director at Health Coach Program BV, a company that provides lifestyle coaching to employers to enhance employee vitality

### 1.5.2 Healthy Society

Healthy society is the funder of the MenoPressure personalised project. This consolidation of interdisciplinary scientific knowledge in Zuid-Holland aims to improve health and wellbeing across all segments of the population and to reduce health inequalities.

## COLLABORATION

### RESEARCH GROUP

#### PROJECT TEAM

- Dr. Valeria Pannunzio
- Dr. Tingting Wang
- PhD candidate Ruiang



Local groups: Community center 'De Vleugel', Stichting Ester, Stichting Sewa By Do Saathi

Figure 6 - Project structure

### 1.5.3 TU Delft

This graduation project concludes the Master's program in Strategic Product Design at TU Delft, with academic guidance from Dr. Valeria Pannunzio and Dr. Tingting Wang as members of the graduation committee.

### 1.5.4 Cambridge University

The Healthcare Design group at the Cambridge Engineering Design Centre developed the Improving Improvement toolkit and will use reflections from this graduation project to inform its further development.

### 1.5.5 Other collaborations

Several other organizations have been approached throughout the duration of the project.

# 2.

## RESEARCH MENOPAUSE ON MACRO-LEVEL

Menopause is a global experience that directly affects half the population and has indirect effects on the other half. To 'understand the context' and 'define the problems' on macro-level, cross-cultural literature was reviewed using keywords such as menopause, women, needs, low socioeconomic status, lifestyle intervention, and hypertension. Searches were conducted on Google Scholar, combining menopause-related terms with the others. After screening for relevance, twenty articles were analysed and summarised in Section 2.1.

Section 2.2 explores societal developments around menopause through a DEPEST analysis, identifying trends across demographic, economic, political, ecological, sociocultural, and technological domains. These were then grouped into broader macro-trends and translated into useful information. The gathered evidence is summarised in Section 2.3 while Section 2.4 initiates the 'makes the case' activity strand.



## 2.1 GENERAL MENOPAUSAL EXPERIENCE

Figure 7 provides an overview of the general menopausal experience. It is important to emphasise that there is no single, universal experience or fixed description of menopause. As discussed in section 2.1.1, the experience is shaped by a range of background factors. Section 2.1.2 shows how each woman experiences menopause differently, while section 2.1.3 highlights the variety of ways women respond to it. This structure can be tied to the theories of reasoned action and planned behavior which state that background factors, shape beliefs and attitudes which will lead to a certain behavior (Ajzen & Fishbein, 2005). Finally, section 2.1.4 outlines opportunities for improving the overall experience.

### 2.1.1 Influencing factors

Menopausal experiences vary widely due to biological, psychological, cultural, and social factors. Biologically, hormonal fluctuations, smoking, diet and BMI influence symptom severity (Hickey et al., 2022). Personal characteristics such as socioeconomic status, education, employment, and mental health influence the women's attitude towards the menopause (Zou et al., 2021; Hickey et al., 2022; Maheswari et al., 2025; Krzyżanowska & Górecka, 2021; Rostami-Moez et al., 2023).

Cultural factors are equally influential on the menopause attitudes. Where female's value is tied to youth and fertility, menopause is pathologized and discussion remains taboo, fostering

isolation (Shorey & Esperanza, 2019; Hickey et al., 2022; Maheswari et al., 2025; Cowell et al., 2024). Finally, social factors, including partner support, social networks, significantly shape the menopausal transition (Hoga et al., 2015; Zou et al., 2021). significantly shape the menopausal transition (Hoga et al., 2015; Zou et al., 2021).

Conversely, in some societies and even among orcas, menopause is seen as liberation from reproductive duties, granting women higher status and respect (Shorey & Esperanza, 2019). Religion may also play a neutralising role, framing menopause as part of God's will.

Finally, social factors, including partner support, family dynamics, workplace context, access to healthcare, and broader social networks, significantly shape the menopausal transition (Hoga et al., 2015; Zou et al., 2021).

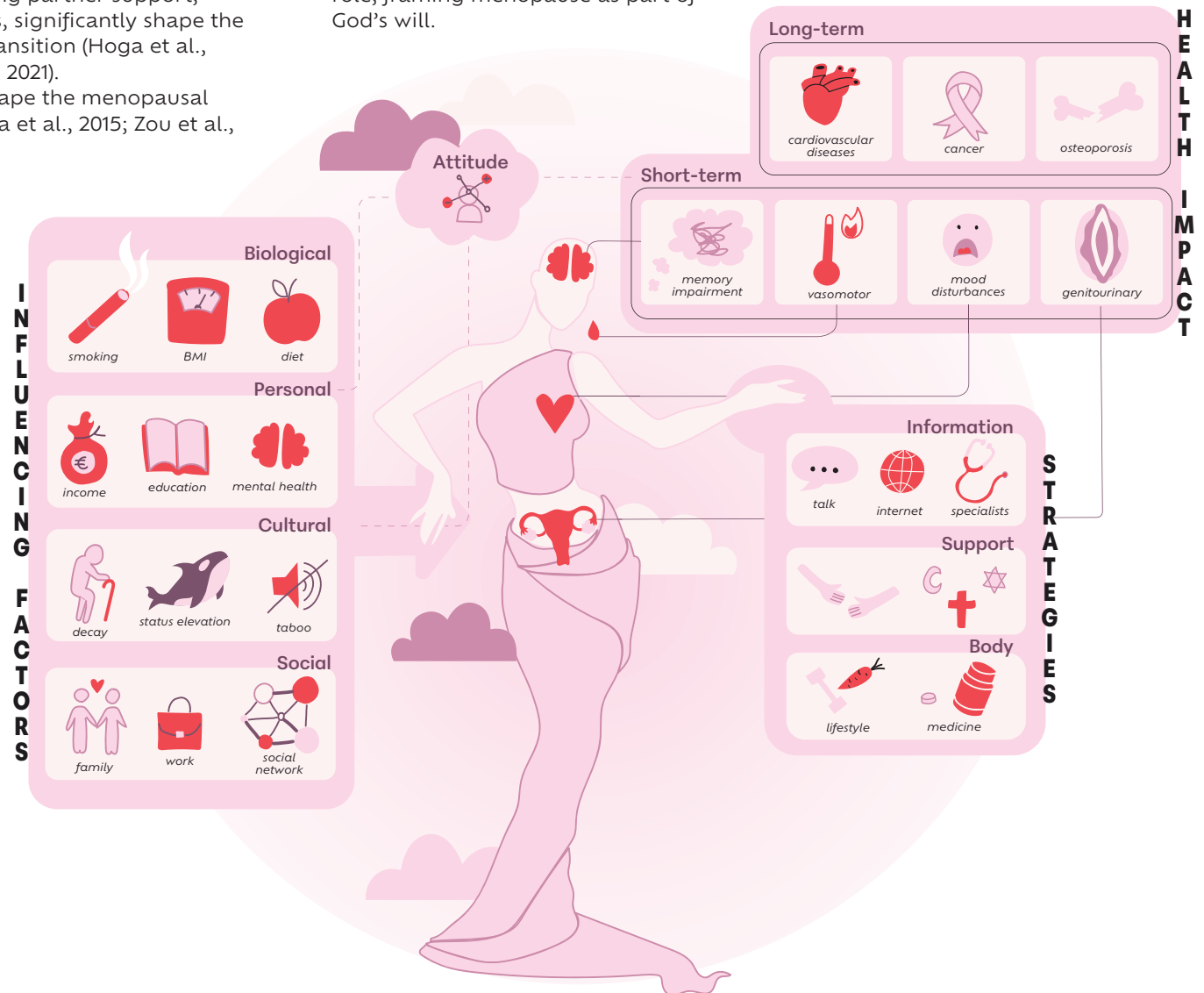


Figure 7 - The general menopausal experience

## 2.1.2 The menopausal experience

The experienced symptoms are diverse and can persist for an average of seven years (Rhesus Medicine, 2023). They are commonly grouped into four categories: vasomotor, genitourinary, mood-related, cognitive, and miscellaneous.

Vasomotor symptoms are for example hot flushes and night sweats affect around 75% of women (Shorey & Esperanza, 2019; Hoga et al., 2015; Rostami-Moez et al., 2023). Genitourinary symptoms include vaginal dryness and urinary urgency (Maheswari et al., 2025; Borker et al., 2013; Rostami-Moez et al., 2023). Mood disturbances, such as sadness, anxiety, depressive symptoms, and fears about aging or dependence, are also common. Cognitive complaints like forgetfulness, poor concentration, and 'brain fog' frequently occur (Rostami-Moez et al., 2023). Additional, less common symptoms may also arise.

In parallel, the menopausal transition also brings long-term health risks. Changes in the cardiovascular system, such as rising blood pressure, increase the chance of cardiovascular diseases (Wu et al., 2014). Postmenopausal bone loss averages 12%, raising osteoporosis risk. The risk of certain cancers also increases (Rostami-Moez et al., 2023; Maheswari et al., 2025).

## 2.1.3 Used strategies

Women's reaction on the menopausal experience differs but can be described as seeking information and support and actively taking action.

Most women entering the menopausal transition search information. They learn from the experiences of close contacts as well as additional sources like audiovisual media, internet, and healthcare professionals, who are seen as the most reliable source (Lee, 2015; Shorey & Esperanza, 2019). Social support is also important, with many turning to family, peers, community groups, and sometimes prayer or meditation for coping (Shorey & Esperanza, 2019; Zou et al., 2021).

Women take various steps to manage menopause. Healthcare options mainly include hormone replacement therapy (HT) and non-hormonal agents (Rhesus Medicine, 2023). Some also turn to alternative methods like traditional Chinese medicine or herbal remedies, though evidence for these is limited (Shorey & Esperanza, 2019).

Instead of medical treatment, many women manage symptoms through lifestyle. With growing health awareness, they adopt habits like regular exercise, balanced nutrition, good sleep, and stress management (Lee, 2015; Toral et al., 2014). These interventions reduce both short-term symptoms as well as long-term health risks of the menopause (Maheswari et al., 2025 ; Rutanen et al., 2014; Hunter, 2021 ; Rostami-Moez et al., 2023 ; Naworska et al., 2020 ; Cowell et al., 2024 ; Toral et al., 2014 ; Hickey et al., 2022 ; Wu et al., 2014).

## 2.1.4 Unfulfilled needs

Current support and information around menopause are insufficient. To further improve the menopausal experience, personalised approaches are required.

To improve support for menopausal women, it should be provided at multiple levels. Women report the need for effective communication with their inner circle, particularly family members, to prevent friction (Shorey & Esperanza, 2019; Rostami-Moez et al., 2023). At meso-level, they report that comprehensive policies addressing menopausal challenges are crucial (Cowell et al., 2024). Support systems like counselling and peer groups are also valuable (Maheswari et al., 2025; Zou et al., 2021). On macro-level, reducing menopause stigma can improve support (Cowell et al., 2024).

Healthcare providers play a key role in offering both support and information, yet many women feel ignored or inadequately informed (Zou et al., 2021; Hvas et al., 2004). In addition to professional guidance, women express a need for trustworthy resources that include personal stories and practical advice for themselves and their loved ones (Shorey & Esperanza, 2019; Trudeau et al., 2011; Hickey et al., 2022; Cowell et al., 2024).

Finally, because every woman's menopausal experience is unique, healthcare should be personalized (Hoga et al., 2015; Toral et al., 2014; Maheswari et al., 2025). Policies and infrastructure must reflect this diversity and pay special attention to immigrant women, who face unique barriers (Zou et al., 2021).

## 2.2 DEVELOPMENTS IN THE MACRO-CONTEXT

Recent developments around menopause reflect the broader culture of self-optimization, which can be seen as an ongoing pursuit of becoming one's best self (Nehring & Röcke, 2023).

Firstly, adults, including menopausal women, are increasingly taking a proactive, holistic approach to health that emphasizes emotional balance, mental clarity, and physical activity. This shift is driving a growing demand for wellness products from elder consumers, with over 60% of consumers in the US, UK, and China prioritizing healthy aging and longevity (News-Medical, 2025 ; Cummings, 2025 ; Callaghan et al., 2024).

Women are becoming more vocal about their experiences and need for support and information. Their purchasing and voting behaviours are increasingly influenced by how organizations fund women's health research and include policies affecting female employees (Hughes, 2025). In response, brands are becoming more female-focused; the menopausal market is growing by 5.7% annually (Marcjames, 2024). After years of neglect by governments and academia (Bonafide, 2024), change is emerging, such as the UK's Menopause Taskforce aimed at addressing this gap (Marcjames, 2024). These trends have some risks, made visible in Figure 8.

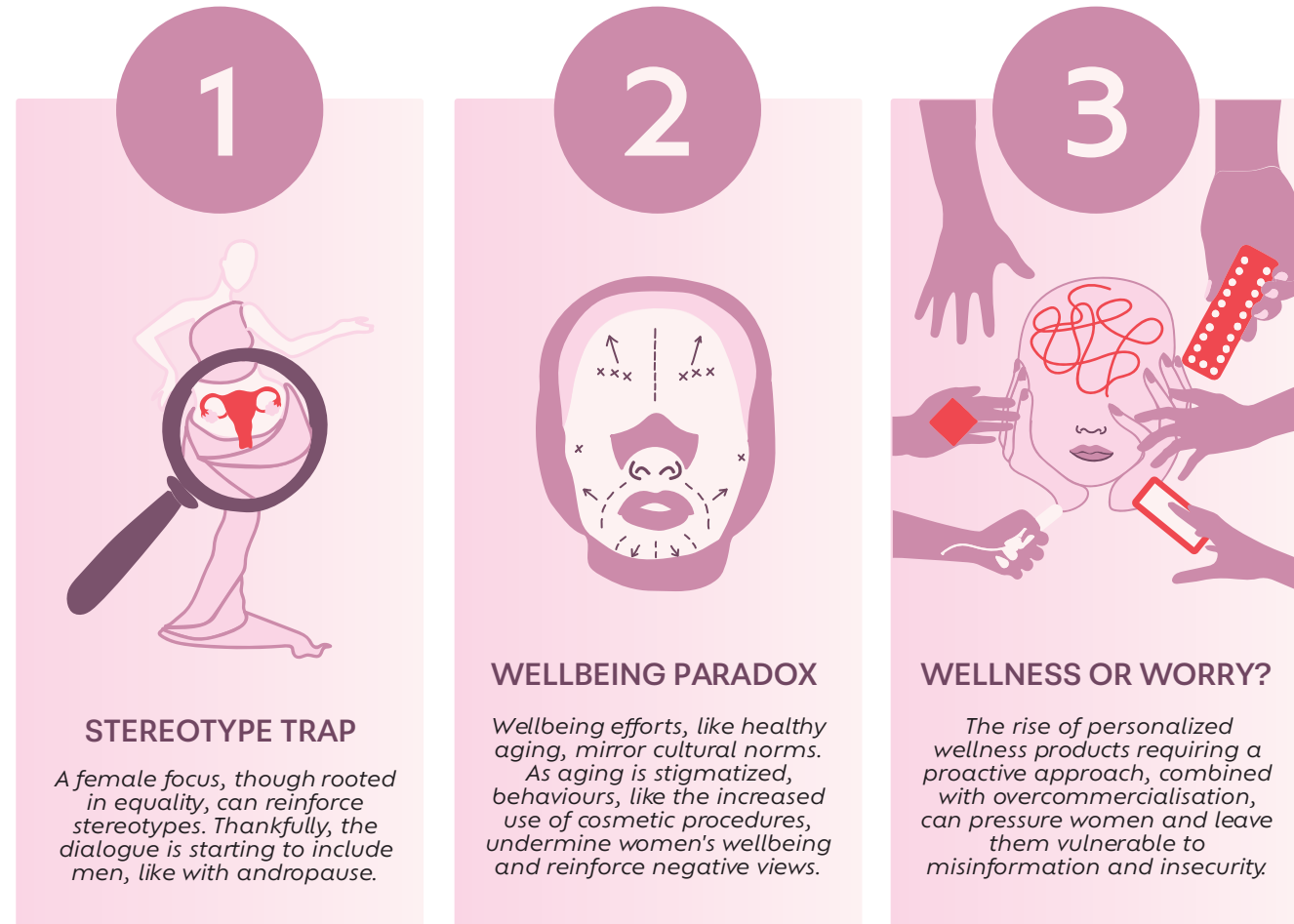


Figure 8 - Risks developments (Cummings, 2025 ; Higgins, 2024)

## 2.3 CONCLUDING REMARKS

It becomes evident from worldwide literature that menopause is a life stage marked by major physical and emotional changes that can greatly impact women's well-being (Hoga et al., 2015 ; Maheswari et al., 2025; Shorey & Esperanza, 2019). This transition is often made more stressful by negative cultural norms, limited information and insufficient support.

Reducing stigma is essential. Providing clear, reliable information to society as a whole can foster open dialogue and improve support. Healthcare professionals should be trained to recognise and address women's needs during this phase. Screening for menopause-related health risks could also be valuable. In general, but more importantly when risks are present, lifestyle interventions are recommended for peri- and postmenopausal women, as they offer long-term benefits without side effects. These interventions support lasting behavioural change, complement medical treatment, and can be tailored to individual needs.

Special attention is needed for migrant women, whose menopausal experiences are often shaped by more difficult life circumstances and the challenges of acculturation.

## 2.4 DESIGN INSIGHTS

- The menopause is an unique experience, so designs must be customizable.
- Background factors influence beliefs, which in turn shape attitudes and behaviors. Cultural beliefs strongly shape how menopause is experienced, so design interventions that challenge the negative ones have power to greatly improve women's wellbeing.
- During menopause, many women need support and information. Designs should provide this without reinforcing pressure from self-optimization culture.



# 3.

## RESEARCH MENOPAUSE ON MESO-LEVEL

The menopausal experience of women in the Netherlands is shaped by the organisational contexts in which they live. A clear understanding of this system and its key stakeholders is therefore essential. To gain this insight, multiple data collection methods were used, including expert interviews, analysis of governmental documents, and observations at a community centre. Semi-structured interviews were conducted with three gynaecologists (one a member of the Dutch Menopause Society), a psychologist, a health insurer, and a developer of a lifestyle intervention program (LIP). One interview recording, with a gynaecologist and the psychologist, was not retrievable

and excluded from analysis. Interview questions were reviewed for quality and relevance by a PhD researcher. Transcriptions were analysed and key insights categorised. Findings from all sources are synthesised and presented in this chapter. Section 3.1 shortly explains the Dutch healthcare system and how current developments might influence the future menopausal experience. Section 3.2 zooms in on menopause-specific care and its stakeholders. Section 3.3 'defines the problems' by explaining the current barriers to improving care. Section 3.4 concludes the chapter by summarising the collected evidence, while Section 3.5 initiates the 'Make the Case' activity strand.



### 3.1 DUTCH HEALTHCARE SYSTEM

The Dutch healthcare system is unique compared to most other countries and is illustrated in Figure 9. Its functionality is governed by five systematic laws. The Zorgverzekeringswet (Zvw) ensures that all Dutch residents are covered by a broad basic package of healthcare services. Implementation is carried out by private health insurers operating in a system of regulated competition, protected by public safeguards. Two essential rules for insurers are ‘acceptatieplicht’ and ‘zorgplicht’ which require them to accept every applicant and ensure access to necessary care (Ministerie VWS, 2023).

Through selective contracting, health insurers can influence both the efficiency and quality of care delivered by healthcare providers (Van Den Berg, 2025). Citizens also have a role to play, as they are free to switch insurers annually by choosing a suitable policy, which may include supplementary coverage and determines their yearly premium and deductible (Ministerie van Algemene Zaken, 2024). Through various forms of representation, citizens can steer policies of insurers and healthcare institutions (Ministerie VWS, 2023).

When someone requires medical care, they first consult a General Practitioner (GP), who acts as a gatekeeper to more specialized services. The government holds final responsibility for the entire system and adjusts policy when needed.

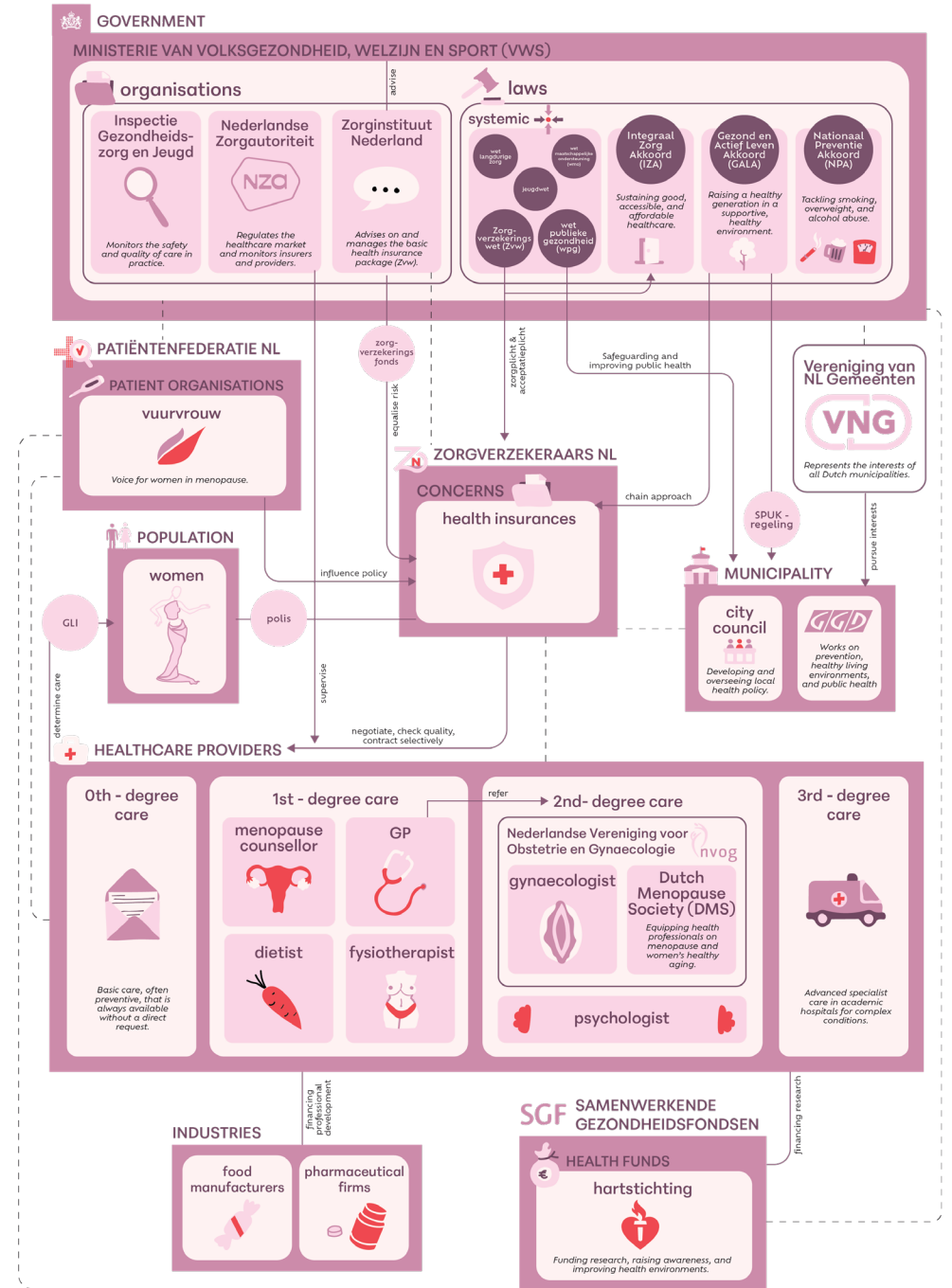


Figure 9 - Menopause healthcare system

### 3.1.1 Policy developments

The government has recognized the need for policy reform (Nederlandse Zorgautoriteit, 2024). Both the Integraal Zorgakkoord (IZA) and the Gezond en Actief Leven Akkoord (GALA) have the potential to improve the menopausal experience by focusing on preventive care and promoting healthier lifestyles.

IZA was established in response to growing healthcare costs as pressure on accessibility and quality of healthcare increases. This pressure is caused by an ageing population, a general unhealthy lifestyle, a shortage of healthcare staff, ineffective collaboration between sectors and expensive new treatments (EenVandaag, 2023). It sets out agreements in key areas such as prevention and healthy living (Ministerie VWS et al., 2022).

GALA builds on these goals, aiming to ensure a healthy and active life for everyone (Ministerie VWS, 2023). As stated by the interview with the health insurer, GALA introduces five chain-based approaches that promote collaboration among stakeholders locally to identify at-risk groups and deliver targeted interventions (full interview transcripts are presented in Appendix B4.1). A central focus is reducing health inequalities, based on the understanding that marginalised groups often have unhealthier lifestyles and less access to quality care (Ministerie VWS, 2023).

### 3.1.2 Organisational developments

There are many developments aimed at promoting healthier lifestyles parallel to these policies. For example, the Heart Association introduced Life's Essential 8, a set of key measures designed to improve and maintain cardiovascular health through healthy living (American Heart Association, 2024). In addition, multiple LIPs have been developed to support lasting behavioural change through coaching in areas such as diet and physical activity (Rijksinstituut voor Volksgezondheid en Milieu, 2019). The government has also included similar programs in the basic health insurance under the name Combined Lifestyle Intervention (GLI) as mentioned by the health insurer interviewee. GLI is a two-year program offered by various providers, aimed at supporting sustainable lifestyle changes in individuals who are overweight (Zorginstituut Nederland, 2019). The RIVM monitors the national implementation of GLI on behalf of the Ministry VWS to assess its effectiveness as mentioned by the health insurer interviewee.

Unfortunately, it has been seen that these programs face high dropout rates, limited reach among marginalised groups, and often fail to deliver care in the right place (Zorgverzekeraars Nederland & Equalis, 2024). Therefore, Zorgverzekeraars Nederland (ZN), in accordance of IZA and GALA, wants to improve its effectiveness and work towards a 'GLI op maat' that makes use of the discussed chain approaches (Zorgverzekeraars Nederland & Equalis, 2024).

As mentioned by the health insurer interviewee, this vision shifts the GLI from fixed programs toward a more flexible approach, defining core components of the GLI while tailoring content to individual needs, rather than enrolling everyone in the same standardized program.



### 3.2 MENOPAUSE-SPECIFIC CARE

Figure 10 shows the stakeholders influencing the women’s menopausal experience. The government holds the most influence and has a strong interest in improving women’s menopausal experiences. This, along with employers’ interest, stems from the value of retaining menopausal women in the workforce (Ellingrud et al., 2024). Some employers are beginning to address menopause. For example, the Dutch government provides its employees with mindfulness and menopause training (Mindful Rijk, 2024).

Within the healthcare system, general practitioners and gynaecologists currently offer limited support beyond hormone therapy (HT). Yet, ensuring that women receive appropriate care could help reduce their workload. Health insurers play a key role through their reimbursement policies; currently, menopause counsellors are only covered under supplementary insurance. Municipalities also hold significant local influence, allowing them to more effectively reach and support specific target groups

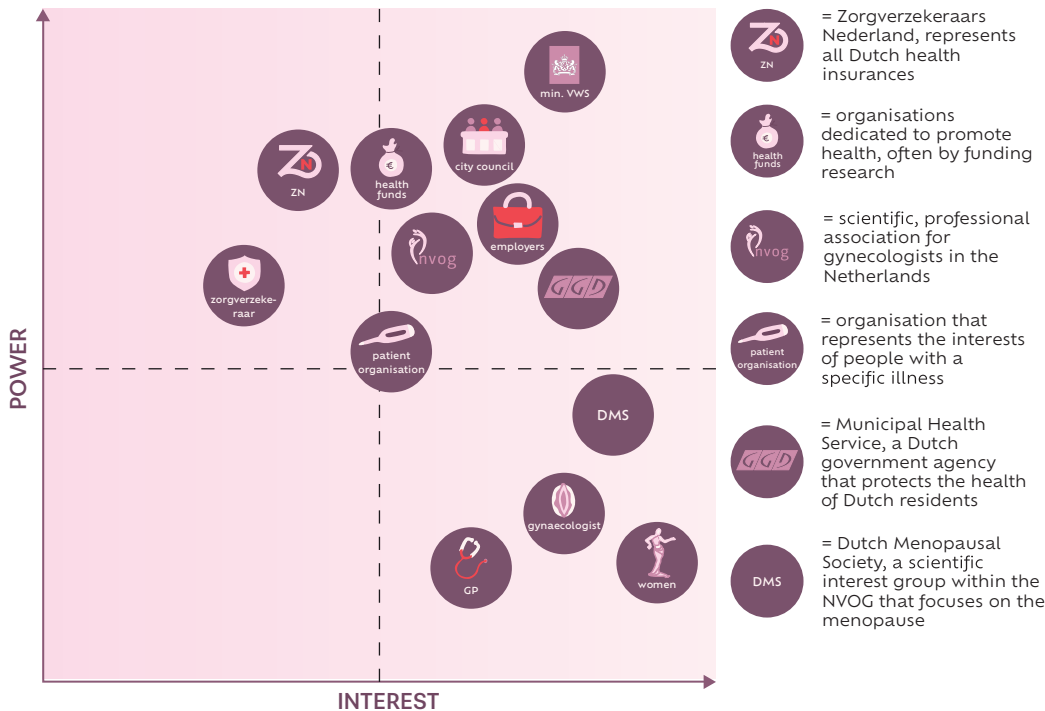


Figure 10 - Stakeholder analysis

### 3.3. BARRIERS TO BETTER MENOPAUSE SUPPORT

It becomes evident that the Dutch healthcare system is increasingly prioritising preventive care, which is promising for improving the quality of life of menopausal women. However, structural barriers within the system still hinder effective implementation.

First, as emphasised by a gynaecologist, a lifestyle intervention developer, and a health insurer, the current system still prioritises symptom management. As the developer noted: *“A doctor doesn’t know what health is. A doctor knows about medications and side effects. That’s something completely different”* (full interview transcripts are presented in Appendix B2.2). Meanwhile, continuing education for health professionals is frequently industry-funded, particularly by pharmaceutical and food sectors, which may shift focus away from healthy lifestyle promotion (Visser & Kreling, 2016 ; Van Der Linde, 2018).

Second, both the insurer and the intervention developer pointed out that the healthcare system operates on a reimbursement model. Insurers function largely as claim handlers, aiming to purchase care at the lowest possible cost. While programmes such as GLI can be financed due to supportive government policy and well-defined activities, insurers lack clear guidance in other areas of preventive health. As a result, interventions that may be more effective and evidence-based often

remain unfunded. Third, stronger cross-sector collaboration is needed. As noted by a gynaecologist and supported by Heijink & Struijs (2016) and Kemper et al. (2022), preventive care for menopausal women requires common terminology, clearly defined responsibilities across organisations, and structural funding and incentives. Here, the government has a leading role to play.

Beyond these systemic barriers, marginalisation at the intersection of multiple identities further restricts access to adequate care. Gender is a central factor: as one gynaecologist interviewee explained, *“Gynaecology is somewhat looked down upon in medicine. The people who do choose this expertise have only a small part of their training focussed on menopause”*. The second identity is education as said by a gynaecologist: *“There is already a great deal of information available, but we have noticed that not all segments of the population are able to find the right information”* (full interview transcripts are presented in Appendix B3.2). In addition, race and indigeneity can create barriers through language differences and cultural mismatches, as emphasised by all interviewees. Finally, geographic location further shapes access to care (Aalbersberg et al., 2022).

### 3.4 CONCLUDING REMARKS

In conclusion, healthcare in the Netherlands operates within a market-based system regulated by the government, with GPs acting as gatekeepers who provide information, guide patients, and make referrals when necessary. However, the system is under increasing pressure, in part due to an aging population.

The current system remains focused on symptom management. However, recent initiatives such as IZA and GALA aim to promote healthier lifestyles and reduce health inequalities, with the broader goal of alleviating pressure on the healthcare system. These policies have stimulated the development of interventions such as GLI. In response, health insurers are increasingly working to tailor these programmes to individual needs.

Given its influence on the healthcare sector, the government at both national and local levels plays a crucial role in driving change. By promoting stronger cross-sector collaboration, giving greater attention to female health, strengthening preventive care, and lowering barriers to access for all groups, policymakers can help ensure that the healthcare system becomes more resilient, inclusive, and responsive to the needs of women across society.

### 3.5 DESIGN INSIGHTS

- Since the GP is the first step to healthcare, design should support GPs in recognising menopausal symptoms early and providing timely guidance or referral.
- With an aging population, demand for menopause care will rise. Preventive and proactive approaches can reduce the burden on healthcare professionals.
- Menopause remains underexposed in healthcare frameworks (e.g. IZA and GALA). Design can highlight the topic and embed it within broader preventive health strategies, ensuring it is not overlooked.
- Chain approaches stress personalised care which is only possible by using the intersectionality model. Design should therefore take the different identities into account.
- Design should improve the current abundance of fragmented or conflicting health information that makes it difficult for women to access trustworthy guidance.
- The design should take into account that behaviour is largely influenced by people's environment.



# 4.

## RESEARCH MENOPAUSE ON MICRO-LEVEL

At the micro level, the needs and challenges of women in Zuid-Holland are explored to define the problems they encounter. Semi-structured interviews were conducted with six women living in Delft who are around menopausal age and have a migration background, as well as with two postmenopausal women who participated in a short LIP. This qualitative approach enabled in-depth conversations that uncovered cultural and personal nuances. Focusing on women with migration backgrounds offered insight into how marginalisation shapes menopausal experiences, while acknowledging that other forms of marginalisation also exist. Content of the interviews was adapted throughout to increase engagement. The questions

were reviewed by a PhD researcher for quality and relevance. Some more creative questions were included as visible in Figure 11.

Interviews were transcribed, key insights categorized, and translated into the findings described in this chapter. Section 4.1 provides a detailed overview of the target group, followed by Section 4.2, which explores their current menopausal experience. Section 4.3 examines how a LIP could effectively support this group, should it be chosen as the primary strategy for improving their experience. The chapter concludes with the 'Gathering the Evidence' activity strand in Section 4.4 and the initiation of the 'Make the Case' activity strand in Section 4.5.

**ALL THE WOMEN FROM VENUS**  
IMPROVING THE MENOPAUSAL EXPERIENCE OF MARGINALISED WOMEN IN ZUID-HOLLAND





## 4.2 CURRENT EXPERIENCE

The current experience of these women is visualised in Figure 14. Most experience the five mentioned emotions and act in accordance of the purple boxes. The purple circles show the mentioned symptoms in which mood swings and hot flushes were most often stated. To emphasize their experiences, translated quotes from the interviews were included, using the women's own words (transcripts can't be shared due to privacy).

Figure 13 visualises the interactions between menopausal women and their environment. Negative perceptions of older women create a taboo that leads many to endure menopause quietly. When conversations do occur, men are often excluded as women remain silent with their sons. This reinforces the idea that women's concerns are unimportant and sustains the taboo, despite men playing a key role in the menopausal journey, especially as partners. Although marital status is not included in the intersectionality model (Figure 2), it strongly shapes experiences. A supportive partner can provide emotional relief and a sounding board, while his background also matters. For instance, Dutch men often have broader networks and greater familiarity with the healthcare system, easing access.

Information is often sought from impersonal sources, such as a GP, to maintain distance. Yet seeking professional help can be difficult, as many women are largely homebound, according to a gynaecologist. However, despite trusting their advice, miscommunication and dismissal are common. As one gynaecologist observed: "Women from non-Western

backgrounds may express themselves more intensely, which can lead healthcare providers to see them as exaggerating and take them less seriously" (Appendix B2.1). A woman echoed this: "When I go to the GP with symptoms, they just brush it off: 'Oh, it'll be fine, it's probably just menopause'". Further difficulties arise because some races are underrepresented in healthcare research, though biology influences experiences. For example, women with darker skin need more vitamin D, as discussed during a community centre morning on menopause (Appendix C1).

Indigeneity also shapes access to information and healthcare integration. Van Kesteren et al. (2025), at a symposium on breast cancer research among women with low socio-economic status, noted that the Turkish community tends to remain relatively closed (Appendix C2). Reliable health information seldom reaches them, while online searches overwhelm them with unfiltered content, leaving them vulnerable to marketing of unproven menopause products. Cultural perceptions also matter. At a community centre event, participants noted that in some African cultures women drink tea together when in pain, based on the belief that pain diminishes when shared.

Religion can both support and restrict. One interviewee said: "Faith in God provides support," while another expressed relief at no longer menstruating: "You no longer have to worry about being dirty." At the same time, religious norms may create barriers, such as restrictions on exercising in mixed-gender environments. Poverty adds another layer, as household pressures often push menopause into the background, as one gynaecologist explained.

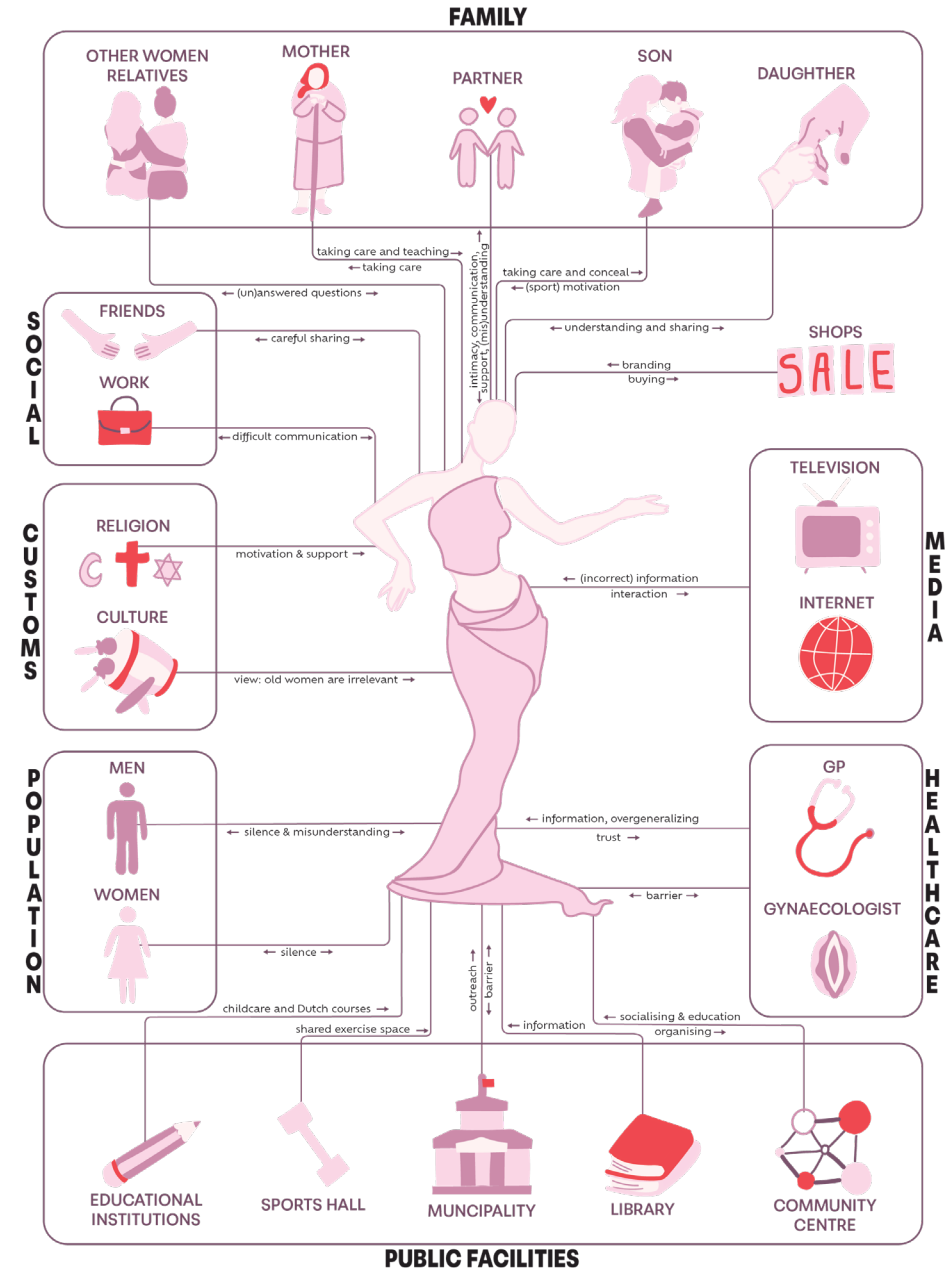


Figure 13 - Interaction exchange map menopausal women and their environment

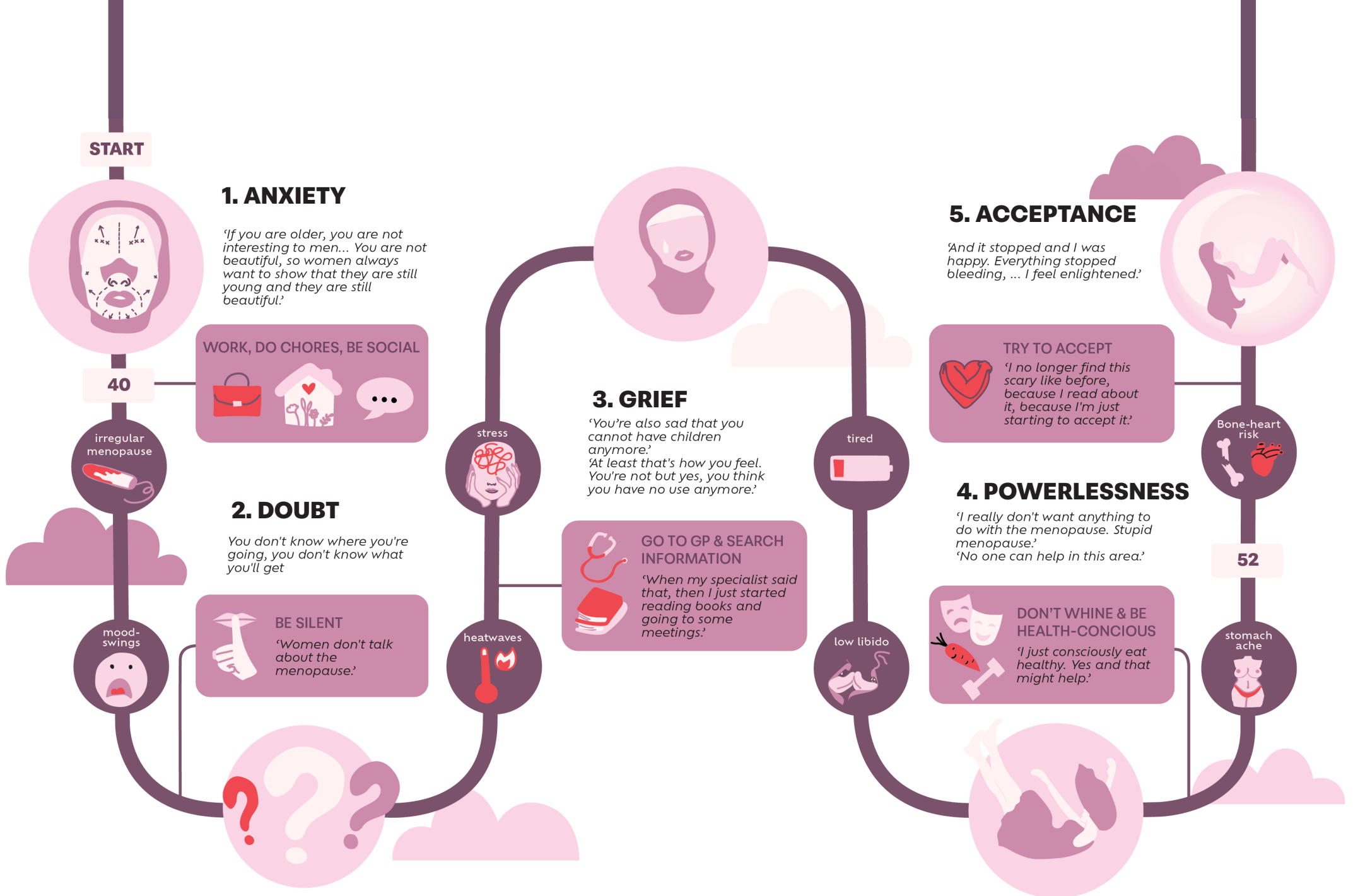


Figure 14 - Journey map menopausal women

## 4.3 LIP TARGETED AT MENOPAUSAL WOMEN

As noted earlier, preventive lifestyle interventions can improve menopausal women's quality of life and ease healthcare pressures. Two interviews with post-menopausal women who joined such a program revealed the influences to its success, summarised in Figure 15. Full interview transcripts are presented in Appendix B4.2.

Behavioural change is possible when interventions are personalized and sufficiently challenge participants to step outside their comfort zones (Trudeau et al., 2011). Some individual guidance is essential to support this process. Adjusting food intake, such as eating more fruit, is generally easier, while behaviours influenced by social customs, like reducing alcohol consumption, are more difficult. Increasing physical activity is achievable, but fitting intensive exercise into a busy schedule is challenging. In both cases, financial constraints and the views of close social circles play an important role.

Participant motivation is crucial, beginning with goal-setting and sustained by noticing improvements in wellbeing. Evidence-based guidance supports progress, while the social support of open and judgement-free group sessions with like-minded fosters positive peer pressure and helps normalize lifestyle changes. The program should maintain daily engagement over time to build routine, cover multiple health topics, and is accessible through greater visibility in locations frequently visited by the women.

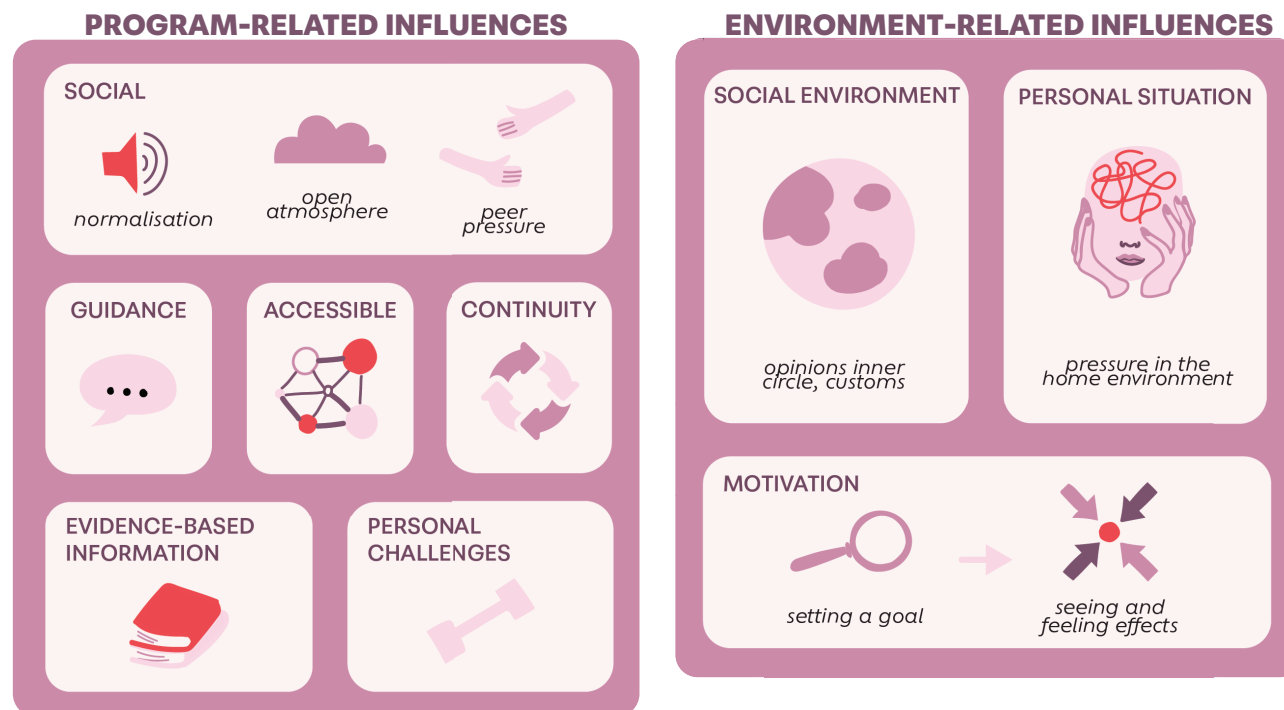


Figure 15 - Influences on the success of a lifestyle intervention program

## 4.4 CONCLUDING REMARKS

At the micro level, more specific insights emerge about the target group, marginalised women in Zuid-Holland. The identities that marginalises them during the menopause are visible in Figure 16. A high score indicates a better experience.

Faith and family are central values that guide their choices and help them navigate challenging lives. Menopause is often viewed as a loss, with the end

of fertility seen as a decline in personal value. Taboos, limited access to reliable information, and difficult interactions with healthcare professionals contribute to feelings of doubt and powerlessness. This makes them more vulnerable to misinformation from media and commercial sources. A culturally sensitive, community-based lifestyle program could offer meaningful support.

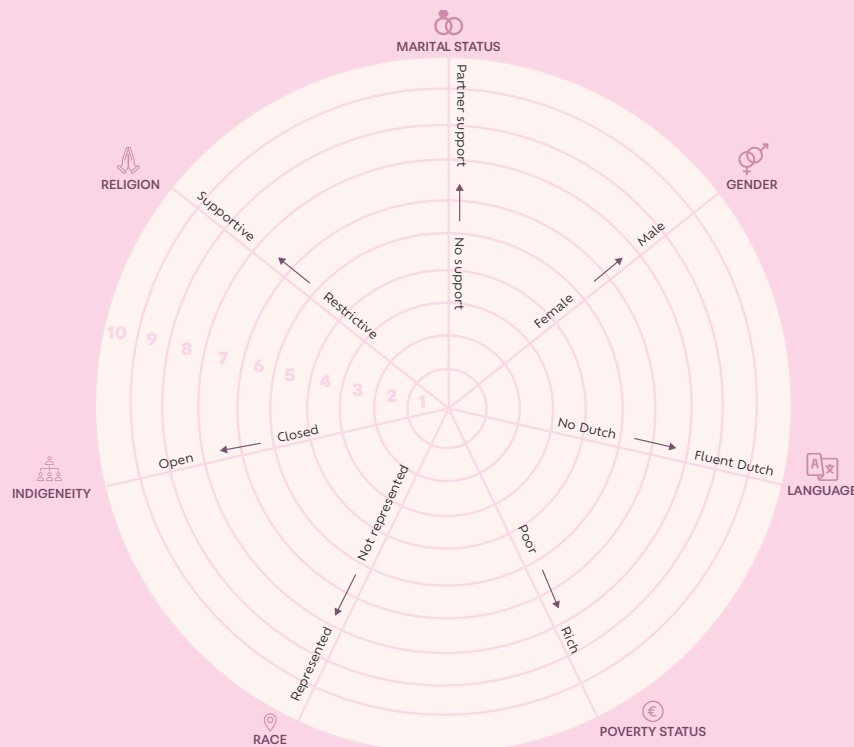


Figure 16 - Marginalisation during menopause

## 4.5 DESIGN INSIGHTS

- If a design provides information or creates openness on the menopause, the feelings of doubt and powerlessness could be prevented since women are better prepared. As a consequence, they will reach acceptance of this new stage of life faster.referral.
- If a design helps to change negative cultural perceptions of the menopause, feelings like anxiety and sadness can be reduced. Learning from cultures with helpful traditions or beliefs can be interesting.
- The design should include men in conversations since this will create openness, decrease taboos and improves (partner)support.health strategies, ensuring it is not overlooked.

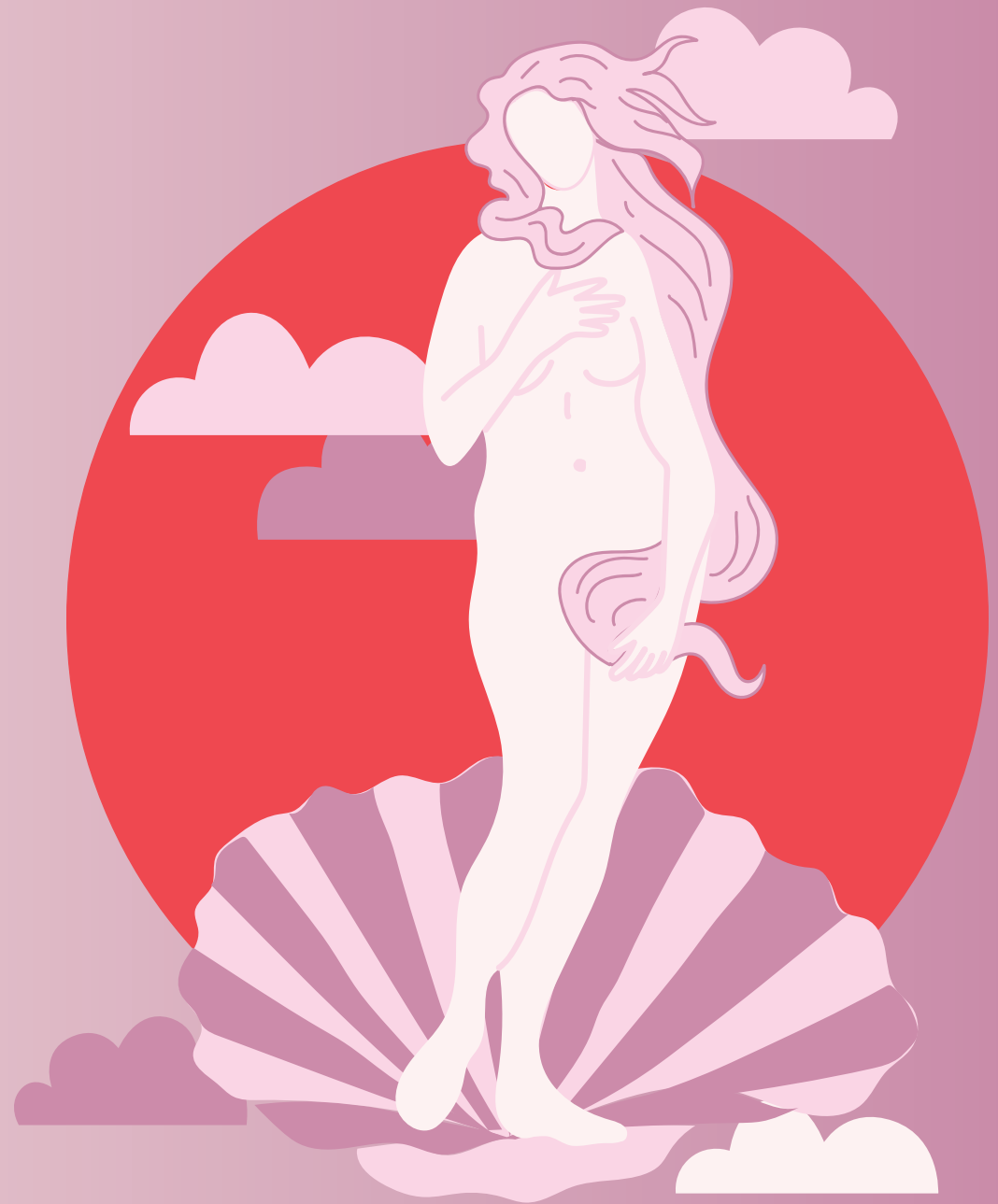


# 5.

## RESEARCH CONCLUSION

This graduation project aims to improve the menopausal experience of marginalised women in Zuid-Holland. The preceding chapters examined the current situation across the macro-, meso-, and micro-levels. This chapter summarises the gathered evidence in Section 5.1 and 'makes the case' for strategically relevant design directions in Section 5.2.

Finally, the 'manage the plan' activity strand is addressed by outlining a future vision in Section 5.3 and defining evaluation criteria in Section 5.4.



## 5.1 CONCLUSION

Across all levels, the need to prioritize marginalized groups becomes clear, as they are often excluded from interventions while their need is great since difficult life circumstances leave little space for awareness or support around menopause. Experiences on the macro- and micro-level reveal similar needs. Women suffer from the negative cultural view on aging and lack access to reliable information and support during menopause. Better communication with healthcare professionals could already help address this gap. Given that women at this stage of life are often more health-conscious, and considering the long-term benefits of healthy behaviours, lifestyle interventions offer a promising way to support overall well-being. However, current programs have limited reach and face barriers within participants' personal environments.

On micro-level, it becomes even more evident how the negative cultural perceptions about the value of older women should be changed since the current situation creates anxiety, sadness and doubt through the silence. Although this is challenging, progress can begin by also educating men on the topic and fostering better communication between them and women.

At the meso-level, little is currently offered to improve the overall menopausal experience. Within organizational environments, menopause receives limited attention. The healthcare sector leads to difficulties in the menopausal experience as the system is under pressure, certain identities face compounded disadvantages, and although there is growing recognition of the benefits of a healthy lifestyle, structural barriers continue to hinder implementation. Reducing health inequalities is only possible if the interactions of marginalized groups with both the system and its professionals are improved, therefore reform is necessary. Given its central influence, the government should play a leading role in driving this change. Stronger collaboration across sectors, together with the active inclusion of marginalized communities in development processes, can help tailor interventions more effectively to diverse needs.

## 5.2 DESIGN DIRECTIONS

To explore answers to the main research question, this section outlines promising design directions for improving the menopausal experience of marginalized women in Zuid-Holland. They are summarised in Figure 17.

An interesting connection exists across the different levels. At each level, the menopausal experience can be improved by giving the topic more attention, reducing stigma, and fostering open communication. At the macro-level, this means challenging negative cultural perceptions through public movements or awareness campaigns. At the meso-level, it involves raising menopause awareness

within organizations and improving healthcare access by strengthening GP-patient relationships and sharing better information. At the micro-level, it focuses on increasing awareness within marginalized groups. Open conversations between men and women can further reduce stigma and promote understanding.

Another leverage point across two levels could be improving preventive care for menopausal women. This may include creating an accessible LIP, look into the possibilities of GLI op maat and consider menopause-related health risk screening.

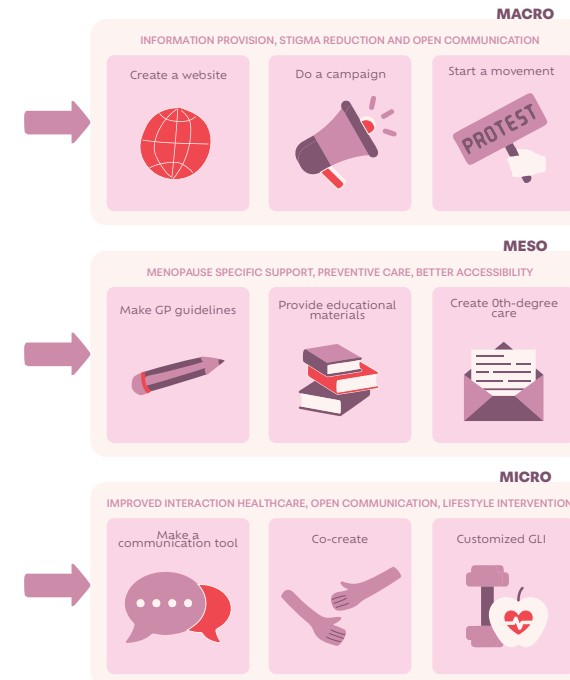


Figure 17 - Possible design directions

## 5.3 DESIGN CHOICE

After discussions with the graduation committee during the midterm presentation and with the PhD researcher involved in the project, the chosen direction was to design a strategy of interventions aimed at improving attention to menopause by reducing stigma and fostering open communication. These interventions will operate across three levels. The underlying argument is that increased attention and awareness, combined with more positive cultural perceptions, can trigger further developments, such as LIPs. A more positive framing may even alleviate menopausal symptoms (Graham, 2024; Whn, 2025). Therefore, the future vision is as follows:

*“In the future, menopause will be a **shared and understood** experience across all layers of society, enabling women to **embrace this stage of life with confidence and celebration** so that they can grow older with joy.”*

Since this vision entails systemic change, the theory of change can be applied to guide the overall strategy (Palavicino et al., 2022). The desired impact is defined by the future vision, while the desired outcomes, discussed in Section 5.2, are represented by intervention possibilities across different horizons.

The focus should now shift to activities, in the form of interventions, that generate sufficient momentum to drive the paradigm shift needed to realize this vision. This paradigm shift can be described as changing negative

influencing background factors in order to improve the overall menopausal experience. The strategic roadmap illustrating this shift is shown in Figure 18.

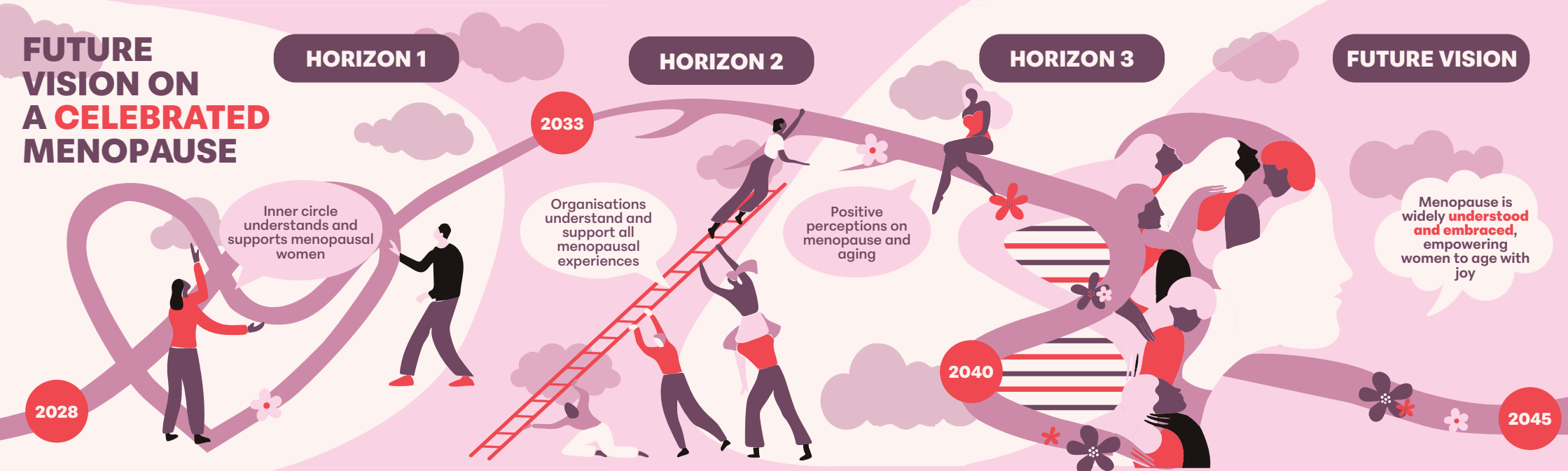


Figure 18 - Future vision on a celebrated menopause

## 5.4 DESIGN CRITERIA

To evaluate the success of the interventions, a set of requirements, summarised in Figure 19, can be derived from the research phase. The overarching goal is to reduce stigma and foster open communication.

The book *Ending Discrimination Against People with Mental and Substance Use Disorders: The Evidence for Stigma Change* identifies four approaches to reducing stigma: education, contact, protest, and advocacy (Committee on the Science of Changing Behavioral Health Social Norms et al., 2016). To promote open communication, strategies such as active listening, suspending judgment, asking open-ended questions, and finding common ground are essential (Calm Editorial Team, 2024; Robinson et al., 2025; Cronshaw, 2021). Insights from this research further suggest that openness can be strengthened by actively including men in the conversation.

A final requirement is that interventions must align with, and ideally influence, the target group of marginalised women within the context of Zuid-Holland. This implies tailoring interventions to account for intersecting identities. Specific requirements may differ slightly depending on the level of intervention.

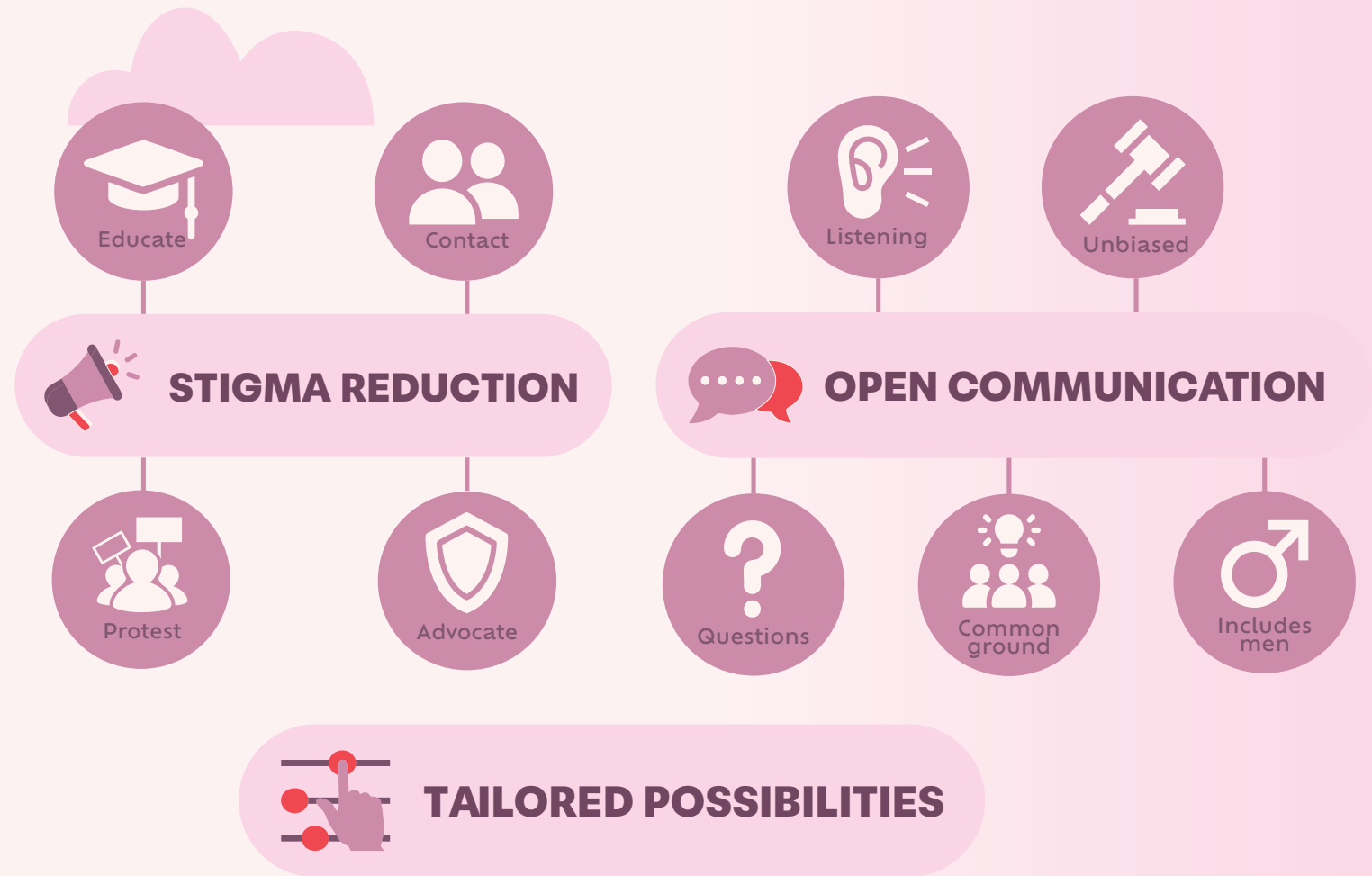


Figure 19 - Design requirements



	Stigma measure	STRONGLY DISAGREE = -2	DISAGREE = -1	NEUTRAL = 0	AGREE = 1	STRONGLY AGREE = 2
<b>Stigma to others</b>						
I believe that older people contribute a lot to society	-1					
The menopause has mainly negative consequences	1					
Old women are beautiful	-1					
Aging mainly means limitations and loss	1					
Women going through menopause have a hard time	-1					
Women going through menopause are difficult	1					
I see the menopause as a problem	1					
You don't need to feel embarrassed if you are going through the menopause	-1					
<b>Avoidant coping</b>						
Men and women need to talk more about physical and emotional changes	-1					
Women need more support from those around them during menopause	-1					
Men and women need to understand each other better	-1					
Talking about topics such as aging and menopause is pointless	1					
Talking about menopause is important	-1					
The doctor can provide valuable assistance during menopause	-1					
I don't know what to do about menopause	1					
I know a lot about menopause	-1					
<b>Self-stigma</b>						
I don't mind getting older	-1					
I see aging as a natural and positive process	-1					
I feel embarrassed when I'm going through menopause	1					
I would feel like a burden to my family if I were going through menopause	1					
I think it's okay to be going through menopause	-1					
My experience of menopause is normal	-1					
<b>Social distance</b>						
I feel comfortable talking about topics such as aging and menopause	-1					
I am good at talking to others about the menopause	-1					
I feel comfortable talking to my doctor about menopause	-1					
I feel understood when discussing menopause	-1					
<b>Anticipated stigma</b>						
Age says nothing about women's worth or abilities	-1					
I don't treat women going through menopause any differently	-1					
The doctor doesn't take me seriously when we talk about menopause	1					

Figure 20 - Menopause Marginalisation Matrix

To measure the success of the interventions, a review technique needs to be developed. In addition to a qualitative approach based on conversations with participants, a quantitative approach is incorporated. Existing evaluation tools on mental health stigma served as inspiration. Specifically, elements from the 8-item Reported and Intended Behavior Scale (RIBS), the Stigma and Self-Stigma Scales (SASS), and the 12-item Mental Health Knowledge Schedule were combined (Docksey et al., 2022; Committee on the Science of Changing Behavioral Health Social Norms et al., 2016). This led to the creation of the Menopause Marginalisation Matrix (MMM), a Likert-scale schedule designed to measure stigma and taboo surrounding menopause as visible in Figure 20.

The tool presents the same statements twice, before and after an intervention, with respondents indicating their level of agreement. Agreement or disagreement with a statement is weighted, with certain statements representing stigma (positive value) and others the opposite (negative value). In this way, changes in attitudes can be measured. The MMM is adaptable and can be adjusted to different levels and contexts, depending on what is designed and tested.

# 6.

## DESIGN MENOPAUSE ON MACRO-LEVEL

At the macro-level, the main focus should be on achieving Horizon 3 of Figure 18, which aims to create positive associations with aging and menopause. This chapter presents the design process chronologically, following the Improvement Model shown in Figure 5. The primary method used in this chapter is speculative design, which explores a distant future to encourage reflection and critical thinking. The process includes: defining the problem

by summarizing research findings (Section 6.1); developing the solution through speculative design (Section 6.2); collecting evidence by testing the created solution (Section 6.3); reiterating by revisiting the 'Develop the Solution' and 'Collect the Evidence' activity strands (Section 6.4); making the case by drawing conclusions from the results (Section 6.5); and finally, managing the plan by formulating a strategy to achieve the intended goal (Section 6.6).



## 6.1 INTERVENTION'S GOAL

As shown in Figure 7, multiple factors influence women's attitudes and subsequent behaviours during menopause. One significant aspect is cultural perceptions. When underlying beliefs are challenged, there is potential to shift attitudes and, in turn, behaviours (Ajzen & Fishbein, 2005). Interventions that target these underlying beliefs may therefore improve the women overall experience. During the interviews, several prevailing beliefs were expressed, including:

- *"If you are older, you are not interesting to men... You are not beautiful, so women always want to show that they are still young and beautiful."*
- *"You are not, but you think you have no use anymore."*

Besides these comments, literature shows a tight connection between aging and menopause. Therefore, there is a potential that changing aging perceptions also changes menopausal perceptions (Refaei et al., 2022).

## 6.2 SPECULATIVE DESIGN

Beliefs can be reshaped through reflection, and speculative design is intended to facilitate this process. Within this field, design fiction provides methods to explore, and critique possible futures (Levine, 2016). To avoid unfounded speculation, plausible scenarios must be grounded in evidence, either by tracing evidence-based trends over time or by examining historical precedents (Joshi, 2024).

Trend research was already conducted and shown in Section 2.2. In this section, it is further elaborated by focusing on PESTEL developments in the beauty industry, female health, feminism, ageing, menstruation, menopause, and beauty standards.

The future ecologies method was applied to construct possible future scenarios (Ministerie van Binnenlandse Zaken, 2025). As this approach is typically carried out in groups, ChatGPT was used as a collaborative brainstorming partner. Identified trends and past developments were clustered into categories representing broader movements, which then served as starting points. Primary, secondary, and tertiary consequences were mapped to form webs of possible futures (Figure 22 till 24). These webs were subsequently combined into scenarios that aligned with the Gamma world of the Living Futures scenario kit, as the identified developments corresponded with its outlined dynamics and contributed to narrative building (Danish Design Center, 2022).

Two scenarios were developed in depth, each presented through a story about Zahra, a woman in her 60s living in these futures. The first scenario, '(B)OLD', focused on beauty standards and ageism. The second, 'WO-MEN', examined the consequences of polarization and the risks of non-communication. Images, like the one shown in Figure 21 were incorporated as artefacts to evoke stronger emotional engagement. The resulting short stories are shared in Appendix D1 and D2.

Results may vary. Proceed at your own risk.

# POWER BEYOND NATURE

Engineered muscle tissue, seamlessly grafted into your body.

BioTitan  
Labs™

Figure 21 - Artefact used in WO-MEN, background picture from Pinterest

**LEGEND** ○ = trends ○ = general development ● = consequence ● = example result

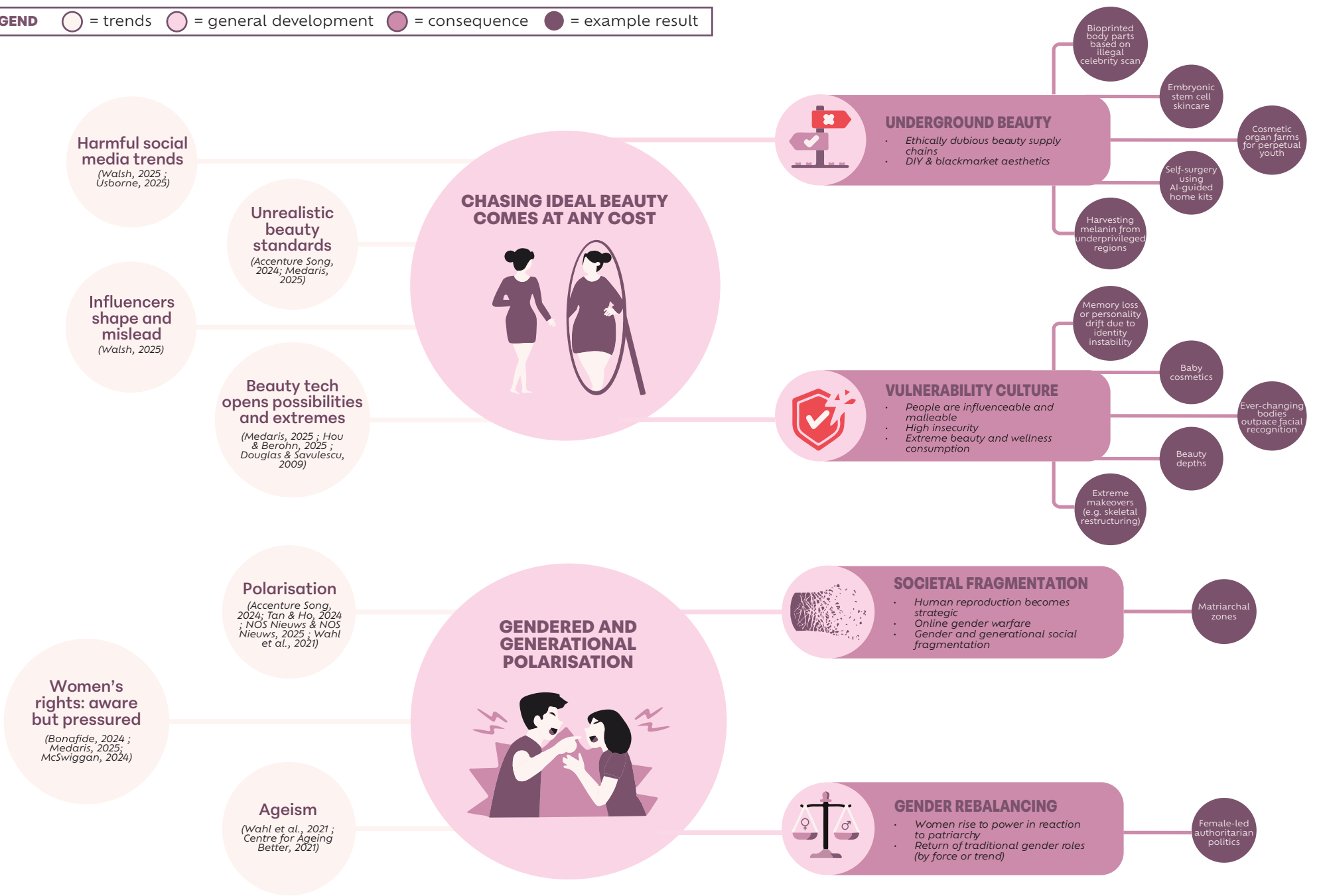


Figure 22 - Trends, general movement and its consequences part 1

**LEGEND** ○ = trends ○ = general development ● = consequence ● = example result

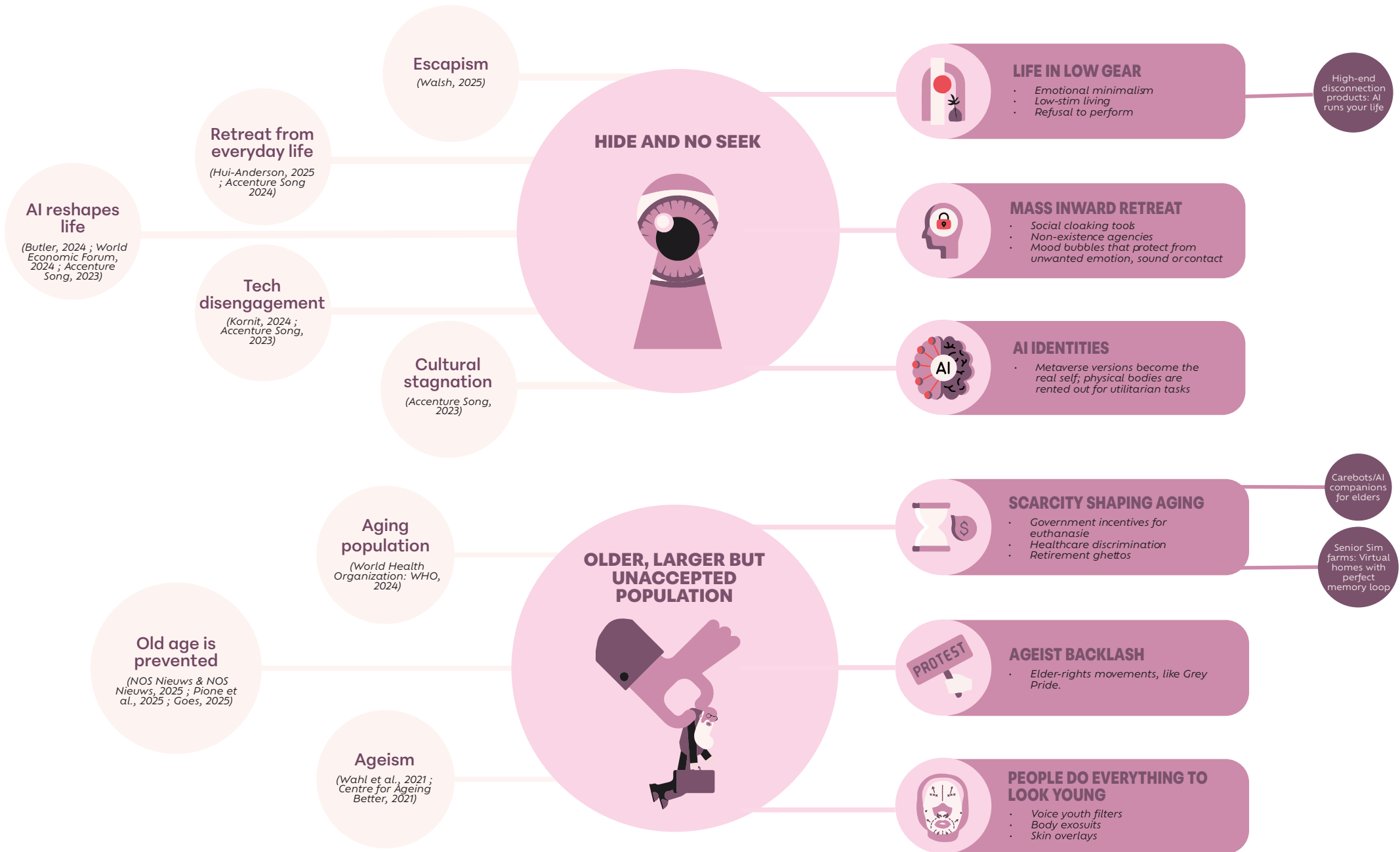


Figure 23 - Trends, general movement and its consequences part 2

**LEGEND** ○ = trends ○ = general development ● = consequence ● = example result

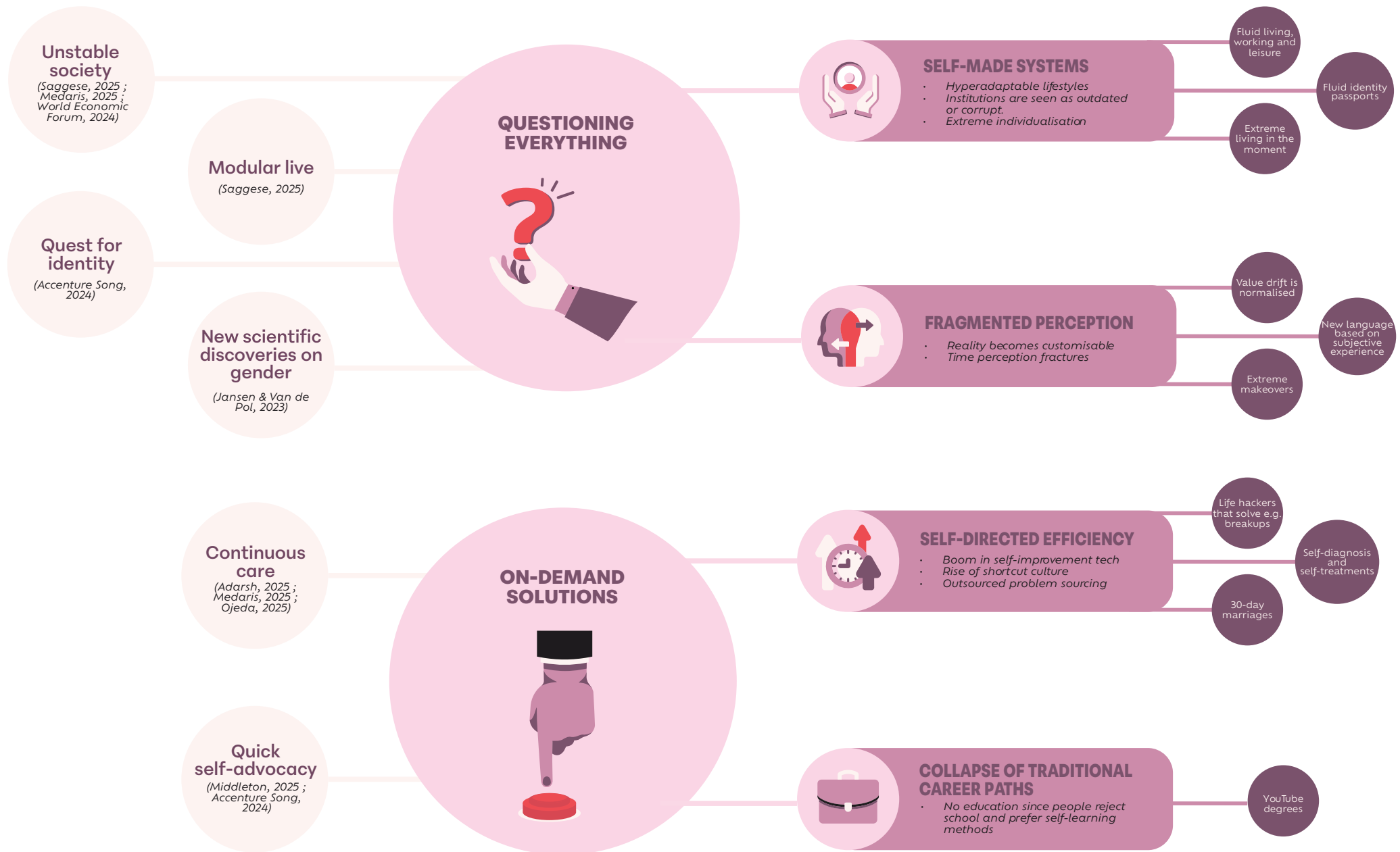


Figure 24 - Trends, general movement and its consequences part 3

## 6.3 MEASURING FUTURE STORIES' IMPACT

The short stories were tested at the OPEN library in the centre of Delft (Figure 25). This location was selected because it provides an environment dedicated to reading and is accessible to a broad audience. Accessibility was further enhanced by offering English-language versions of the materials and by providing snacks. Participants first completed the MMM, after which they read one of the stories and then filled in the matrix again, followed by feedback through probing questions. Results are shared in Appendix D3.



Figure 25 - Set-up test in OPEN Delft

### 6.3.1 Test results

A total of 12 people participated; eight chose '(B)OLD', which was shorter and therefore preferred more often. The quantitative data of women is not shared due to the small number of participants. Overall, participants liked the stories and found them plausible. Their stigma around ageing and menopause was already low, but decreased slightly with 9%. Changes in stigma per statement are visible in Figure 26, statements correspond to some in Figure 20.

Most decreased slightly, though some increased. This may have resulted from insufficient emphasis or from scenarios that triggered self-protective responses such as non-communication.

Several comments stood out:

- A male participant noted that 'WOMEN' contained a lot of information and felt the MMM was not strongly connected to the story. He was partly correct: while polarisation and non-communication are not directly linked to menopause, they do shape the experience indirectly, which may make the story less impactful on direct stigma.
- A female participant was deeply moved by the line: "Despite all the innovations, some ideas had never changed... you had to stay young forever. Old age was treated as a curse." She said it reflected her own feelings.

Government incentives for euthanasia were not seen as shocking; some even hoped for them, as they feared ending up in a nursing home and feeling useless. This underlines the importance of rethinking old age and reflecting on what constitutes a fulfilling life.



Figure 26 - Measured stigma at OPEN Delft

## 6.4 REITERATE (B)OLD

Based on the results, '(B)OLD' was selected for further development, as it was less information-dense and more directly connected to menopause and ageing. The aim was to reduce stigma further by revising the story to highlight specific elements and illustrate why certain behaviours are preferable, thereby countering self-protective responses.

### 6.4.1 Redesigning (B)OLD

To increase accessibility, inspiration was drawn from the symposium 'Screening the Neighbourhoods', which featured a video of a woman of colour explaining the importance of breast research for early cancer detection. Building on this approach, a future-set video was created in which Zahra tells her story. A moment of choice was added at the end to foster a sense of ownership. The video can be seen by scanning the QR-code in Figure 27.



Figure 27 - QR-code to (B)OLD video

### 6.4.2 Testing renewed (B)OLD

The new story was tested in a more diverse environment at DOK Voorhof, a library branch in a suburb of Delft. To include people with limited Dutch literacy, videos were chosen as a more accessible format, and all written materials were simplified to A2-level Dutch to further lower the threshold for understanding. The set-up mirrored the first test. In total, 10 participants joined, most of whom were women of colour.

Two participants could not complete the survey due to time constraints, and two others faced language barriers. While they read the story or watched the video, they struggled to understand the MMM (particularly statements framed as denials), making it difficult to answer consistently. For this reason, their quantitative data were excluded. However, valuable qualitative insights emerged. One woman expressed a desire to share the video with friends, another wanted to take the story home, and a third reflected: *"It makes me think about what image I pass to my children."*

The MMM results are visible in Figure 28. A higher baseline stigma can be seen compared to the centre of Delft. However, due to a reduction in stigma of 52% after reading the stories, similar post-test levels across both locations were the result. Only one statement showed an increase in stigma.

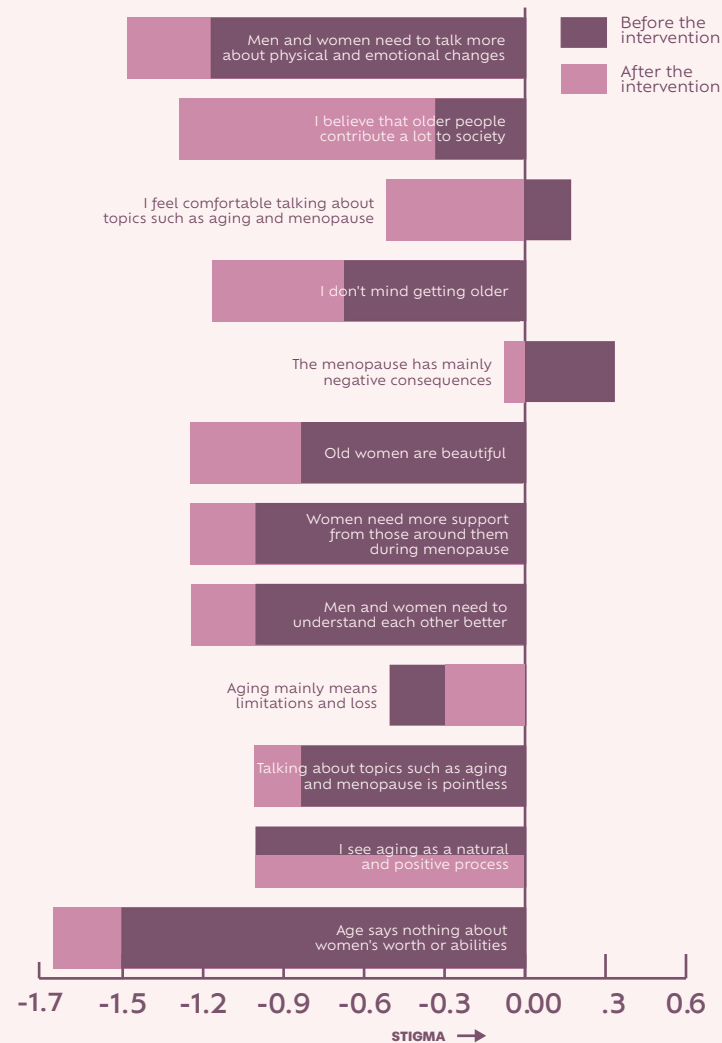


Figure 28 - Measured stigma at DOK Voorhof

## 6.5 CONCLUDING REMARKS

As shown in Figure 28, initial results suggest that '(B)OLD' reduces stigma and lowers barriers to sharing personal experiences or observed societal developments. However, it cannot yet be stated with certainty that the intervention effectively reduces stigma within more marginalised groups. This limitation is not critical, as the intervention can be further tailored, while still exerting influence on society as a whole. Overall, as Figure 29 demonstrates, this direction meets many of the identified requirements and should therefore be included in the strategy. The key question that follows is how best to implement it.

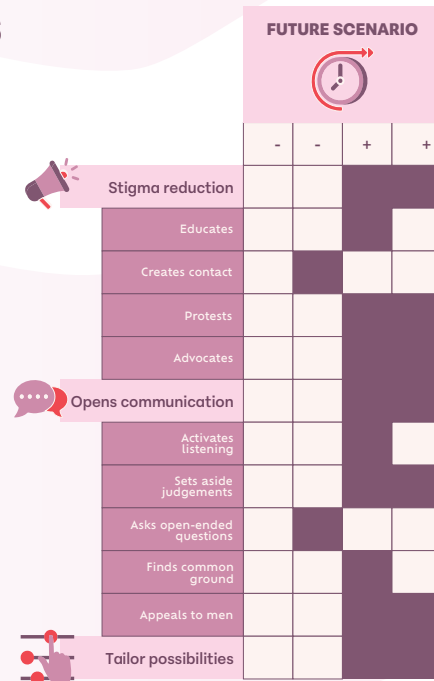


Figure 29 - Compliance of (B)OLD with requirements

## 6.6 STRATEGY FOR CULTURAL CHANGE

The interventions at this level aim to contribute to cultural change by reshaping perceptions of menopause and ageing into more positive ones. Complete equalisation of attitudes towards different ages is unlikely, as evolutionary psychology suggests that women's youth signals fertility and thus influences perceived reproductive value (Buss, 2019). Nonetheless, wellbeing can be enhanced by associating old age with more positive connotations (Bryant et al., 2012 ; Yazdkhasti et al., 2015). Basford and Schaninger (2016) argue that such change is possible through the influence model and its four building blocks as

visible in Figure 30, which strongly align with the culture cycle described by Hamedani et al. (2023). Both frameworks highlight how institutions, ideas, personal characteristics, and interactions are interconnected.

One building block focuses on fostering understanding and conviction, which is achieved through '(B)OLD'; as it reshapes beliefs through reflection. However, its impact depends on how effectively the message reaches people. An initial step toward this is the presentation of this research at Dutch Design Week 2025 (further details in Chapter 9) and its

its distribution among the individuals and organisations involved in this graduation project. To achieve broader impact, it is essential to actively engage key stakeholders such as community groups, influencers, and government bodies. This strategy also links to another building block of the influence model: role modelling. Individuals act as agents of cultural change, with those in higher-status positions holding greater capacity to shape cultural norms (Hamedani et al., 2023). Once such actors are engaged and collaborate, the narrative can be amplified through targeted campaigns. These campaigns could take multiple forms: for example, a 'Grey Pride' initiative celebrating visibility and resilience; a social media trend encouraging people to share why they value the older women in their lives; or creative media formats such as a short documentary or a dramatized episode in the style of Black Mirror designed to spark public reflection and dialogue.

The building block of reinforcing with formal mechanisms is also relevant. Motivated and inspired professionals within systems can initiate changes in processes and structures. Suggested innovations include increasing the representation of older women in the beauty and fashion industries, improving elderly care, and including 'grandmother-hypothesisw' into high school curriculum since this explains the evolutionary value of grandmothers (Herndon, 2009). These could help shift cultural associations with ageing. More healthcare-related improvements are discussed in Section 7.8 to shift associations with menopause.

The final building block, developing talent and skills, has not yet been explored in depth, but will be partly addressed at the micro-level in Chapter 8.

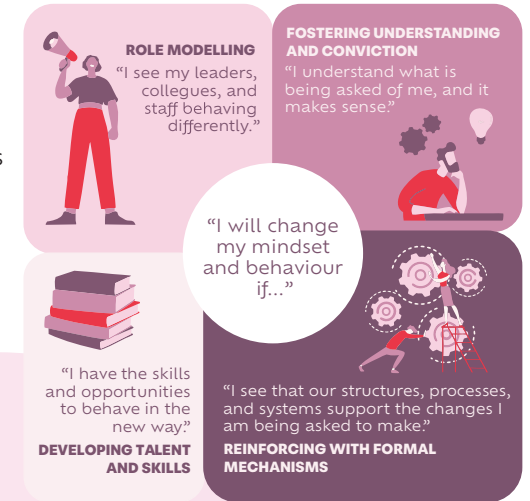


Figure 30 - 4 building blocks of cultural change

# 7.

## DESIGN MENOPAUSE ON MESO-LEVEL

At the meso-level, the main focus should be on achieving Horizon 2 of Figure 18, which aims to create organizations that understand and support all menopausal experiences. This chapter presents the design process chronologically, following the Improvement Model shown in Figure 5. The process includes: understanding the context by summarizing research findings (Section 7.1); defining the problem through interviews (Sections 7.2 and 7.3); developing potential solutions

(Section 7.4); testing these solutions during a shadow day at Erasmus MC and reiterating by returning to the ‘Defining the Problem’ activity strand (Section 7.5); continuing the iterative process by developing and testing solutions through design research on GP–patient communication (Section 7.6); making the case by concluding the research findings (Section 7.7); and finally, managing the plan by formulating a strategy to achieve the intended goal (Section 7.8).



## 7.1 POSSIBLE MESO-LEVEL DESIGN DIRECTIONS

There are several possible interventions at the organisational level to reduce stigma, foster open communication, and thereby improve the menopausal experience. Within the workplace, lifting the taboo around menopause is an important first step. In the healthcare sector, multiple improvements are also possible. Firstly, clear and open communication between women and healthcare providers is crucial, as it often marks the starting point of a medical

trajectory. Secondly, the healthcare system itself often creates stigma by reinforcing negative associations with ageing, framing it as a process of decline, and by medicalising menopause (Möhlmann, 2022). Thirdly, since reliable information is often difficult to access, healthcare professionals could play a key role in ensuring that accurate and accessible information is available.

## 7.2 RESEARCH ON GP AND PATIENT INTERACTION

To explore these directions further, interviews were conducted with a GP, a general practice nurse (POH), and two PhD candidates working in healthcare. The discussions focused on the challenges they face when communicating with patients from marginalised groups, as well as on how the healthcare sector addresses menopause among its own employees. The interview results can be found in Appendix B3.3 and B3.4. Results are summarised in Figure 31.

### 7.2.1 Language as largest barrier

It can be concluded that in communication with marginalised groups, healthcare professionals mainly struggle with the language barrier. At present, they rely on apps, telephone translation services, or a contact person brought by the patient. However, phone-based solutions are

often perceived as impersonal and create a less natural interaction. As the practice nurse (POH) explained: *“I prefer not to be on my phone all the time.”* Using a translator, whether in person or by phone, introduces the additional challenge of having to trust that the translation is accurate. The GP illustrated this concern: *“But with a translator phone call, you’re still at a distance from someone who, well, you don’t know how they’re phrasing those questions... You just don’t know who’s sitting on the other end of the line, how exactly they’re phrasing things. Maybe they don’t understand the question themselves.”*

When family members act as translators, further complications arise. A PhD candidate noted: *“Sometimes they translate it differently to protect the woman.”* This also makes it more difficult to address sensitive topics. The GP reflected: *“It’s best to bring*

*someone along, but that can also backfire, because sometimes it’s adults with their children. They speak Dutch well, but it’s complicated or difficult or a kind of taboo to discuss certain topics with children.”*

To address these challenges, some practical strategies are already in use. Healthcare professionals may ask the patient to repeat what has been

discussed, provide written notes with the treatment plan, or recommend that patients record the conversation for later reference. They also emphasised the importance of taking sufficient time during consultations. In addition, they suggested that patient preparation before the consultation could improve communication. One potential intervention could be the use of a questionnaire completed in advance.

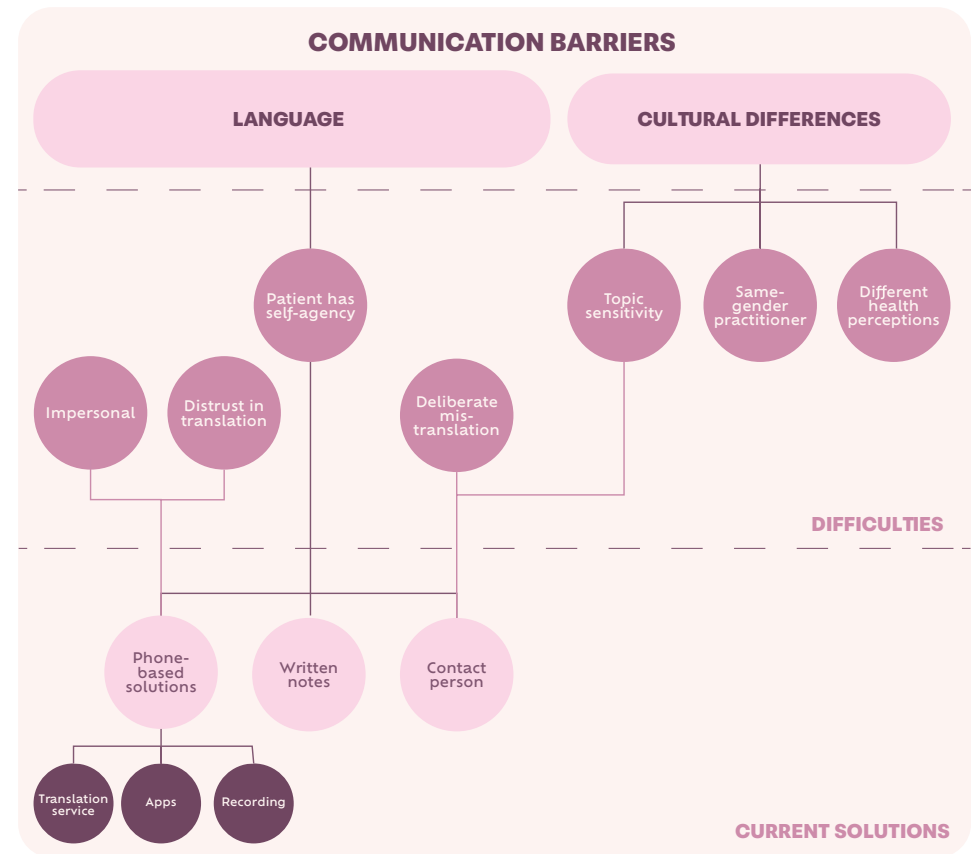


Figure 31 - Barriers in communication with patients

### 7.2.3 Healthcare's view on menopause as employer

Other barriers in contact with patients from marginalised groups include the sensitivity of topics such as sexuality, the preference for same-gender practitioners, and cultural differences in perceptions of health. A PhD candidate gave an example: "A mother thought her child looked very healthy while she was actually overweight." These challenges can pose significant risks. Both the GP and the PhD candidate stressed that if patients do not fully understand what is

required of them, this may have serious negative consequences for their health since the responsibility lies with the patient.

The healthcare professionals also reflected on possible long-term improvements. They suggested that education on working with patients with migration backgrounds and clearer guidelines on patient contact could support better interactions.

## 7.3 GOAL OF MESO-LEVEL INTERVENTION

Although negative perceptions of ageing and menopause also exist within healthcare, the decision was made to prioritise communication and information provision. Strengthening these areas can help reduce stigma through education and contact. Effective communication is particularly critical, as it can determine the success of care and has an especially strong impact on marginalised groups. The requirements are broadly similar to those discussed

in Section 5.4 but with some additional considerations. First, any intervention should be easy to implement, as change is urgently needed since poor communication can significantly worsen patients' health. Second, given that many healthcare professionals are already under time pressure, proposed solutions must not increase the workload or demand additional consultation time.

## 7.4 IDEATION OF MESO-LEVEL INTERVENTION

During a brainstorm on ways to improve communication, an easy-to-understand and visual consultation preparation form was developed, based on existing examples (see Figure 33). The form combines practical strategies already used by GPs, as discussed in Section 7.2 to facilitate communication. It functions

as a support tool before, during, and after the consultation. Beforehand, it helps patients prepare; during the consultation, it offers tips and allows patients to note agreements in their own words; afterwards, it serves as a reference.

This approach also aligns with the division of responsibility, as the patient remains actively involved in their care.

In addition, a brochure was created to strengthen information provision by healthcare professionals. The brochure is visual and uses simple, accessible

language (A2-level Dutch) sourced from Thuisarts.nl, a reliable online platform (see Figure 32). Both the form and the brochure, together with the MMM, were tested during a shadow day at the cardiovascular clinic at Erasmus MC.



Figure 32 - Brochure on menopause

**VOORBEREIDING GESPREK**  
Afspraak bij de dokter? Gebruik dit blad om je voor te bereiden.

**Wat wil ik vertellen?**  
1. Ik ben hier omdat ...

2. Ik voel/heb (kruis en vul aan) ...

<input type="checkbox"/> pijn	<input type="checkbox"/> misselijk	<input type="checkbox"/> anders poep	<input type="checkbox"/>
<input type="checkbox"/> moe	<input type="checkbox"/> kramp	<input type="checkbox"/> anders ademen	<input type="checkbox"/>
<input type="checkbox"/> jeuk	<input type="checkbox"/> vergeetachtig	<input type="checkbox"/> hartkloppingen	<input type="checkbox"/>
<input type="checkbox"/> warm/koud	<input type="checkbox"/> onrust/stress	<input type="checkbox"/> anders slapen	<input type="checkbox"/>
<input type="checkbox"/> duizelig	<input type="checkbox"/> wisselend gevoel	<input type="checkbox"/>	<input type="checkbox"/>

3. Ik voel dit in/op (omcirkel de plek en leg uit) ...

4. Ik gebruik deze medicijnen al ...

Mijn vragen? ...

**Tips tijdens het gesprek**

Neem het gesprek op

Stel vragen als je het niet begrijpt

Vertel na in eigen woorden

**Wat zegt de dokter?**  
De dokter zegt dat het komt door ...

Optie 1 ...

Voordelen + ... Nadelen - ...

Optie 2 ...

Voordelen + ... Nadelen - ...

Voor mij betekent dit ...

Figure 33 - Consultation preparation form

## 7.5 SHADOWING AT ERASMUS MC

Observations were made during consultations, after which patients were interviewed about their experience of communication. The items were then presented to gather their opinions. Results are visible in Appendix C4. A diverse group of patients of different ages and genders participated. One interview particularly highlighted the importance of menopausal care, as a woman became very emotional and could not stop crying. She explained this was due to negative past experiences with her menopause; she had not felt taken seriously by her GP and expressed a strong need for recognition and relief of her symptoms.

It was observed that conversations at the clinic all followed a similar structure. However, different strategies

were used based on the intuition of the practitioner. Common challenges for the practitioner included uncertainty about whether patients had fully understood or remembered the information, deciding between a serious/neutral or reassuring/empathetic tone, accounting for other ongoing clinical processes, adjusting the type of explanation, and managing patients who skipped appointments. From the patients' perspective, difficulties included struggling to understand medical jargon, retaining all the information given, and wishing that practitioners would do more.

In conclusion, tone of voice, information provision and division of responsibility are important aspects to consider.

## 7.6 DESIGNING BETTER GP CONVERSATIONS

Tone of voice, information provision, and division of responsibility were identified as aspects that should be tested.

### 7.6.1 Pilot

To explore this, a questionnaire was developed that simulated a consultation with a GP about menopausal symptoms. In this questionnaire, women were presented with different response options from the GP and additional questions on information provision. With their answers, they design their preferred conversation. The initial version was piloted within the personal network to collect preliminary feedback. Results are shared in Appendix E2.

### 7.6.2 Final questionnaire

To better fit the target group of this project, the questionnaire was revised. First, the threshold for participation was lowered by reducing the amount of text. Instead of written answer options,

short videos were created in which the research acted as the GP and presented different response styles. Participants were asked to watch the videos, labelled A, B, etc., and select their preferred option. An example is visible in Figure 34. Questions on information provision were also visualised by adding pictures.

Second, several questions were added or modified. An earlier question that tested which language difficulty was preferred when explaining menopause was replaced with a question on what kind of support during explanation, such as visuals or hand gestures, would be most helpful. Extra demographic questions were also included, and the MMM was placed at the end of the questionnaire. This choice was made because some participants were not in menopause or had never consulted a doctor about it, and therefore could not complete the MMM beforehand. The MMM statements are phrased in a way to measure the change in participants' stigma. The final version of the questionnaire can be found in Appendix E1.



Figure 34 - Example answer options in questionnaire

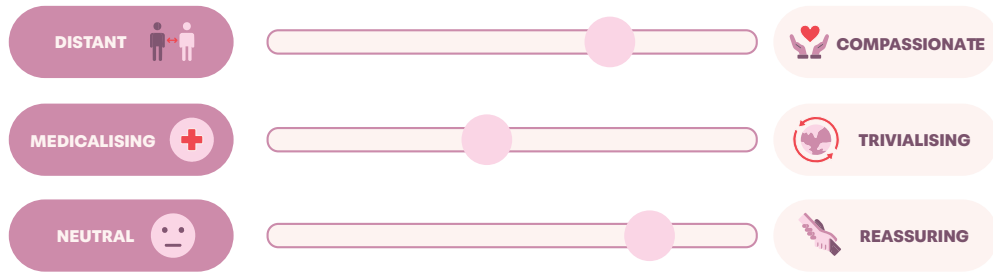


Figure 35 - Preferences in tone of voice

### 7.6.3 Resulted preferences

The questionnaire was tested at a community centre in Delft and shared with a small group via WhatsApp. Results are shared in Appendix E3. Despite adjustments, it remained difficult to complete independently, so guidance was provided where needed. Fourteen women responded, aged 35–71, about half postmenopausal. Most identified as Dutch or Surinamese, four reported other nationalities, and two described themselves as world citizens.

As shown in Figure 35, respondents preferred an overall supportive tone of voice. When discussing symptoms, they expected compassion from the GP; conversations about menopause itself

were seen as requiring a more serious, medical tone, while explanations of treatment side effects were best delivered reassuringly.

As visible in Figure 36, most participants wished to take greater responsibility for their medical journey. They valued being offered options and asked, “What do you think of this?” Only 20% preferred immediate advice. At the end of a consultation, most wanted the GP to check whether everything was clear, while one in five appreciated being asked to repeat agreements in their own words. Around 60% preferred to schedule their own follow-up appointments rather than have the GP arrange them.

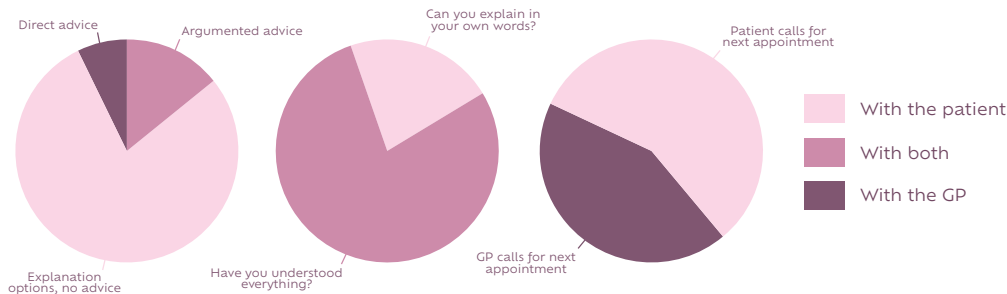


Figure 37 - Preferences in responsibility division during consultation

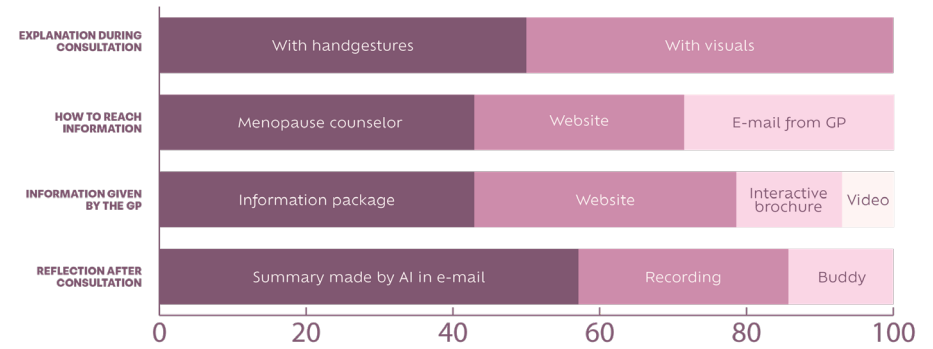


Figure 36 - Preferences regarding information provision

**80%** of respondents requested additional resources, indicating a strong demand for menopause information. Figure 36 illustrates their preferences. The format of explanations, such as visuals or gestures, seemed less important, likely because most respondents were proficient in Dutch. As one participant noted: “For me, the first one is good enough, but for women with a language barrier, pictures are better.” Most women preferred receiving information from a menopause consultant. When provided by a GP, an information package was favored, though a website was also acceptable. Nearly all wanted guidance on symptom reduction, while many valued explanations of bodily processes during different treatments, and shared experiences. Interest was lowest in general menopause information and treatment comparisons.

Respondents also welcomed a written summary of the consultation, AI-generated, GP-verified, and delivered by email. As shown in Figure 38, these consultation approaches create a low stigma but not as low as the macro-level intervention and many women still felt unsure about what to do next.

For comparison, the pilot questionnaire was completed by 32 less marginalised women. The main differences appeared in tone and perceived responsibility. This group preferred a more serious, medicalised tone when discussing menopause, suggesting that women from non-Dutch cultures may normalise menopause more (Yazdkhasti et al., 2015). When discussing side effects, however, the pilot group favoured a neutral rather than a reassuring tone. They also expected greater GP responsibility: 75% wanted the doctor to summarise agreements and 60% preferred the GP to call for follow-up, whereas the test group preferred to take that initiative themselves.

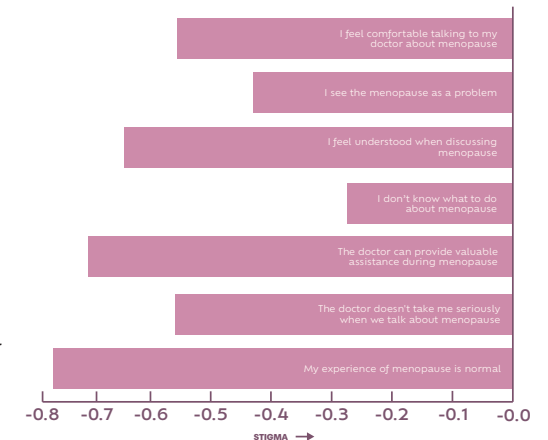


Figure 38 - Measured stigma in questionnaire

## 7.7 CONCLUDING REMARKS

This chapter explored how to improve the first step in healthcare for women experiencing menopause by examining their preferences regarding tone of voice, division of responsibility, and information provision during the initial consultation with a GP.

When it comes to communication, most women expressed a desire for compassion from the GP and for extensive explanation before advice is given. Marginalised participants particularly valued a more human interaction, characterised by a neutral stance on menopause and reassuring explanation. They also indicated a stronger preference for ownership in their medical journey. In contrast, less marginalised participants preferred a more professional approach, including medicalisation of menopause, alongside a neutral explanation.

Across groups, information provision emerged as a central need which also became evident by Hvas et al. (2004) in their research to needs and wants when seeing the GP in relation to menopausal issues. Most women would prefer to receive information from a menopause counsellor. If provided by the GP, they favoured a dedicated website or an information package. Additionally, most participants indicated that they would like to receive a written summary of the consultation by email. As evident from the results of this project as well as from the research from Hvas et al. (2004) and Yazdkhasti et al. (2015), women differ from each other's preferences and experiences making personalised interaction an attractive possibility.

Overall, as shown in Figure 39, the conversations designed by the women themselves meet the identified requirements, though there is still room for improvement. This intervention educates healthcare professionals in interaction with marginalised groups, thereby setting aside their judgements and activating listening. This does require some time of GP's to learn, which they do not have a lot of. Therefore, a strategy should be developed to translate the results of this chapter into feasible practices.




		PERSONALISED GP INTERACTION			
		-	-	+	+
 <b>Stigma reduction</b>	Educates				
	Creates contact				
	Protests				
	Advocates				
	Opens communication				
 <b>Opens communication</b>	Activates listening				
	Sets aside judgements				
	Asks open-ended questions				
	Finds common ground				
	Appeals to men				
 <b>Tailor possibilities</b>					

Figure 39 - Compliance of personalised GP interaction with requirements

## 7.8 STRATEGY FOR FIRST-STEP MENOPAUSE CARE

Improving information provision is a crucial first step, as it directly supports women experiencing menopause while easing GP workload, important requirements as discussed in Section 7.3. Similar to population screening, all women turning 40 could receive a letter explaining where to go with menopause-related questions. Since many women value guidance from a menopause consultant, at least one consultation should be included in the basic insurance package. Inspired by community-centre meetings and research by Mankar et al. (2014), general practices, menopause consultants or gynaecologists could also offer menopause workshops or courses at diverse locations.

At the same time, to ensure accessibility and retention of information, a general hub should be developed with input from diverse groups of women. This should provide visually engaging, multilingual content (Pharos, 2025). An app would be suitable, as demographic surveys during this project showed that all participating women owned a smartphone. In addition, an app has the advantage to tailor information to individual needs and replicate qualities of a menopause consultant.

Information provision during consultation can be improved by using visual tools for patients with language barriers, and by emailing AI-generated, GP-verified summaries to patients. Such a tool, already in development at Erasmus MC, could eventually serve as an actively participating AI translator.

Beyond information provision, better GP guidelines and awareness on menopause are urgently needed as inadequate treatment can have devastating consequences. Medical education should therefore dedicate greater attention to menopause, and GPs should be trained to remain alert to relevant symptoms within certain age groups. Education should also emphasise patient interaction, as survey results showed that women differ in how they prefer to be approached. While further research is needed, some lessons are already clear: most women value compassion, shown by acknowledging their symptoms, and many want to be actively involved in decisions about treatment. Insights from the PhD candidate, the POH, questionnaire findings among marginalised women, and research by Trudeau et al. (2010) highlighting the value of normalising information, all suggest that reframing the medical narrative of menopause could be beneficial. Rather than a disease, it could be seen as a new life stage, comparable to pregnancy, with the GP acting more like a midwife who guides women through the transition.



Figure 40 - Midwife metaphor

# 8.

## DESIGN MENOPAUSE ON MICRO-LEVEL

At the micro level, the main focus should be on achieving Horizon 1 of Figure 18, which aims to foster open communication and support within the inner circle of menopausal women. The primary method used in this chapter is co-creation, as the target group knows best what works for them. The chapter presents the design process chronologically, following the Improvement Model shown in Figure 5. The process includes: defining the problem and brainstorming potential solutions through co-creation (Section 8.1); developing solutions based on the

co-creation results (Sections 8.2 and 8.3); testing these solutions and reiterating by revisiting the 'Develop the Solution' activity strand with another co-creation / testing workshop (Sections 8.4 and 8.5); making the case by summarizing the research findings (Section 8.6); iterating one more time to 'Develop the Solution' by stating design insights in Section 8.7 and finally, managing the plan by formulating a strategy to achieve the intended goal (Section 8.8).



## 8.1 CO-CREATION

At the micro level, women emphasized the importance of effective communication within their inner circle, particularly with men. To design tools that truly support this process, input from the target group is essential. For this reason, co-creation workshops are recommended. Such workshops not only ensure that solutions are grounded in women's lived experiences but also have the added benefit of sparking conversations among friends and family, thereby advancing the goal from the very beginning.

### 8.1.1 Set-up co-creation

At a community centre in Delft, where earlier interviews had been conducted, a menopause workshop was already planned for September by GGD Haaglanden. It was decided to join these three workshop mornings for inspiration and to reconnect with the women. Observations of these mornings are shared in Appendix C3. GGD Haaglanden was further contacted to explore additional locations, which resulted in three foundations expressing enthusiasm to host similar workshops.

The aim of the workshop was to explore how women can open dialogue with their families about their experiences of menopause and ageing. The co-creation protocol, presentation, and templates are provided in Appendix F2. To ensure accessibility, especially in the presence of language barriers, the workshop was designed to be interactive with minimal lecturing.

The session began with a plenary introduction, including an icebreaker, followed by informed consent and the MMM. A brief explanation of menopause and the findings from the research phase of this graduation project were then presented. The first assignment required women to pair up and reflect on their own menopausal experience. Using a template, they created a collage by writing, pasting, or drawing elements that represented their experiences. These collages were discussed in plenary to identify which aspects were difficult to share and which they wanted their families to understand.

After a dinner break, the final assignment was introduced. Women were asked to select one aspect of their canvas that they wished to discuss with their family but had not yet done so. Using a wide range of creative materials, they developed an object or representation that could facilitate this conversation. Example questions were projected to inspire them. The workshop concluded with a short reflection and the completion of a demographic form, including a second MMM.

### 8.1.2 Results co-creation

The session was held on the 12th of September at Stichting Ester in the Hague (Appendix F2.5). The group initially consisted of eight participants, including two men, who left after the introduction. The final group comprised eight women of varying ages (20–60),

half of whom had experienced menopause and half who had not. All participants had roots in Suriname.

The women generally agreed with previous research findings, particularly regarding the emotional journey, and enjoyed creating the templates. All templates were combined into one general representation of experience, shown in Figure 42.

Discussion highlighted several points:

- When asked what they appreciated about aging, participants mentioned letting go, experiencing less stress, and recognizing the beauty of aging through accumulated life lessons.
- A general need for understanding was emphasized. Men, especially partners, were said to sometimes make fun of the experience, with remarks such as, 'Are you going through menopause or something?' One participant noted that such (mis)understanding is instilled from an early age.
- Regarding sharing experiences, participants stated that it often feels easier to open up to strangers than to family, as relatives may be more affected. One woman described particular difficulty in discussing these matters and expressed a strong sense of shame, viewing menopause as a sign of aging.

Due to the dinner break, the templates were removed from the table, which meant participants were not first invited to select an aspect of their experience to share with their loved ones. Consequently, the second exercise may have been misunderstood, though

the results remain valuable. The created objects are shown in Figure 41.

Three women made necklaces intended to cheer up other women and to represent adding colour to old age, with the bead colours symbolizing emotions experienced during menopause. Three others produced drawings; as one participant noted, 'It describes more than what can be said in words.' These drawings reflected past life, the passage of time, and a hopeful future. Collectively, they illustrate the limited control one has over the course of life, some in a more positive way than others, thereby emphasizing the importance of mindset, through religion or by remaining true to oneself.

Feedback was very positive: participants valued the interaction, and the creative process was described as helping to shut out the outside world, relax, and reconnect with oneself. As visible in Figure 43 stigma reduced for most questions during the workshop though the total stigma reduction is only around 9%.



Figure 41 - Crafts results co-creation

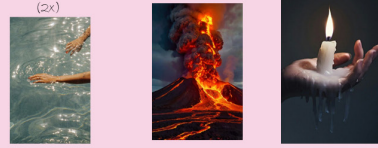
## MY MENOPAUSAL AND AGING EXPERIENCE

### WHAT DO I FEEL?

#### In my body

Tired (3x)  
Changes in body  
Sweat (2x)  
Being cold  
Aggravated  
Headache  
Body ache (muscle pain) (2x)

Increasingly less able to move  
Little patience when moving  
Less energy  
More stress



#### In my head

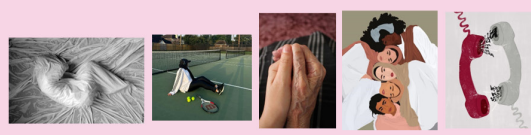
Sometimes quick to anger  
Lots of stress  
Not well, wanting to be alone, anxiety (3x)  
Panic attack  
Lots of thoughts (like having to eat healthy and sporting)  
Forgetfulness (2x)

Depressed, emotional  
Angry/anger (2x)  
Weighing scenarios



#### In contact with others

Searching for women with similar problems  
Communication  
Becoming lonely  
Worry  
Angry, impatience  
I'd rather be alone, because that's better  
Not be a burden to others



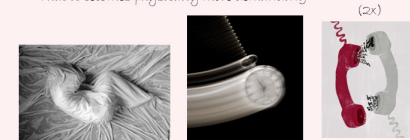
### WHAT DO I LIKE ABOUT IT?

More time for yourself  
That you also age  
Nothing (2x) (you no longer feel like doing something or being with someone)  
Blessing according to belief  
Life is a blessing  
More time for family and myself  
Enjoying together  
You build more experience



### WHAT DO I FIND DIFFICULT?

Hot flushes: hot, cold, sweating, being lonely  
Wrinkles  
Low energy  
Pain  
Express emotions  
That it becomes physically more demanding



### WHAT DO I DO WITH IT?

Being busy  
Sports  
Being together  
Move more  
Pray  
Eat less  
Staying positive  
Avoiding all negative energy  
Make the best of it



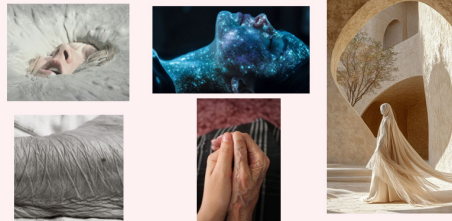
### WHAT DO I NEED?

Rest (2x) and being alone  
Understanding  
Understanding people  
Engage in joint activities  
Positivity



### WHAT DO I NOTICE?

More rest needed  
That your body is changing  
Weight gain  
Less enjoyment  
Less interest in fun things  
Less energy  
Wants to do less and less.  
Would rather not be in contact  
Isolate myself more from the outside world  
I am more concerned with myself



### WHAT IS IT LIKE?

Like your getting crazy  
Emptying battery  
Memory stick defect  
Snail (2x) / turtle  
It's time, hopefully it won't take long.

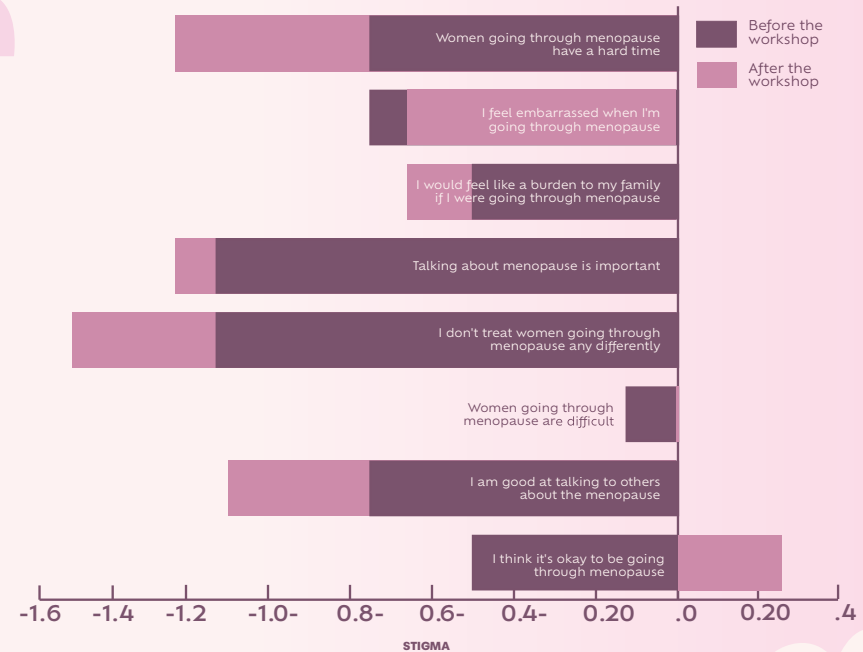
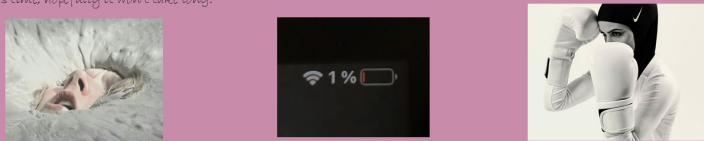


Figure 42 - Experiences of participating women

Figure 43 - Stigma reduction during co-creation workshop

## 8.2 DESIGN REQUIREMENTS

The co-creation workshop showed similar requirements though expressed needs and ideas. However, some extra requirements were stated which are categorised underneath 'Tailor possibilities':

- The tool must provide positivity.
- The tool should provide peace of mind.
- The tool should be easy to implement at home.

## 8.3 IDEATION

The tools discussed in the next paragraphs were brainstormed and prototyped. Some involve interaction within the inner circle, others serve as personal reminders, and one is designed to foster understanding. Explanations follow each heading.

### 8.3.1 Bead journal

Figure 44 shows a jewelry kit where each bead reflects a woman's daily feelings, gradually creating a personalized necklace or bracelet that tells her menopausal story, worn privately or shared with others.



Figure 44 - Bead journal

### 8.3.2 Hot Flash Stories



Figure 45 - Hot flash stories cubes

Figure 45 demonstrates a set of three story cubes about menopause. Each cube features different prompts: Body parts, emotions, and behaviors. Players roll the cubes and tell a story inspired by the images that appear, encouraging reflection and sharing experiences around menopause.



### 8.3.3 Change Collage

The collage, visible in Figure 46, captures and interprets the experiences of women during menopause. Through artsy imagery and expressive quotes, it conveys their feelings and invites viewers to understand and empathize with their journey.



Figure 46 - Change canvas: Women's experiences

### 8.3.4 Pause & Play

Figure 47 illustrates a prototype of a group game designed to explore experiences and knowledge about menopause. The jar contains questions and small assignments that encourage sharing, connection, and positivity through conversation, movement, or thoughtful gesture, suitable for anyone to play.

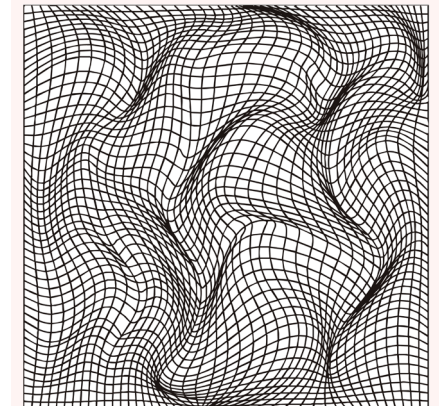


Figure 47 - Pause & Play jar

### 8.3.5 Flow

By coloring one box each day to match her mood, a woman creates a visual story of her menopausal journey, sharing her emotions and experiences through color, visible in Figure 48.

### MIJN OVERGANG IN KLEUR



Uitleg:  
 1. Kies elke dag een kleur die laat zien hoe jij je voelt.  
 2. Begin linksdoen en kleur een vakje in.  
 3. Ga naar het vakje rechts naast het vorige. Als een rij vol is, begin je in de rij daaronder.

vrolijk, gelukkig, antippenen, gek, tevreden, geweldig	ziek, moe, lui, ongemotiveerd, vermoeid, saai
verdrietig, eenzaam, depressief, onzeker, geneesd	gemiddeld, normaal, rustig, goed
productief, energiek, actief, gemotiveerd, levedig	boos, bezorgd, gefrustreerd, chagrijnig

Figure 48 - Flow, moodtracking poster

### 8.3.6 Menopause diary

A reflective menopause diary filled with tips for healthy living, moments of gratitude, and the beauty of aging. It encourages mindfulness, creativity, and open communication through inspiring exercises on well-being, rest, and self-expression. The canvas used during the first co-creation session, shown in Figure 49, will be one of its contents.

Figure 49 - Menopause diary item

## 8.4 TESTING THE TOOLS

A new workshop was given on the 8th of October at Stichting Sewa By Do Saathi. The aim of the workshop was to test the communication tools and ask people their opinion on it. The testworkshop materials are provided in Appendix F3. To ensure accessibility, especially in the presence of language barriers, the workshop was designed to be interactive with the use of easy to understand Dutch.

The session started plenary with an introduction, icebreaker, informed consent and the MMM.

A short explanation of menopause and the research findings from this project were then presented. For the first assignment, participants divided into four groups, each receiving a communication tool with a short description. It was chosen to use the jewellery and mood tracking poster together in one group as well as the menopause diary item the canvas with the collage. They tested the tool for 10 minutes and then reflected on their experiences using a form that asked participants to rate the tool based on the requirements in Figure 18. These reflections were discussed in plenary in which each group briefly presented the tool they had worked with.

After a short break, the final assignment was introduced. Using a variety of creative materials, participants had to either improve the tool they had tested or develop a new one. Example questions were projected to spark inspiration. The workshop concluded with a short reflection, the completion of a demographic form, and a second MMM.

## 8.5 RESULTS TEST WORKSHOP

A total of 21 participants joined the workshop, including three men though these men were disengaged. Participants were aged between 55 and 77 years, with both the average and median age being 63. All participants had Surinamese roots. All but two owned a mobile phone, and most reported having internet access. The most frequently used apps were WhatsApp, YouTube, Google, and Facebook. During the week, participants were most often found in supermarkets or community centers.

The feedback on the communication tools is presented in Figure 50 to 54. Empty rows in the figures indicate an average score close to zero.

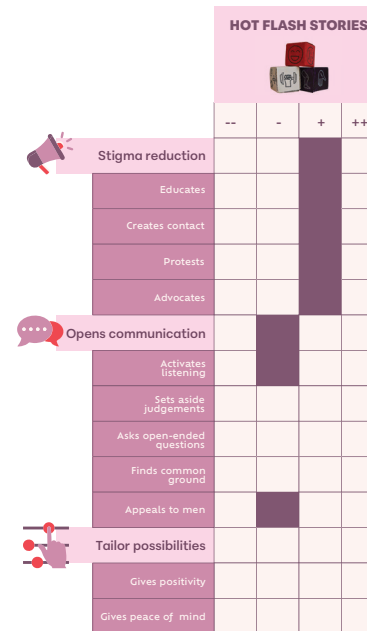


Figure 50 - Compliance of Hot Flash stories with requirements

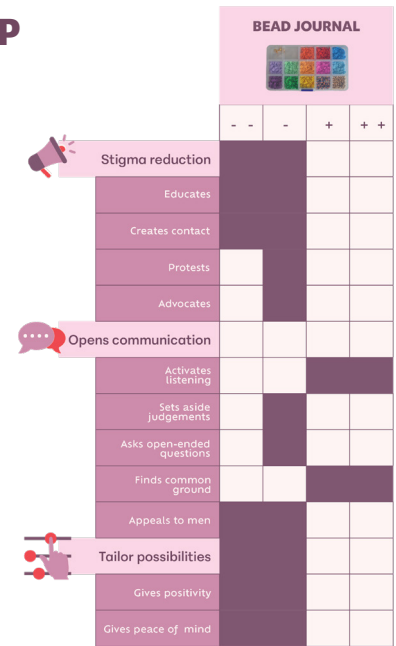


Figure 51 - Compliance of Bead journal with requirements

Four participants reported that the 'Hot Flash Stories Cubes' reduced stigma to some extent but did not strongly promote open communication or personalization (Figure 50). Several mentioned that the conversation format was too unstructured to encourage participants to open up. Two participants said they would use the cubes themselves; one explained that the cubes could help her discuss menopause with her daughters in the future.

The 'Bead Journal' was rated by only one participant, although three took part in testing. Participants were confused about how to use it. The one who rated the prototype gave it a negative evaluation and said she would not use it at home (Figure 51).

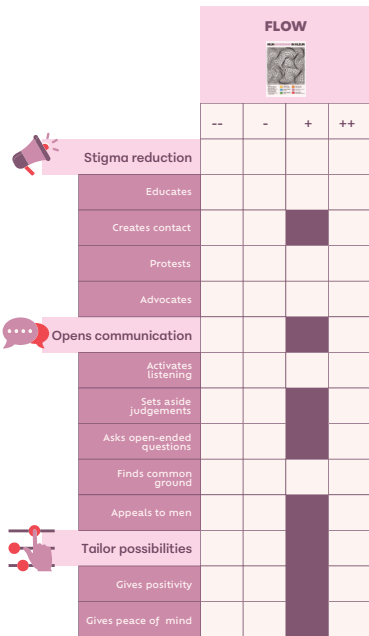


Figure 52 - Compliance of FLOW with requirements

'Flow' was tested by four participants, who said they enjoyed the experience and found it fun. They agreed that it facilitated communication and could be tailored to individuals (Figure 52). However, only one participant said she would use it at home. One person noted that the activity was almost too fun and might have benefited from a more serious tone.

The 'Menopause Diary' and the 'Change collage' were tested by 4 women and received the most positive feedback, particularly regarding its ability to encourage open communication (Figure 53). Two participants said they would use it at home, one of them, however, only if specifically asked to do so. The two others would not, citing reasons such as difficulty understanding some questions and discomfort discussing the topic.

Finally, 'Pause & Play' was tested by six participants and received generally positive responses (Figure 54). It was said to stimulate communication and allow for personalization. Two participants said they would use it at home, one mentioned she would place it on the table, while another wished her partner were more involved in the game. Others said they would not use it, for example, because they lived alone. Participants suggested that the game could be improved by encouraging more emotional sharing. Some felt that certain questions were too personal.

During the second assignment, many women chose to make jewellery, although this was not directly related to menopause. Instead, conversations often shifted toward memories of childhood.

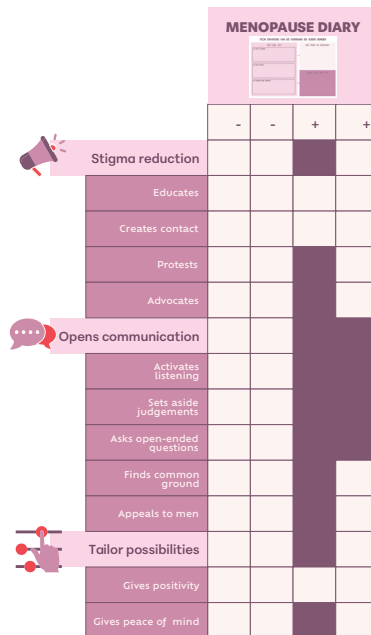


Figure 53 - Compliance of menopause diary with requirements

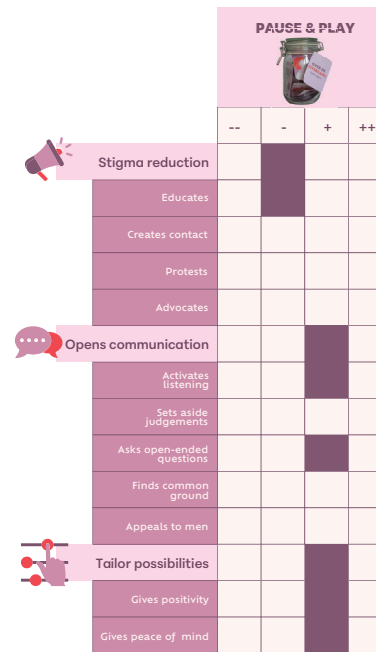


Figure 54 - Compliance of Pause & Play with requirements

One participant created a fabric figure of a woman (see Figure 55), explaining that it could help express emotions. Four others crafted flowers to celebrate happiness and womanhood as visible in Figure 57, emphasizing that the activity was more about the shared experience than the final product. Three participants made a drawing, that can be seen in Figure 56, symbolizing life and expressing that menopause is simply another phase of it.

In discussions, it was discovered that tea time often serves as a natural moment for conversation within participants' households. One woman mentioned that husbands can play an important role in shaping how their children perceive and discuss menopause through their own attitudes and behaviour.

Participants expressed a desire for more attention to bodily changes and sexuality in future sessions. The stigma measurement showed a big decrease in stigma of more than 70%. Stigma reduction per question is visualised in Figure 58.



Figure 55 - Result 1 assignment 2



Figure 56 - Result 2 assignment 2



Figure 57 - Result 3 assignment 2

## 8.6 CONCLUDING REMARKS

Among the communication tools, the 'Menopause Diary' item in combination with the 'Change Collage' was received most positively, while 'Pause & Play' and 'Flow' also showed potential. Participants suggested that future tools should involve men more actively and address bodily processes in addition to emotional aspects.

Overall, the workshops proved to be an effective way to foster open communication and reduce stigma.

## 8.7 DESIGN INSIGHTS

Several ideas were explored to implement the participants' suggestions. 'Flow' could incorporate colours to also represent bodily symptoms and allow partners to colour a box each day as a shared activity. 'Pause & Play' could be further developed into a question jar containing prompts about bodily changes across ages and genders, making it suitable for use by all family members. The 'Menopause Diary' should include the canvas and the 'Change Collage' together with space for partner reflections and additional information on bodily changes and sexual health. Finally, incorporating floral elements in the designs could symbolically celebrate womanhood and add a positive tone.

Participants recommended inviting spouses to take part in future sessions. Several potential touchpoints also emerged. At home, tea time was mentioned as a natural moment for conversation. Entry points for engaging this community include online channels such as WhatsApp, YouTube, Google, and Facebook, as well as offline spaces like supermarkets and community centres.



Figure 58 - Stigma reduction during test workshop

## 8.8 STRATEGY FOR OPEN INNER CIRCLE

Family members, especially partners, have an influential role in supporting menopausal women (Yazdkhasti et al., 2015). However, this project discovered that partners are said to be unaware and misunderstanding of the menopause. These two attitudes need to be changed which can be done by linking them to the requirements mentioned in Figure 18 of reducing stigma and opening communication. Awareness can be fostered through visibility, while understanding can be built through education, finding common ground, and dialogue (Valkanova et al., 2013; Mehta, 2010; Baker & Motton, 2005). Instilling a sense of competence can stimulate active efforts towards mindset change (Basford & Schaninger, 2016). Therefore, the suggested interventions serve as boosts that make the desired mindset easier to achieve (Williamson, 2018).

Menopause is part of women's health, and increasing its visibility in daily life can help men and others recognize the topic. Examples include placing menstrual or menopause-related products in public restrooms, displaying informational posters in public areas, or incorporating messages about female health on teabag labels, since it was found that tea is a natural moment for conversation.

Education leads to understanding and is highly necessary according to Hidiröglü et al. (2014), Parish et al. (2019) and Priya et al. (2025) that all highlight the lack of knowledge and therefore the potential of educational interventions in community centers or a museum

exposition showcasing menopausal experiences, supermarket campaigns highlighting body awareness, or integrating educational materials on menopause into school programs could all contribute.

Common ground can be created by also addressing men's hormonal health and emphasizing shared goals, like how and why men can support women during this transition. Sexual health should be an important part of this dialogue. Dialogue can be stimulated through dedicated time and spaces. Community centers could host events or workshops on menopause, including sessions for couples called 'Happy wife = happy life', similar to pregnancy courses. Tea rituals could provide informal environments for women to share their experiences. Additionally, MENopause peers could serve as local advocates, sharing their perspectives on supporting their spouses through menopause and normalizing discussions around it.

Several product concepts can support these goals. For example, 'Flow' can enhance visibility when displayed in home. The 'Pause & Play' jar concept shows particular promise, as it can educate, build common ground, and stimulate dialogue. This idea could evolve into a Bodily Changes product line, featuring the reimagined 'Menopause Diary' as a 'Hormonal Diary', designed to raise awareness, promote education, and encourage open dialogue. Additional items could include a tear-off calendar, a conversation jar, and a game addressing bodily changes across different life stages.

# 9.

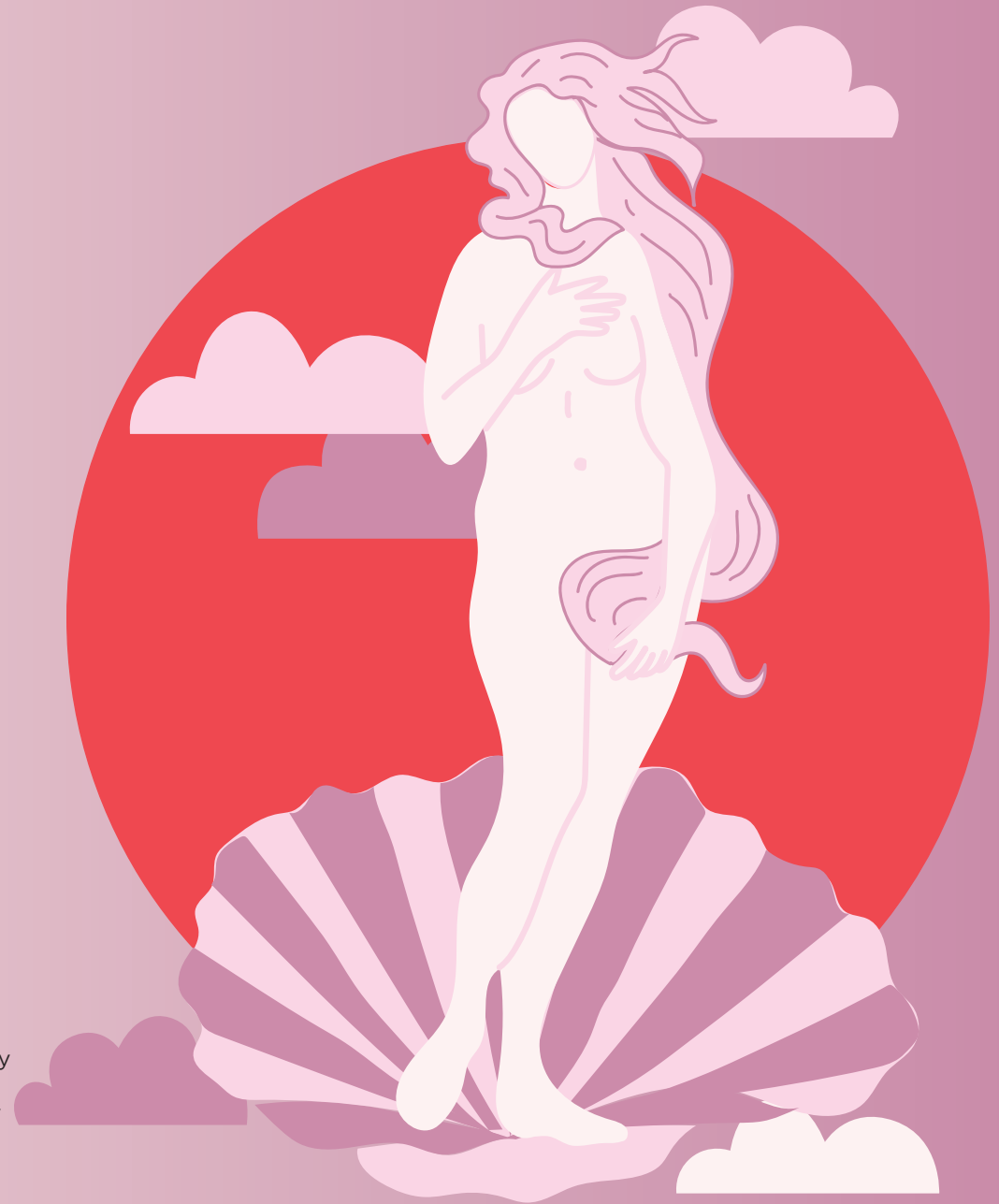
## STRATEGY FOR A CELEBRATED MENOPAUSE

As visible in Figure 30, cultural change becomes possible only when all levels are considered: From personal characteristics and social interactions to institutions and overarching societal ideas. This graduation project combined research and concept development to guide society toward a future in which menopause is a shared and well-understood experience across all levels of society.

This chapter presents the 'Deliver' stage of the Improving Improvement Toolkit in Figure 5. Strategies developed in Chapters 6 to 8 were synthesised into a tactical roadmap visible in Figure 59 ('Manage the Plan').

Together with the interventions across levels, this roadmap was presented at Dutch Design Week (DDW) 2025 for further iteration and feedback. The roadmap was also reviewed by four experts to gather additional reflections.

The results of these activities are presented in Section 9.1 and 9.2, representing a reiterating step to the 'collect the evidence' activity strand. This is followed by refinements of the strategies per level in Section 9.3, aligning with the 'make the case' activity strand. The final tactical roadmap, reflecting the 'manage the plan' activity strand, is discussed in Section 9.4.



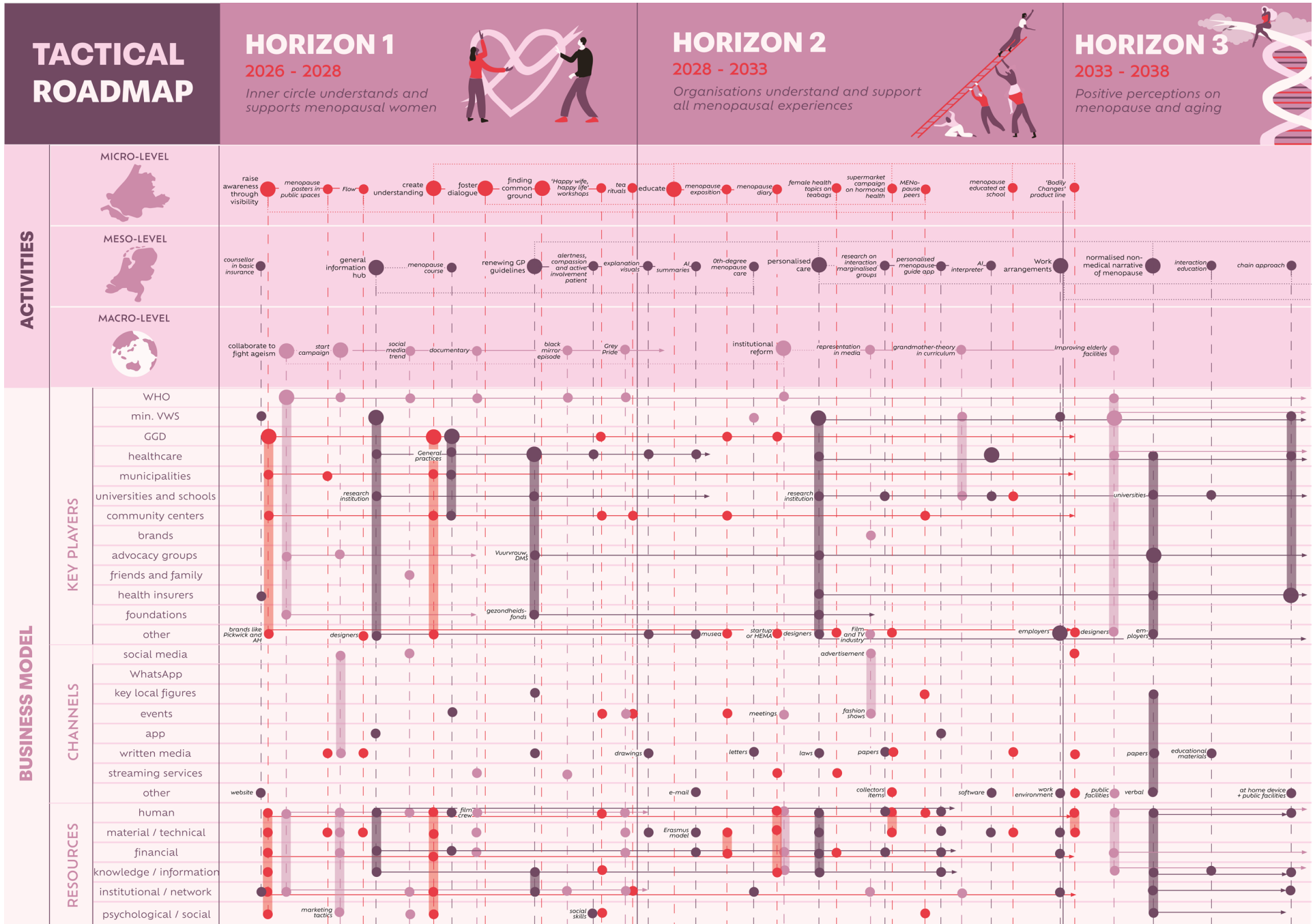


Figure 59 - Tactical roadmap version 1

## 9.1 DDW REVIEW

Together with Ruixuan Zhang, the outcomes of this graduation project were presented at Dutch Design Week 2025 from the 18th till the 21st of October at 'Stichting Burgers'. The research phase was showcased through a quote wall: a series of posters illustrating identified problems supported by quotes from interview participants. Visitors were invited to respond using coloured stickers, as shown in Figure 61. Each colour represented a different relation to the problem.

Afterward, visitors could go to the Menopause pharmacy, as visible in Figure 62, where they stated the problems they resonated with. In response, one of the proposed solutions from this project was provided and their feedback was asked. This feedback is analysed in Sections 9.1.1–9.1.5

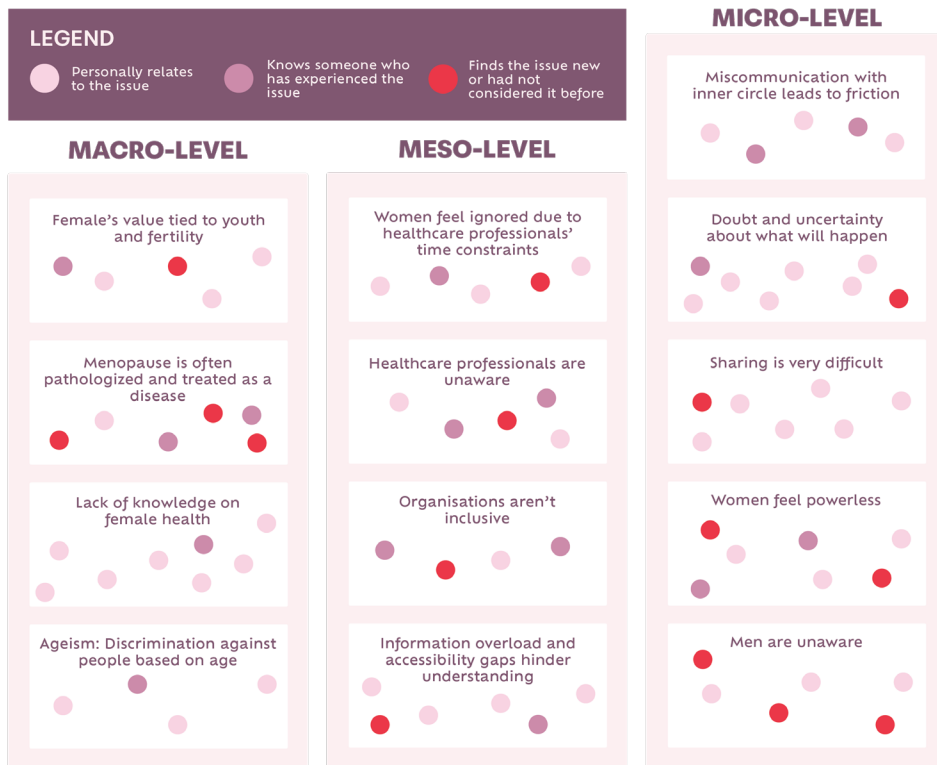


Figure 60 - Quote wall results



Figure 61 - Quote wall interaction



Figure 62 - Menopause pharmacy

### 9.1.1 Feedback on research

Figure 60 presents the result of visitors' interactions with the quote wall. Most resonated with the micro-level problems. Many emphasised in conversation the importance of raising awareness, also among GP's, about menopause. Two women illustrated this necessity with a similar example that a lack of knowledge about menopausal symptoms can lead to fear of early dementia, as people may not realise that forgetfulness can be menopause-related. One visitor observed that the menopause experience is influenced by relationship culture, which supports the findings illustrated in Figure 16.

However, two women expressed that they did not recognise themselves in the identified problems. One explained that Dutch culture feels open and that, in her experience working in the well-being sector, there is increasing

attention to such topics. The other woman, originally from Romania, described how women there feel more comfortable discussing these challenges with partners and friends. She attributed this openness to the collectivist culture shaped by communism, giving a personal example of her father installing an air conditioner to help her mother manage hot flashes.

These reflections further show the importance of considering intersectionality, which recognises that factors such as indigeneity and religion influence the degree of marginalisation individuals experience during menopause.

### 9.1.2 Feedback on macro-level interventions

Visitors saw strong potential in the video's message. One suggested showing it in general practices where people wait for their appointments.

After seeing the video, another woman shared an example from a study on rats proving that trauma can be transmitted across generations (D'Antonio et al., 2025). She related this to how beauty standards persist through generations, mentioning her eight-year-old daughter who didn't want to wear tights because they made her legs look 'fat'. To counter this learned insecurity, she wished social media could be limited, but, recognising this is unrealistic, she instead called for more positive female role models who portray empowerment. One woman illustrated this positive imaging by saying that after menopause, she felt more like herself: more womanly, calmer, and more powerful.

### 9.1.3 Feedback on meso-level interventions

Many visitors emphasised the need for research and better GP knowledge on women's health. One highlighted the importance of respectful GP interactions, noting that it can already be difficult for women to seek help, especially when there's a risk of being dismissed.

Visitors saw potential in the app as they felt it could lower the threshold for seeking help, offer validation for symptoms, reduce anxiety, and help users understand symptom relations.

Suggestions for improvement included avoiding oversimplification of menopause, which could add to frustration, a section for partners with practical advice, and integrating ChatGPT to provide good information.

### 9.1.4 Feedback on micro-level interventions

Feedback on the micro-level interventions emphasised the importance of increasing attention to the topic in diverse forms, particularly through media as one male explained how his awareness on menopause was raised through recent news. One visitor suggested that education about the topic should begin already in primary school.

A visitor who had previously curated an exhibition on women's health observed that men were initially hesitant to engage but learned a great deal once they did. She therefore saw strong potential in a pop-up exhibition that brings the topic directly to the public.

Regarding specific prototypes, one visitor suggested placing the Pause & Play jar in relaxed environments, such as near a coffee machine at work. Another woman highlighted the importance of female friendships for sharing, pointing to the potential of tea rituals at community centres.

### 9.1.5 Overall reflections

The exposition raised awareness about menopause and resonated with several women's groups who visited specifically for this project.

It also opened conversations between partners, friends, and family, illustrated by one woman who said, "This is the first time I've talked about it with my dad."

Men's perspectives were also explored. Many said they hesitate to ask about menopause, fearing it might be seen as offensive since its link to aging. This reflection emphasizes the need for the macro-level strategy to create positive perceptions on aging. Others noted that openness about menopause varies. Some socially-oriented men discuss it, while more reserved men tend not to. When asked how they could help, some suggested they should be understanding and offer practical help, such as opening a window during hot flushes.



Figure 63 - Stichting Burgers



Figure 64 - Interventions at DDW

## 9.2 EXPERTS' FEEDBACK

Feedback on the general strategy was gathered from multiple experts. This section discusses the outcomes.

First of all, the graduation committee suggested improving readability by adding a legend, examples from the project, and brief explanations of key terms. They also recommended including viability considerations, such as a cost-benefit analysis or a value-inputs-and-outcomes overview, to strengthen the strategy.

Second, a local health policy advisor from GGD Haaglanden emphasised the importance of peers and role models, recommending that they appear earlier in the strategy. She also advised aligning proposed activities with existing initiatives to enhance viability and impact.

Finally, a professor from the IDE Faculty (recommended by V. Pannunzio) reviewed Figure 59 on its visual clarity.

He suggested improving the visual by reducing the number of connecting lines and rethinking the sequence of elements to improve visual clarity.

## 9.3 STRATEGY PER LEVEL

Taking all feedback into account, the overall strategy was refined, and viability considerations were incorporated through a Theory of Change (ToC) for each level. Figures 65 to 67 show these through inputs, activities per project, measurable outputs (KPIs), and expected outcomes.

The inputs include preliminary financial estimates, mostly generated with ChatGPT. Despite their large margin of error, these estimates provide valuable insight into cost ratios and planning considerations. Human resources were calculated using a mean Dutch salary of €26/hour or a Swiss salary of €40/hour (for macro-level strategy) based on the necessary full-time equivalents. Volunteer costs are calculated with a maximum volunteer contribution of €5,60/hour times the duration of their help. Micro- and meso-level partnerships were estimated at €400 per agreement, plus €350 for ongoing relationship management, while macro-level costs were higher due to its scale and the large amount of partners. Material costs are rough approximations. Pink boxes indicate shared costs.

The created value visible in the outcomes could be evaluated through a randomized MMM study of the general public. Additional measurement methods and detailed ToC information per level are discussed in Sections 9.3.1–9.3.3.

### 9.3.1 Macro-level strategy

The macro-level strategy, visible in Figure 65, focuses on a global scale as this will be the most effective to change perceptions of aging and menopause (Burnes et al., 2019).

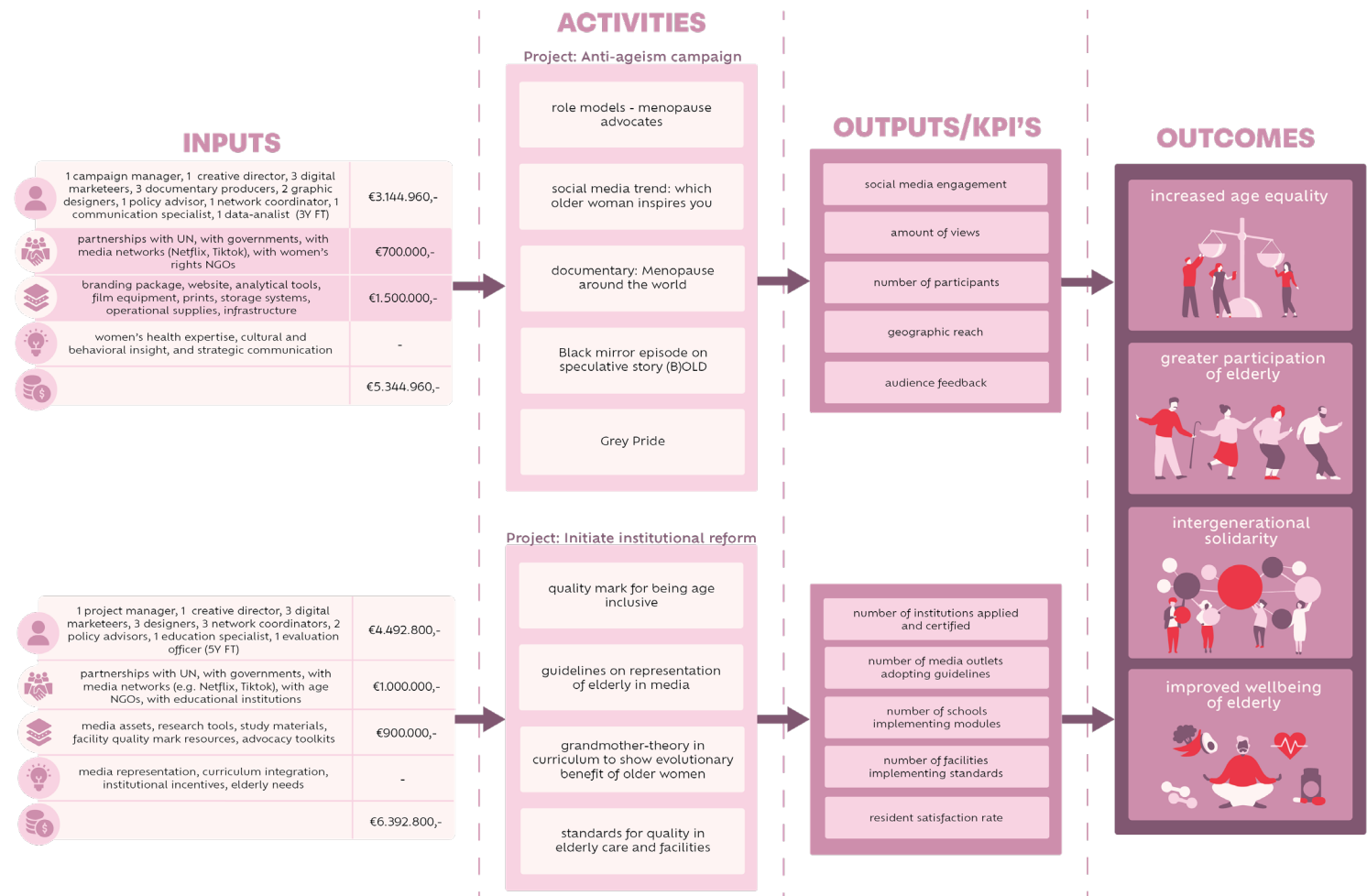


Figure 65 - Viability considerations of the macro-level strategy

Key activities include combating ageism through targeted campaigns and encouraging organisations to restructure practices to be more inclusive. Important channels to distribute these activities are mainly social media and events. The World Health Organization (WHO) serves as the lead organisation, leveraging its ongoing campaigns against ageism and broad network

to reach relevant stakeholders. These projects work synergistically, raising awareness of ageism and motivating both individuals and organisations to implement change. Outcomes can be measured through indicators such as elderly societal participation rates, wellbeing measures, and age distribution within organisations.

### 9.3.2 Meso-level strategy

The meso-level strategy, visible in Figure 66, focuses on the Netherlands, with the ultimate goal of institutional reform, beginning in healthcare. Key activities include improving information provision by normalising the narrative around menopause and developing a general information app that evolves into a menopause guide. Enhancing patient-GP interactions is also recommended through regular updates to GP guidelines and AI support. Innovations promoting personalised care and creating supportive work environments that start with employer's behaviour and transforms into physical work environment adjustments (Hardy et al., 2017) are additional high-potential interventions. These activities can be disseminated through multiple channels, including websites, official guidelines, policy documents, and training programs for healthcare professionals.

The Dutch government, specifically the Ministry of VWS, is the lead organisation, as it is responsible for healthcare and already works on system restructuring to reduce pressure. Some projects are menopause-specific, while others have broader impacts; prioritising projects with wider benefits can improve overall public wellbeing and ease system pressures. Outcomes can be measured through general health indicators, retention rates, engagement in preventive health activities, and comparisons of health outcomes and access across population groups.

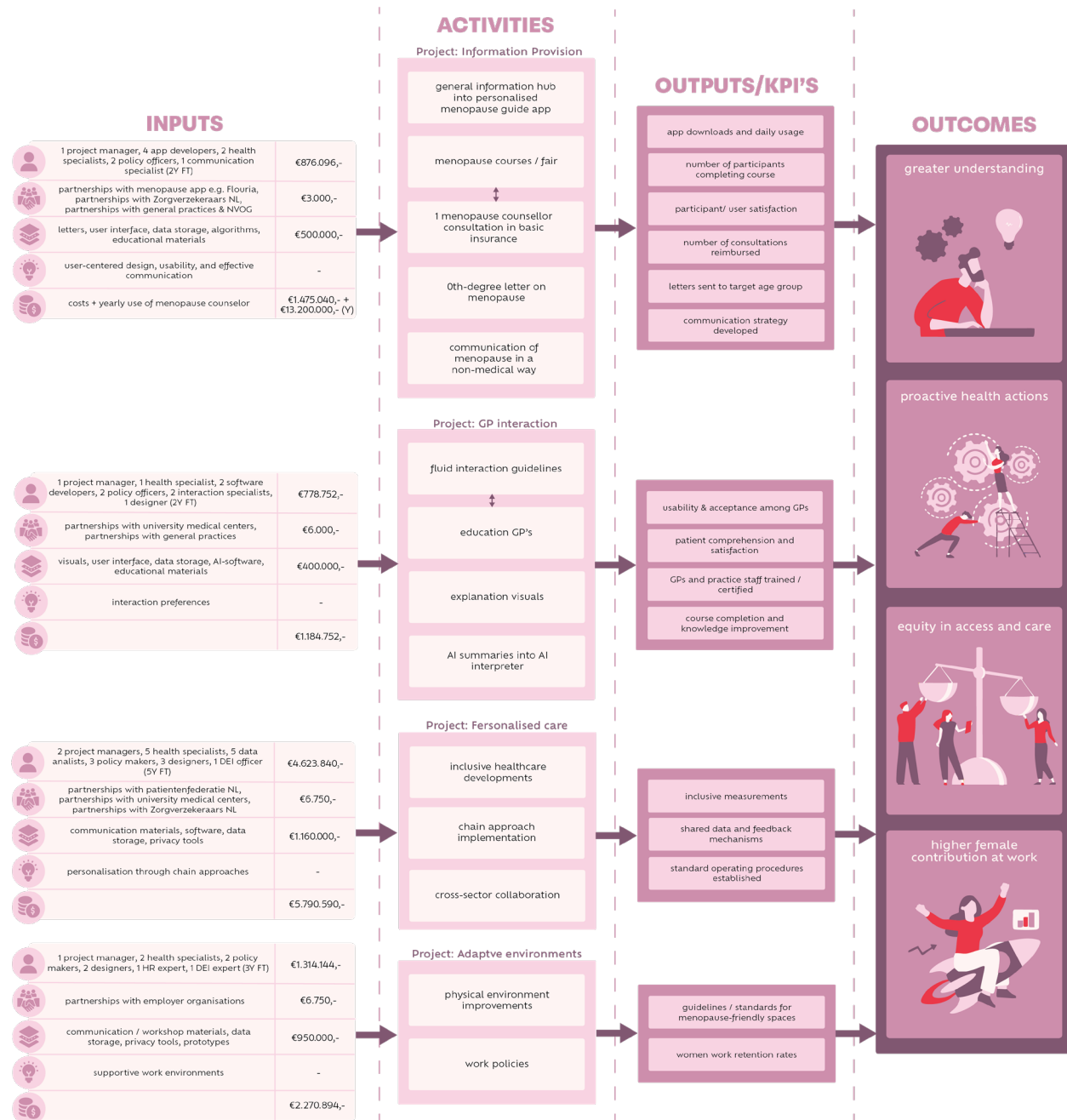


Figure 66 - Viability considerations of the meso-level strategy

### 9.3.3 Micro-level strategy

The micro-level strategy of Figure 67 focuses on local interventions, aiming to help the inner circle understand and support menopausal women. Key activities include raising awareness through supermarket campaigns and pop-up exhibitions at major train stations, leveraging community centres to organise activities for women and their support networks, and creating educational and dialogue-promoting tools. The GGD leads this level, utilising its public health expertise and extensive local network.

Activities are distributed via channels identified in Section 8.5, including online platforms (WhatsApp, YouTube, Google, Facebook) and offline spaces (supermarkets, community centres). Outcomes can be measured primarily through the MMM, supplemented by menopause knowledge surveys and qualitative interviews on family dialogue.

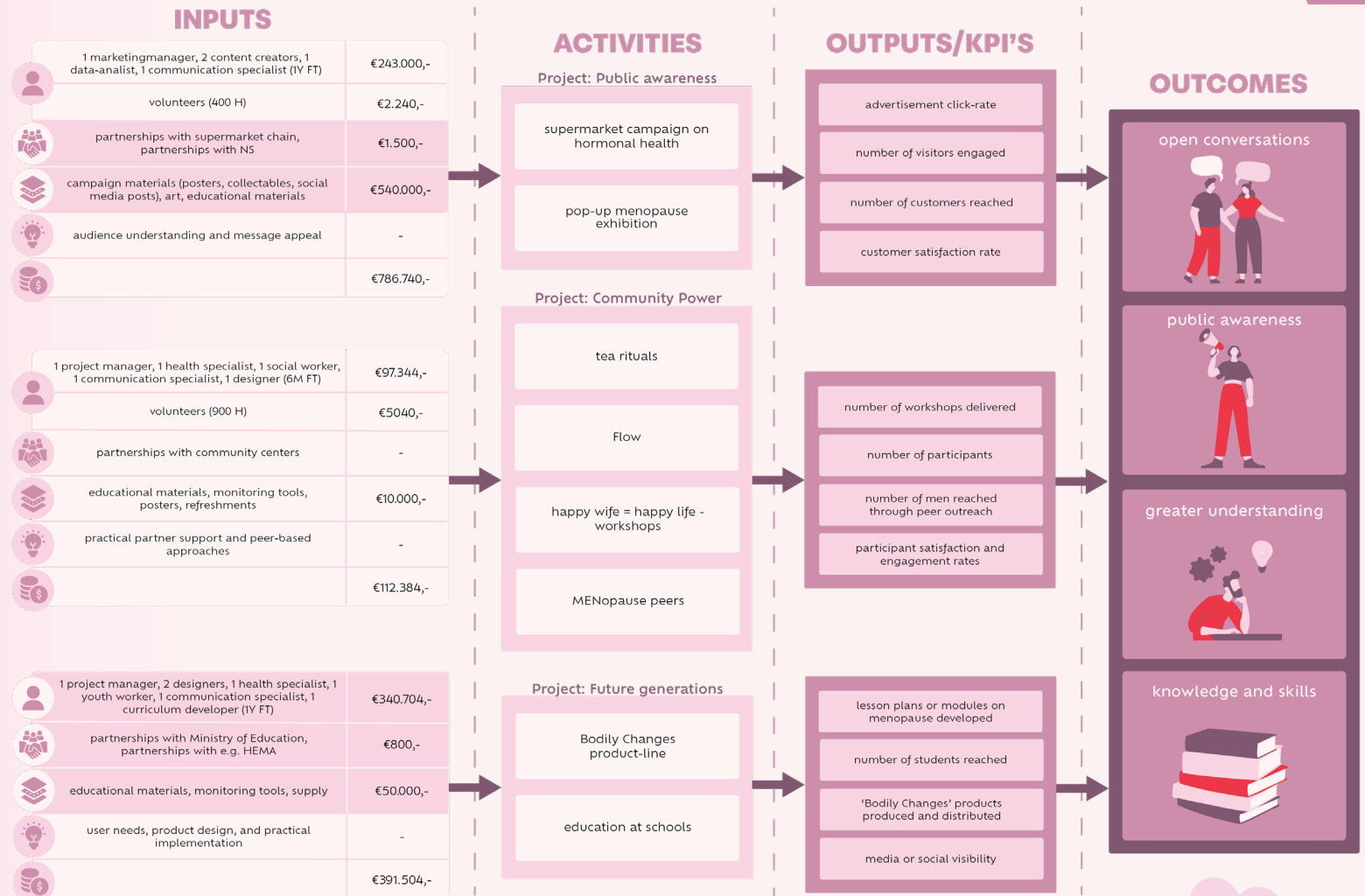
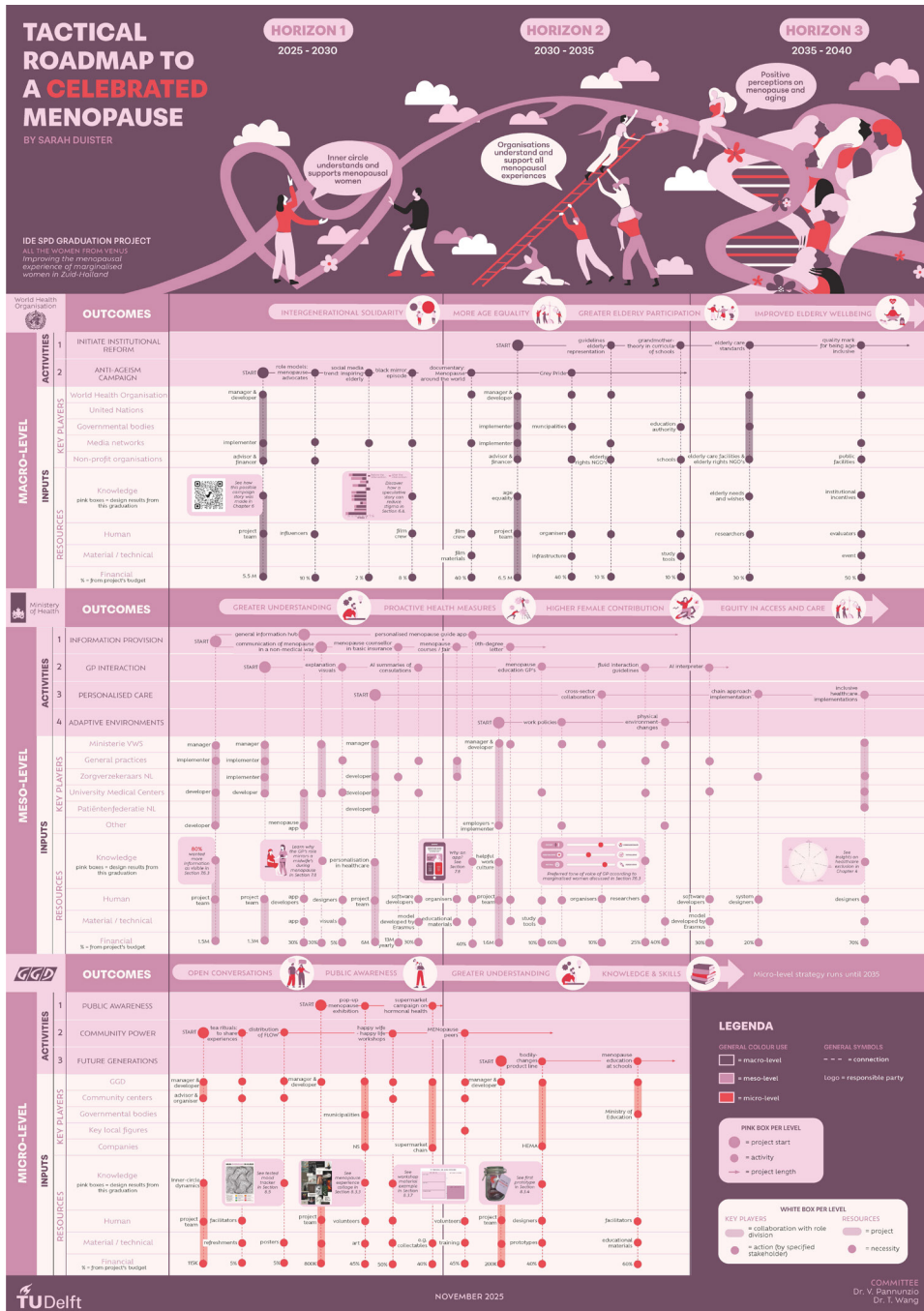


Figure 67 - Viability considerations of the micro-level strategy



## 9.4 COMPLETE STRATEGY

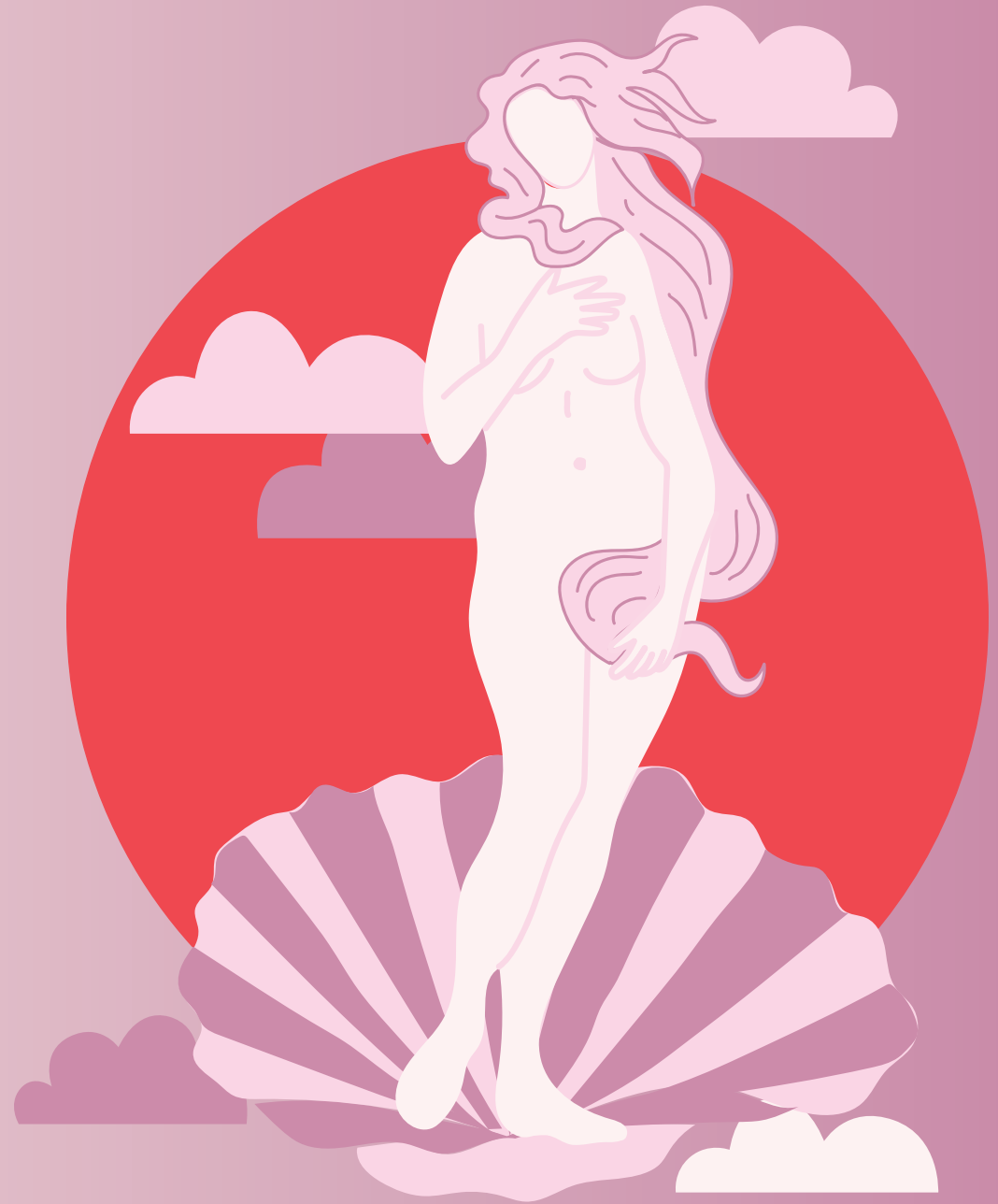
Figure 68, also available on the TU Delft repository as the showcase for this project, presents a tactical roadmap that integrates the strategies discussed in previous sections and organises them over time. The roadmap is structured into three horizons, each representing a distinct phase of the strategy, with duration based on typical project timelines within the responsible organisations. For example, ISA and GALA focus on delivering impact around 2040.

The horizons align with different levels, creating natural overlaps in goals and activities, as progress depends on interactions across levels. Activities can also be categorised according to the four building blocks of cultural change: building understanding and conviction, providing role models, reinforcing progress through formal mechanisms, and developing talent and skills (Figure 30). This overlap allows for combining interventions, such as micro-level Happy Wife = Happy Life workshops with meso-level menopause courses. Some projects could be deprioritised if they are expected to yield fewer outcomes; however, all activities across levels collectively contribute to the impacts depicted in the future vision (dark-purple box). Omitting certain projects may reduce the overall impact required for a paradigm shift.

Figure 68 - Tactical roadmap of total strategy

# 10.

## GENERAL CONCLUSIONS



ALL THE WOMEN FROM VENUS  
IMPROVING THE MENOPAUSAL EXPERIENCE OF MARGINALISED WOMEN IN ZUID-HOLLAND

## 10.1 CONCLUSION RESEARCH AND DESIGN

Menopause remains an under-researched topic with significant consequences for women's health and well-being. Throughout this project, the urgency to improve the menopausal experience became evident through the voices of the interviewed marginalised women, who shared comments such as: *"I feel like I have no use anymore," "I really don't want anything to do with the stupid menopause,"* and *"I wasn't taken seriously."*

This chapter brings together the identified problems and proposed solutions across societal, organisational, and individual levels. It begins by addressing the project's subquestions, leading to an overall answer on how the menopausal experience of marginalised women in Zuid-Holland can be improved.

### 10.1.1 How can global societal forces be addressed to improve the menopausal experience of marginalized women?

Cross-cultural research shows that menopause is a life stage marked by major physical and emotional changes that strongly affect women's well-being. These experiences are shaped by numerous contextual factors. Among them, negative cultural norms, limited access to information, and insufficient social support have a particularly harmful influence. Moreover, the prevailing self-optimisation culture in many societies amplifies pressure and insecurity.

A global cultural shift is therefore needed to reshape perceptions of menopause and ageing toward more positive narratives. The speculative design outcome '(B)OLD' has potential to reframe beliefs by inviting reflection on the societal value of elderly women. To achieve impact, the message must reach people effectively through a worldwide anti-ageism campaign that creates conviction with engaging stories and relatable role models. Parallel to this, institutions can be mobilized to reinforce cultural change by being age inclusive. Sustaining these efforts will require developing relevant talent and skills, discussed in Section 10.1.3. Together, these macro-level interventions promote age equality, strengthen intergenerational solidarity, and enhance overall well-being.

### 10.1.2 How could Dutch organizational practices be adapted to better support marginalized women in Zuid-Holland during menopause?

Dutch women's menopausal experiences are strongly influenced by surrounding institutions, particularly the healthcare system and workplace. However, the current market-based and government-regulated healthcare structure is under pressure, highlighting the need for supportive systematic change that prioritises inclusivity and preventive care.

Since GP's are the first point of contact in care, improving this interaction can have a broad ripple effect.

This can be achieved through enhanced GP education, regularly updated clinical guidelines to reflect new insights and encourage a more supportive, midwife-like interaction. Using AI as a conversation assistant could further improve the clarity and personalization of these interactions. Additionally, shifting from medicalized language toward normalising, accessible information is essential. A national, reliable information hub, eventually evolving into a personalized menopause guide app, could address this gap. Over time, further research into personalized care would deepen inclusivity and responsiveness.

Creating adaptive workplaces can complement these health-focused interventions. Together, these changes can foster understanding, proactive health management, and more equitable access to care.

### 10.1.3 How could personal experiences and close social networks be supported to enhance the menopausal experience of marginalized women in Zuid-Holland?

At the individual level, marginalization results from intersecting identities that are unequally supported by existing systems. Consequently, menopausal experiences vary widely, though common themes emerge. Menopause is often perceived as a loss, particularly of fertility and, by extension, self-worth. Silence, misinformation, and challenging interactions with health-

care providers reinforce feelings of doubt and disempowerment.

These experiences can be improved by promoting open dialogue within women's close social circles, normalizing menopause as a shared and supported life stage. Awareness campaigns can be designed to reach partners, family members, and peers, complemented by community-based approaches like workshops that open dialogue and foster understanding and skills. Education initiatives, such as school programs or product lines addressing hormonal changes across ages and genders, can build intergenerational awareness and long-term cultural openness.

### 10.1.4 How can the menopausal experience of marginalized women in Zuid-Holland be improved?

Together, these interventions, focused on increased awareness through stigma reduction and open communication, target the underlying factors that currently shape negative menopausal experiences. Their collective outcomes form a force to create the paradigm shift necessary for a future in which menopause is shared, supported, and understood.

By transforming societal attitudes, organizational practices, and interpersonal interactions, the system can evolve toward one that celebrates menopause and ageing, empowering people to grow older with confidence and dignity.

## 10.2 IMPLICATIONS

Menopause is a life-changing event that has historically received limited scholarly and design attention, as reflected in the scarcity of related articles in the TU Delft repository. This project aims to address that gap, with implications across practical, theoretical, and design-strategic domains.

From a practical perspective, this project has contributed to its own goal of raising awareness through workshops, the speculative story, the Dutch Design Week exhibition, and numerous conversations on the subject. It also directly supports the Delft University of Technology, Erasmus MC, Leiden University of Applied Sciences, and Health Coach Programme BV collaboration on the 'MenoPressure' personalised research project, with the collected data contributing to future publications. Additionally, the project may serve as a practical use-case for Cambridge's 'Improving Improvement Toolkit'.

From a theoretical perspective, this project demonstrates how complex health and societal challenges can be addressed through a systemic design lens. While prior work (Brosens et al., 2021) emphasised the value of macro-meso-micro frameworks, this project applies that structure to a real-world design context, as discussed further in Section 10.4.3. The project further highlights the importance of inclusivity in design, especially in multicultural environments like the Netherlands. In line with growing calls for co-creation (Messiha et al., 2023), the project integrates this method with intersectionality theory to capture the

diversity of menopausal experiences and enhance the relevance of outcomes (Ghasemi et al., 2021). Future Diversity, Equity, and Inclusion (DEI) initiatives may draw on this approach to strengthen contextual sensitivity. Beyond academic implications, the project's strategy offers practical value for Dutch organisations seeking to improve menopausal wellbeing. Its meso- and micro-level focus, tailored to the national context, provides a framework for identifying and implementing meaningful, evidence-based interventions.

From a design-strategic perspective, the project expands the understanding of menopause beyond biology, adding new insights into its social, emotional, and contextual dimensions, particularly for marginalised women in the Netherlands. The design component advances this knowledge further: rather than merely examining women's experiences or evaluating existing lifestyle and educational interventions (Kariman et al., 2018), it actively develops and tests new interventions to improve menopausal wellbeing. By integrating these interventions into a coherent, system-oriented strategy, the project demonstrates the potential of design to foster change across individual, organisational, and societal levels. Moreover, it highlights persistent global gender inequalities and aims to inspire further women-centred health and social initiatives that address these disparities.

## 10.3 LIMITATIONS AND RECOMMENDATIONS

These findings are not generalisable due to the small sample size and should be interpreted with caution. Although the project explored problems and solutions from multiple perspectives, through collaboration with diverse institutions and stakeholders, the focus on marginalised women remained broad, leaving some intersectional identities underrepresented. Firstly, most participants had Surinamese roots, while other cultural perspectives were absent. Future studies should include women from diverse backgrounds by collaborating with additional community centres, religious institutions, and foundations. Secondly, other identities such as sexuality and gender were not researched. Future research should look into how lesbian couples or trans men experience menopause.

Most data were collected through qualitative interviews. While appropriate for an intersectional approach (Atewologun, 2018), this method has limitations: participants may give socially desirable answers, especially on taboo topics (Alshenqeeti, 2014). To mitigate this, emotional questions, such as metaphor picking, were added and co-creation activities were included. Future research could complement interviews with home-based studies to better capture lived experiences.

Another limitation was the difficulty in engaging men. Although identified early as key stakeholders, their perspectives remained underrepresented despite attempts to involve them in workshops. Yet, they could provide valuable insights into relational and social dynamics.

For instance, one male visitor at Dutch Design Week expressed difficulty forming relationships with menopausal women, revealing potential misalignments in needs. While some studies have examined men's perspectives (Hidiroglu et al., 2014; Parish et al., 2019), further co-designed interventions are needed to strengthen men's awareness, communication, and support during this life stage.

The design phase mainly focused on reducing stigma and opening dialogue, though many other interventions could further improve menopausal wellbeing. Inclusive preventive health programmes show promise, such as the development of a personalised menopause guide app. Such an app could draw inspiration from Warke (2021) who researched interactive self-tracking tools for menopausal women, though further exploration is needed. Moreover, empowerment is crucial for improving women's health behaviours (Yazdkhasti et al., 2015). While this project introduced an intervention aimed at empowering women by challenging negative perceptions of ageing, additional strategies are needed to encourage women to practise sustained self-care, essential for improving the overall menopausal experience.

Finally, viability considerations were addressed relatively late. Like many user-centred projects, this study focused on human experiences. Future work should examine stakeholder incentives and organisational enablers to ensure implementation of menopause-supportive interventions.

## 10.4 REFLECTION

This graduation project provided a valuable learning experience across multiple areas, including engaging with the target group, navigating the design process, and reflecting on my own design experience. The following sections discuss these topics in detail.

### 10.4.1 Working with marginalised groups

This project focused on reaching and involving marginalised groups. Marginalisation means disadvantages as a consequence of the intersection of different identities. This intersectionality theory is highly valuable in creating inclusive design. The following tips outline how I recommend to include this theory in design projects.

#### Build trust

Trust is essential. It can be built by becoming a familiar and approachable presence, showing your face regularly, engaging in genuine conversations, and sharing your own vulnerabilities. Recognising participants' faces and remembering their names also shows care and respect.

In this project, one community centre was visited around ten times, and conversations were held with the same group of women. Over time, trust grew, which became evident through warm greetings and comments such as, *"How nice to see you again."*

#### Overcome language barrier

Language often forms the biggest barrier. Translators are therefore

strongly recommended. In this project, support came from community members who spoke Dutch fluently and occasionally helped translate during activities. Visuals are also a strong tool.

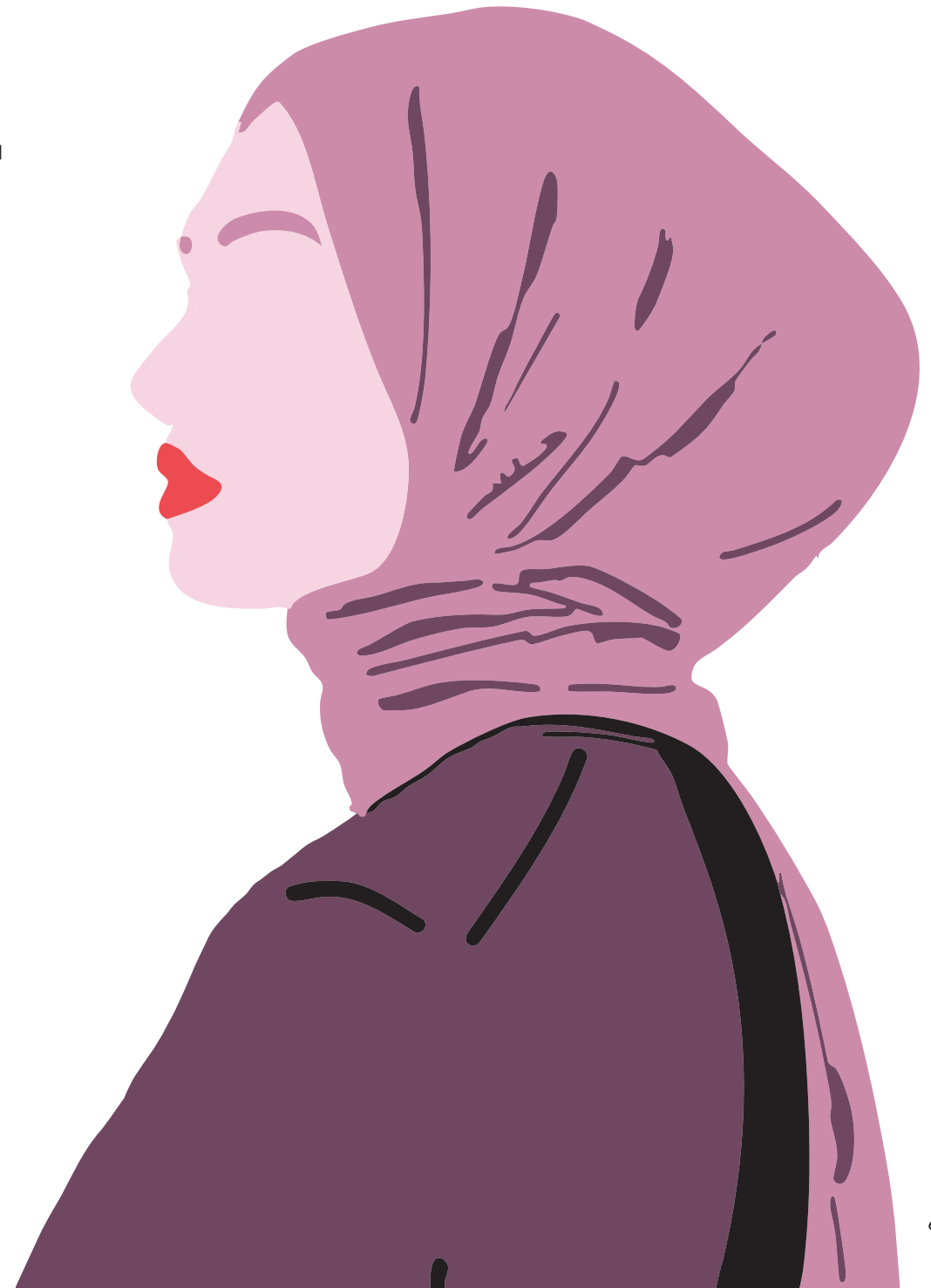
#### Use of inclusive methods

Many conventional research methods unintentionally exclude participants through their format or language. Conversations proved to be the most effective and appreciated method in this project, although creative assignments also worked well.

Using inclusive methods requires extra time, not only to adapt existing research tools (for example, by making them more visual and using easier to understand language) but also to provide additional guidance during their application. Creating space for explanation and reassurance helps participants feel comfortable and engaged.

#### Diversify participation

It is important to reflect on which groups are actually being reached. Scope and collaborate with diverse organisations if a wide range of identities is to be reached.



## 10.4.2 The Improving Improvement Toolkit

The Improving Improvement Toolkit guided this graduation project. Each chapter introduction outlines the process per stage and level. Figure 69 combines these into an overarching design journey, read clockwise, with each cycle corresponding to a report chapter. The following paragraphs reflect on its application, key lessons, and areas for improvement.

### Used tools

Most activities were completed to varying degrees, as shown throughout this report. Since this was an individual project, activities such as agreeing on core themes and ensuring shared understanding were less prominent, though meetings with the graduation committee served a similar purpose. Activities within the ‘gathering evidence’ strand were the least developed, likely due to a user-centred approach, late consideration of viability and time constraints.

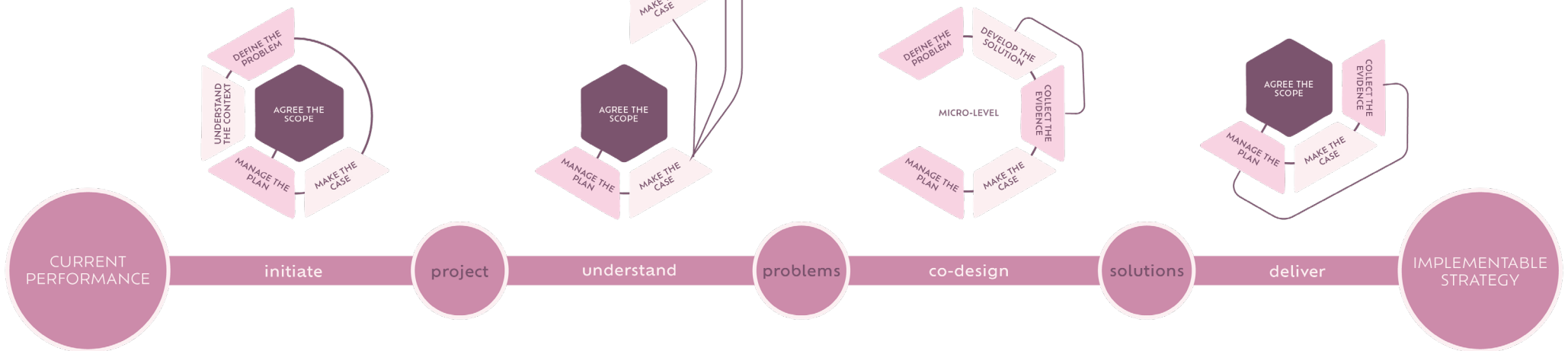


Figure 69 - Total design process of the improvement model through the improvement stages

Figure 70 shows the tools in chronological order. Most were applied intuitively rather than deliberately; others were used in different activity strands than suggested. For example, the PESTEL and stakeholder analyses might be more effective earlier in the process (Understand the Context) to ensure sustainable and fitting solutions.

The ‘Develop the Solution’ strand had fewer tools; methods such as SCAMPER, metaphors, role play, or story-building could enrich this creative phase. Finally, the ‘Make the Case’ activity strand could benefit from story-building tools, which would not only help persuade stakeholders but also deepen the designer’s own understanding of the problem and solution.

## Lessons learned

I learned that my designer intuition aligns well with the toolkit's described process. I mainly referred to the toolkit at the beginning and end of my project and noticed that what I had intuitively done corresponded to its stages and activity strands. This is illustrated in the description of my process and the tools used, shown in Figures 69 and 70, which were reflections made in hindsight. Therefore, I believe the toolkit represents the design process effectively.

This raised the question of what the toolkit adds for a systems 'expert.' Although I do not yet fully consider myself one, I will assume this perspective for the sake of reflection, given my six years of design education. It was especially useful early on when the project scope felt fuzzy, providing structure and guidance. It also offered inspiration during moments of uncertainty, as the suggested tools encouraged to take the next step forward. Re-visiting the toolkit mid-project reminded me of overlooked tools, demonstrating its value as a prompt for reflection.

## Points of improvement

While the toolkit effectively represents the design process and offers several advantages, there are areas that could be enhanced, particularly regarding clarity, usability, and guidance.

Most of my understanding of the toolkit developed toward the end of the project. Initially, navigating the steps and distinguishing between similar stages and terms felt overwhelming. For example, I struggled to differentiate between the 'Initiate' and 'Understand' stages, as they seemed to address comparable questions.

Several aspects of the toolkit made it particularly challenging to understand, especially for novices. The sheer number of tools, combined with their separation from the worksheets, hindered overall comprehension. Many tools were described using jargon and explained only briefly, making them time-consuming for beginners to grasp.

To improve understanding, some form of prioritization or guidance on which tools to use at each stage could help users select the most appropriate ones more effectively. Visual aids could also support comprehension: for instance,

an animation explaining the process could clarify how the toolkit is intended to be used. Additionally, visually rich use cases, such as those developed in this graduation project, could further enhance accessibility and engagement.

Some activity strands, like 'Manage the Plan' and 'Agree the Scope,' may be better placed outside the main cycle, while integrating micro-, meso-, and macro-levels from 'Understand the Context' to 'Make the Case' could clarify system-level thinking. For example, a stakeholder map has a very different orientation than a patient journey. This division is reflected on in more detail in Section 10.4.3.

Finally, adding theoretical foundations could strengthen the toolkit. For example, intersectionality theory could inform understanding of patient diversity, while systems change theory could enrich the ToC tool by emphasizing how multiple, small leverage points can collectively shift a system.

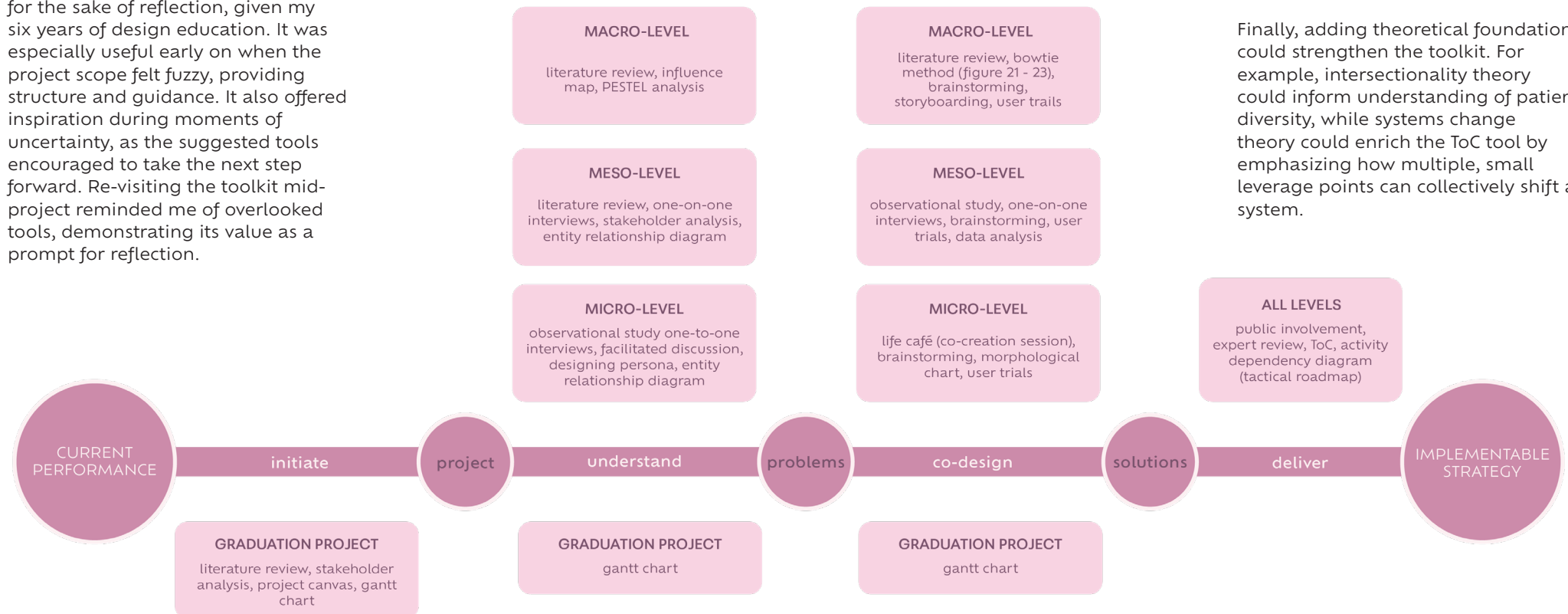


Figure 70 - Used tools of the Improving improvement Toolkit

### 10.4.3 Macro-, meso- and micro-level subdivision

The subdivision into levels developed in consultation with the supervisors proved highly valuable for structuring both the process and the outcomes. It helped focus interventions on specific areas and shaped the overall storyline of this report. Moreover, it served as a reminder of the interrelated influences within each level, contributing to a more holistic design. This section reflects on its limitations and possible usage in other design disciplines.

#### Its limitations

Though helpful during this graduation project, this subdivision does have limitations. First, the levels often overlap. For example, micro-level research on GP-patient interactions revealed systemic issues that were later addressed at the meso-level, showing that problems may not remain confined to a single level. Such overlaps can complicate reporting and categorization.

Second, terms like micro-, meso-, and macro- are not always intuitive, which can make communication with general audiences less persuasive, as observed during Dutch Design Week.

Finally, while the level division supports divergent phases of the design process by encouraging exploration across multiple aspects, it becomes less helpful during convergence. Its broad scope can create uncertainty about priorities and decision-making. Future use should focus on scoping and evaluation methods to balance and prioritise the levels.

#### Its use in design disciplines

I imagine that every design discipline can benefit from this division into levels.

This subdivision is particularly valuable for interdisciplinary fields such as process design, service design, social design, systems design, health design, circular design, and design research. These disciplines address complex, multi-variable contexts and aim for impact that extends beyond the individual. Considering the micro-, meso-, and macro-levels helps structure the design approach, integrate multiple perspectives, and ensure that solutions remain sensitive to different contexts, as demonstrated in this graduation project.

Even disciplines that seem primarily micro-level oriented can also benefit from this perspective. For example, a user-centred designer focused on products may gain valuable insights by considering macro-level factors such as technological trends and market shifts, or meso-level aspects like production and distribution. Likewise, designers working mainly for self-expression or aesthetics can reflect on how their creative process is shaped by the interplay of these three levels.

### 10.4.4 General design experience

Menopausal women's lives are shaped by designed systems that can both support and complicate their experiences, depending on how these systems interact with social, cultural, and personal factors. These complex relationships often produce unintended consequences that lie beyond direct control. There are no perfect solutions to such challenges, as they involve multiple perspectives, conflicting values, and unpredictability.

Acknowledging this complexity required a mindset of humility, an openness to not know, and to learn through dialogue. This attitude enabled constructive conversations that helped uncover hidden structures and question the values embedded in society and its systems. Through collaboration, curiosity, empathy, and respect for all perspectives, especially those whose voices are often excluded, this project sought to explore what 'good' solutions might look like. It aimed to foster adaptive learning and contribute to designing more humane systems that treat all individuals as equals. In that sense, this graduation project became a destigmatising experience in itself.

However, this approach also came with challenges. The constant uncertainty of not knowing enough made decision-making difficult, left me questioning whether my efforts were sufficient, and created a scope that was almost impossible to comprehend. Evaluation techniques felt inadequate, and trusting my own instincts was not always easy. Working largely independently helped me recognise the importance of collaboration throughout the entire design process, not only in specific phases. Actively involving the target group from beginning to end could further strengthen this approach. Establishing an advisory body to discuss key decisions might help ensure that future outcomes are more relevant, grounded, and inclusive.

*Sarah Duister  
Delft, November 2025*

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