Health misinformation

A collective challenge and a major issue for women's health

Femmes de Santé

White paper and recommendations
Supported by the Femmes de Santé Collective
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This white paper has been designed to inspire, share and advance collective thinking on infodemic and misinformation issues in healthcare, with a particular focus on women's health.

It is the result of the work undertaken by some fifteen women members of the Femmes de Santé Collective who have been involved in a working group since January 2025.

Suggested quote:
Femmes de Santé Collective et al., *Health misinformation : Collective challenge and major issue for women's health*, 2025.

The Femmes de Santé Collective

Created in 2019, the Femmes de Santé Collective is a committed community that today brings together more than 2,700 members from all sectors of healthcare: hospitals, companies, institutions, the public, private and voluntary sectors. Comprised mainly of women, the collective includes a wide range of profiles: doctors, nurses, managers, expert patients, carers, students, pharmacists, entrepreneurs, psychologists, consultants, healthcare executives, etc.

The collective's raison d'être is clear: **contribute, through sisterhood, collective intelligence and multidisciplinarity, to co-constructing a sustainable, fair and more egalitarian healthcare system.** It promotes the expertise and initiatives of Femmes de Santé, spotlighting them and giving them the means to act.

The result of a collaborative approach led by the Femmes de Santé Collective, this white paper reflects the diversity of the contributions and expertise involved. The collective is attentive and open to examining any suggestion or correction that might enhance its quality.

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- **Hadia Ripoll**

See their detailed biographies on pages 78 - 81 of this document.

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bridging for health

summary

For biographies of the authors, summaries of expert hearings and appendices, go to **www.femmesdesante.fr/livre-blanc-mesinformation**

introduction

The white paper "Health misinformation: a collective challenge and a major issue for women's health" **opens up an unprecedented perspective on how our information environment is evolving today, highlighting its specific repercussions on women's health**.

Communication methods and information-seeking behaviour have changed considerably over the last 20 years. While this increased access to information is positive in many ways, **misinformation** is now seen not only as a **major risk for our economies, but also for our preparedness for future pandemics**. *(See Part 1, A changing information environment)*

On European social networks, **nearly half of the misinformation circulating relates to health**. While some misinformation mechanisms are common to all health issues, others affect women in particular. 80% of women do not consider themselves to be fully informed about their health, even though the lack of dedicated scientific data is now objectively proven and women spend a quarter of their lives in poorer health than men. *(See part 2, The particularities of women's relationship with health information)*

This white paper therefore adopts an **educational approach** to present the **general mechanisms underlying health misinformation**, then presents a **focus on women's health** for a better understanding of the particularities of their relationship to information. *(See part 3, Providing information on women's health, a multiple challenge)*

It then presents the many solutions currently being tested in a scattered manner (See Part 4, Many but scattered avenues of solution) and proposes **structured and forward-looking avenues of action** to create a fairer and more inclusive health information environment.

Health misinformation is a collective challenge. The response to this information crisis must be multifactorial and multidisciplinary. It must involve the whole of society and the healthcare system, bringing together regulation, education, transparency and the active involvement of all those with a responsibility in the production, distribution and consumption of health information. Many of the elements included in this document also apply to men's health.
Because **health misinformation concerns everyone**, the mobilisation of all stakeholders - healthcare professionals, institutions, researchers, patients, associations, media, platforms, companies and citizens seems essential to strengthen a more comprehensible, transparent and trustworthy information landscape. *(See part 5, Recommendations of the Femmes de Santé Collective)*

The recommendations set out in this document provide a framework for reflection and concrete avenues for action, so that everyone can take ownership according to their role, resources and priorities. It is thanks to this **collective mobilisation** that we will be able to **recreate a healthier, balanced and more reliable health information environment**, an essential vector for preserving trust, bold innovation and health.

We hope that this white paper will give you the keys to getting involved at your own level, whatever that may be.
Enjoy your reading!

Key definitions

Definitions of the terms "infodemic", "misinformation", "disinformation" or "infox" [a shortened form of information intoxication used mainly in France] vary widely both in the media and in scientific literature. In French in particular, the term disinformation is often confused with misinformation, even though they are used separately in international literature.

For the work on this White Paper, which focuses specifically on the issue of health, we have chosen the following definitions as our basis:

Infodemic

Excess of information, including false or misleading information, in digital and physical environments, during an epidemic or other health emergency. (OMS[1])

Fake news or Infox in French

Terms commonly used by the media and the general public to refer to misinformation or disinformation.

Misinformation[2]

False or erroneous information created and/or shared without malicious intent.

Disinformation[3, 4]

False or erroneous information, intentionally disseminated by parties with knowledge of its false or misleading nature, for commercial, political or other purposes.

Information environment[5]

A dynamic system bringing together all the information, players and processes, covering individuals, organisations, technologies and their interactions, which shapes the way people create, share and construct meaning.

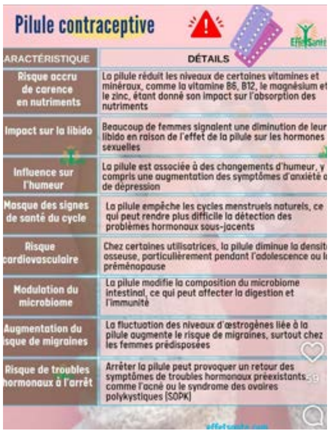
False or erroneous information[6]

Information that asserts or makes claims that are incompatible with the weight of scientific evidence accepted at the time (taking into account both the quality and quantity of evidence). Claims considered to be scientific misinformation may evolve over time, as new evidence accumulates and scientific knowledge relating to these claims advances. Scientific disinformation is defined as a sub-category of misinformation disseminated by agents who know that the scientific information they are disseminating is false.

Misinformation can include:

La pilule contraceptive est un cancérigène.

INSTRUMENTALISED FEARS



Pilule contraceptive

ARACTÉRISTIQUE	DÉTAILS
Risque accru de carence en nutriments	La pilule réduit les niveaux de certaines vitamines et minéraux, comme la vitamine B6, B12, le magnésium et le zinc, étant donné son impact sur l'absorption des nutriments
Impact sur la libido	Beaucoup de femmes signalent une diminution de leur libido en raison de l'effet de la pilule sur les hormones sexuelles
Influence sur l'humeur	La pilule est associée à des changements d'humeur, y compris une augmentation des symptômes d'anxiété o de dépression
Masque des signes de santé du cycle	La pilule empêche les cycles menstruels naturels, ce qui peut rendre plus difficile la détection des problèmes hormonaux sous-jacents
Risque cardiovasculaire	Chez certaines utilisatrices, la pilule diminue la densit osseuse, particulièrement pendant l'adolescence ou l préménopause
Modulation du microbiome	La pilule modifie la composition du microbiome intestinal, ce qui peut affecter la digestion et l'immunité
Augmentation du isque de migraines	La fluctuation des niveaux d'œstrogènes liée à la pilule augmente le risque de migraines, surtout chez les femmes prédisposées
Risque de troubles hormonaux à l'arrêt	Arrêter la pilule peut provoquer un retour des symptômes de troubles hormonaux préexistants, comme l'acné ou le syndrome des ovaires polykystiques [SOPK]

BIASED INTERPRETATIONS

LES 5 MEILLEURS CONSEILS HORMONES

1) la pilule n'est pas la solution

2) arrête de sauter le p'tit dej

3) dors comme si c'était ton job

4) arrête le café en phase lutéale

5) mets de la lumière rouge dans ta chambre le soir

UNPROVEN ADVICE

88 % pensent qu'un avortement laisse des traces psychologiques difficiles à vivre pour les femmes.

65 % pensent que la société devrait davantage aider les femmes à éviter le recours à l'IVG.

81 % sont favorables à ce que les pouvoirs publics lancent une véritable prévention de l'avortement.

80 % sont favorables à ce que soit intégré, dans le livret officiel remis aux femmes, le détail des aides aux femmes enceintes et aux jeunes mères.

Nombre record d'IVG en 2023: 243 623 AVORTEMENTS

→ SOiT 1 IVG POUR 3 NAiSSANCES

FALSE FIGURES

LA FORMATION qui te permet enfin de maîtriser ton cycle et ta fertilité

Big promo jusqu'au 31 octobre !

129€ au lieu de 349€

accès à vie

+ bonus exclusifs

Reprends le pouvoir sur ton corps

MANIPULATION FOR BUSINESS

CULTURE DE MORT : AVORTEMENT

L'argent du sang intra-utérin : l'avortement est une affaire de très gros sous

Par Michel Janva le 18 février 2019

0 commentaire / 662 vues

CECI N'EST PAS UN AMAS DE CELLULES

PROPAGANDA

Grippe et Covid-19

AVEC MES DEUX VACCINS PAPY ET MAMIE SERONT PRÈS DU SAPIN

Simplifiez-vous la vie : réalisez vos deux injections en même temps

LIES

Methodology

This groundbreaking white paper on misinformation and infodemics in women's health is based on a collective and rigorous approach.

It has been entirely co-constructed by some fifteen female health volunteers, all from the Femmes de Santé Collective, who have come together in a working group. They are healthcare professionals and experts from a variety of backgrounds (field professionals, industry professionals, academics, entrepreneurs, researchers, institutional staff or job seekers).

For eleven months, some fifteen Femmes de Santé volunteered their time:

Nearly 120 meetings

+ More than 1600 hours of work

to this work within a dynamic of a community of practice.[7]

The iterative, cross-disciplinary co-construction approach has enabled us to listen to, combine and understand a variety of field experiences, scientific knowledge and critical analyses, to produce an analysis and recommendations to better combat misinformation and disinformation.

Use of artificial intelligence (AI) :

The working group agreed to use AI for the following purposes:
- help in transcribing the recorded hearings, followed by a synthesis and manual proofreading;
- source search assistance, with manual verification ;
- helping to summarise the collective work carried out on Miro, followed by proofreading.

A solid methodological base founded on three pillars of knowledge

An **analysis of existing and available knowledge**, supplemented by a rapid review of the international scientific literature (in progress) aimed at publication in an indexed journal

Over 1500 references reviewed

Hearings from experts related to the topic, here from various backgrounds (academics, media, patient associations, healthcare professionals)

30 experts interviewed

A **mapping approach to key players and their influence** on health information. These stakeholder maps were produced using the Net-Map method and piloted in the fields of mental health and women's cancers.

2 stakeholder maps developed through 6 interview sessions

This methodology guarantees a documented **state of play**, a plurality of viewpoints and methodological robustness, **in the service of empowering, concrete proposals, directly useful for improving the health information system**.

An approach focused on desirable futures

During a Fresco of New Narratives in June 2025, the participants were able to understand the influence of narratives on our brains and our behaviour. In this way, they were able to take a dynamic approach that would enable them to remove the current socio-cognitive barriers and consider recommendations likely to inspire those involved in the healthcare system to organise a desirable information system with a view to protecting women's health.

The following approaches have guided the work: systemic and long-term solutions, *empowerment* of stakeholders, multiple and partnership approaches, proximity and humanised spaces, development of new behaviours, dreaming and projecting.

A review of the scientific literature in progress

A review of the scientific literature was launched in the first half of 2025, with the aim of mapping articles explicitly devoted to both misinformation, disinformation or infodemic and women's health. More than 1,300 scientific articles have been reviewed to date, and publication in an international journal is underway.
Three research questions guide this review, providing input for the Collective's work on ways to protect women from misinformation.

- What are the types, areas and origins of disinformation, misinformation and infodemic in relation to women's health in physical and digital spaces?
- What kinds of effects (what impact) do misinformation, disinformation and infodemic relating to women's health in physical and digital spaces have on individuals, communities, service provision, laws and policies?
- What types of interventions have been tested and documented as effective in countering these effects?

Over thirty experts interviewed

Around thirty hearings with external experts were organised. The choice of interviewees was based on their knowledge of the subject (recognised experts in the field, players involved in relevant initiatives) as well as on the needs identified for the preparation of this work.

These hearings yielded over a hundred recommendations that complemented those of the group, in particular on the importance of the concepts of critical thinking, literacy, "sensitive" information, the resources available to those involved in disinformation, the mobilisation of stakeholders, the promotion of quality links, community medicine, and the possibility of a system of constraint for those involved in disinformation.

The interview methodology was based on a structured qualitative approach using a semi-structured interview grid (see appendices) common to all the experts interviewed. This grid, drawn up in advance, defined the main lines of questioning while leaving room for participants to express themselves freely in order to gather analyses, concrete examples and proposals.

The interviews were conducted in a consistent manner and were transcribed in full, followed by a rereading and summarising exercise designed to bring out the points of convergence, the divergences in analysis and the shared courses of action. References to articles, scientific publications and documentary resources cited by the experts during the hearings were listed and included as part of the monitoring and documentary support for the collective work.

To access the list of experts and summaries of their hearings, go to
www.femmesdesante.fr/livre-blanc-mesinformation

01

A changing information environment

Our information environment has undergone a profound change in the space of a few decades.

Initiated at the beginning of the century with the advent of the internet, this has continued with the arrival of social networks, and today of artificial intelligence, generative or otherwise.

Information-seeking behaviour has evolved towards a more experiential, sensitive search for information, orchestrated by content marketing and ubiquitous algorithmic bubbles.

Recently, we have also seen a growing desire among citizens to form their own opinions, accompanied by increasing distrust of the media and the authorities.

However, this transformation of the information environment has also been accompanied by a proliferation in the circulation of false, erroneous or misleading information, commonly known as fake news.

The topics covered by fake news stories currently circulating are extremely varied. On European social media, health-related content tops the list by a wide margin[8]

Since the COVID-19 crisis, the phenomenon of change in the information environment has come under increasing international scrutiny, particularly in the field of health information.

In France, there are many possible solutions and actions to remedy the specific consequences of this change on health, but to date they remain scattered and in their infancy.

43%
of posts considered as misinformation on the networks concern health[9]

A health information infodemic

Many healthcare players[10] have seized the opportunity of widespread access to information , allowing everyone to create, consult, distribute and promote their content with little or no constraint.

This liberalisation of information has many educational, ethical and democratic virtues, but it is also accompanied by negative effects on health and the economy.

The phenomenon became clear for all to see during the COVID-19 pandemic. The World Health Organization (WHO) has given a name - "infodemic" - to this surge of information of widely varying quality, online or offline, during a health event[11].

All over the world, false or misleading information has hampered the proper health response to the pandemic, blurring the reference points for decision-making and the implementation of protective behaviours for public and individual health.

The examples are unfortunately numerous: demonstrations in Brazil and the United States to gain access to ivermectin[12], several hundred deaths (around 800[13]) from methanol poisoning in Iran, refusal to wear masks or even refusal of vaccination[14].

A digital jungle conducive to infox

For the experts, there are several types of "fake news". Disinformation, intentionally disseminated by manipulative actors for commercial, political or military purposes, often makes the headlines in our newspapers.

But it is not alone in polluting the health information environment. Misinformation is often conveyed in good faith.

In 2022, a World Health Organization systematic literature review[15] showed that 51% of social network posts about vaccines contained misinformation.

While misinformation spreads to all aspects of everyday life, from the family lunch table to the workplace coffee machine, digital environment and social networks are particularly conducive channels for it to circulate[16] :

- **In 2020, an American team[17] reported that 44% of Instagram posts about the HPV vaccine expressed anti-vaccine sentiments, 72% of which contain unsubstantiated claims.**

- **In 2023, an American team[18] reported that 73% of TikTok posts about gynaecological cancers were inaccurate.**

The problems posed by social networks are not limited to the provision of content that is dangerous to the health and even to the lives of users.

The recent report by the Parliamentary Commission of Inquiry into the psychological effects of TikTok on minors[19] reports, for example, that the platform, via its algorithms, also encourages the spread of negative political ideologies that are contrary to human rights through the mechanisms of algorithmic viralisation of problematic content, also deployed on other platforms[20] (e.g. racism, anti-Semitism, glorification of terrorism, sexism).

In 2022,
51% of posts about vaccines on social networks contained misinformation.[15]

Multiple health issues

The consequences of the circulation of misinformation are manifold, on both a societal and an individual scale[21,22].

On an individual level, the impacts on health are :

- **Risks associated with incorrect healthcare decisions:**

delay in diagnosis; loss of opportunity; worsening of the disease; refusal or misuse of treatment (non-observance, iatrogeny, inappropriate use); adoption of dangerous practices, in particular taking remedies of non-scientific efficacy; spread of infectious diseases (e.g. failure to apply preventive measures, refusal to vaccinate).

- **Risks of psychosocial effects :**

misinformation about health (including disinformation and misinformation), particularly in times of crisis (pandemics, health emergencies), generates anxiety, confusion, mistrust, risk-taking behaviour and social isolation.

Another impact at the individual level is frequently cited, that of the **financial impact** : in search of solutions, citizens, and in particular women, may be led to test solutions whose marketing is misleading and whose cost is high[23].

On a collective level,

- **risks associated with overloading weakened healthcare systems**

are also a feature of misinformation in healthcare, which can lead to an influx of patients into hospitals or to economic consequences in terms of treatment for reasons that are not medically justified.

- misinformation can **harm social cohesion**.

It can divide communities, reduce confidence in the recommendations of health authorities, and create tensions, stigmatisation and/or polarisation (e.g. between pro- and anti-vaccine groups) under the influence of political manipulation.

In Canada, the **economic impact of misinformation** about the COVID-19 vaccine on society was studied between March and November 2021[24], pointing to $299 million in additional hospital costs.

Who do the French trust to look after their health?

Source : 2025 Edelman Trust Barometer Special Report: Trust and Health.

Finally, this phenomenon can slow down or even **hinder scientific progress and its dissemination** to as many people as possible, particularly with the adoption of false beliefs diverting attention from genuine discoveries or even by slowing down the adoption of new technologies or treatments, as was the case, for example, with messenger RNA vaccines[25].

The **loss of trust in healthcare institutions and professionals is at stake** and a climate of mistrust may be associated with scientific recommendations. The scale of this phenomenon, increased by the speed of dissemination of erroneous content made possible by digital technologies, accentuates the public's vulnerability to fake news and represents a major issue for both public health and social cohesion[26].

The French are aware of the problem

According to a study in early 2025[27], 90% of French people believe it is important to combat "fake news" in the healthcare field.

According to the same study, 47% of French people say they have already been confronted with false health information (up 10 points on 2020), and of these, 43% say they have made a decision based on false information, a figure that rises to 60% among the under-35s.

According to the same survey, the French are in favour of strengthening the transparency of sources, the control of health information and legislation against the deliberate dissemination of fake news.
They are also calling for prevention campaigns to raise public awareness (particularly of the consequences of fake news).

And when asked who should take the lead in this fight, doctors and healthcare professionals come out on top, followed by the State, public and private healthcare players and the scientific community.

An international threat to global health and science

At the time of publication of this White Paper, a year after the work began, the international situation is even more worrying. Global health and science have become the target of numerous political and militant attacks.

In the United States, the new government in power since the beginning of 2025 has implemented a number of measures that are affecting the smooth running of healthcare institutions, not only in the United States but worldwide:

- research projects explicitly targeting equity, gender, diversity and minorities are, for example, already censored there, with predictable repercussions in terms of quality and access to scientific advances in health[28],
- the current US Secretary of Health, a notorious critic of vaccination[29], openly attacks the major scientific journals, accusing them of not applying the "gold-standards" of science and of being corrupt[30],
- the repercussions of the sudden closure, in early 2025, of the US Development Agency (the powerful equivalent of the AFD in France) are estimated at 14 million additional deaths of all ages worldwide by 2030, including 4 million children under the age of 5[31].

47%

of French people report having already encountered health misinformation[27]

02

The particularities of women's relationship with health information

At the World Economic Forum in Davos in January 2024, **three key figures**[32,33] are announced:

1. **Misinformation and disinformation are becoming the world's number one risk in the short term (2 years), ahead of climatic events and societal polarisation,**
2. **Tackling the health gap between women and men could potentially boost the global economy by at least $1,000 billion a year by 2040,**
3. **Despite living longer than men, women spend 25% more of their lives in poor health.**

The subject of the characteristics of women’s health information is therefore more topical than ever, both in terms of women's relationship with health information and the quality of the information available on women's health.

Strong demand and need for health information

With 56% of their burden of disease due to health problems that are more frequent and/or manifest differently in them, **women have a need for health information specific to their characteristics**[34].

However, care pathways take little account of women's physiological particularities, and certain symptoms - particularly those of diseases that manifest themselves differently in women (such as certain cardiovascular diseases) - are invisible, minimised or even devalued.

In addition to the lack of information and scientific data[35], the persistence of gender stereotypes has its part to play in this phenomenon, **with more than one in two women stating that they have been subjected to gender bias in the course of their care**, whether by healthcare professionals or those around them[36]. In the 2024 Femmes de Santé – CSA Survey on "Women's perception of their health" of a panel of women representative of the French population, 46% of the women questioned found it difficult (15% "very difficult") to talk about their health to a close relative, and 33% to healthcare professionals. Shame, not being listened to, taboos and fear of worrying someone were the elements most cited among the reasons for these difficulties[37].

In the end **only 2 out of 10 French women consider themselves to be fully informed about changes in health over the course of their lives.** Fewer than 3 in 10 women feel fully informed about prevention, screening and the frequency of their follow-up[38].

Given these difficulties, the advent of the Internet and social networks has had a positive impact on the possibility of exchanges between peers within virtual groups, removing certain communication barriers and providing psychological as well as informational support to women lacking information about their health[39]. Unfortunately, these **talk forums are also vectors of misinformation and pseudoscience**.

There is another reason why women have a special relationship with health information: their central role within their close and/or extended family, whether in the management of the disease, in healthcare in the strict sense of the term, or in the management of healthcare in the global sense, i.e. the social, psychological, dietary, quality of life, prevention and support aspects.

The OpinionWay survey, commissioned by the Qare teleconsultation platform in February 2022, reports that **67% of women feel that they are the main parent who looks after all the children's medical tasks**, a proportion that rises to 82% among the upper socio-professional categories known as CSP+ (executives, company directors, etc)[40].

In this context of **active search for health information**, the questions, concerns, and information gaps that make up the infodemic provide fertile ground for the spread of and sensitivity to misinformation.

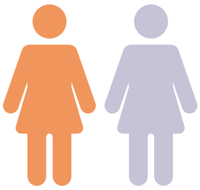
Women, who are highly exposed to it for all the reasons mentioned above, can therefore be either a driver of misinformation in spite of themselves, or a bulwark against it if they are sufficiently equipped to deal with the information environment.

As a result, their **education in the consumption of reliable health information** whether to meet their own needs and the needs of their loved ones, to compensate for the shortcomings inherent in the healthcare relationship or sometimes even in the therapeutic vacuum, become key to combating misinformation.

1 in 3 women
finds it difficult to talk to healthcare professionals about her health

2024 Femmes de Santé – CSA Survey on "Women's perception of their health"

Survey results 2025 "Women's perception of their health"



Nearly one in two women are very concerned about health misinformation

46% of French women are very concerned about false health information

43% of women do not feel sufficiently informed about the health risks of false information

The healthcare professional, a credible reference source

When they have a health question, women consult first:

- **a healthcare professional[1] (66%)**
- **Internet, AI or social networks (19%)**
- **an institutional source[2] (7%)**
- **their relatives (5%)**

FOCUS ON THE 18-24 AGE GROUP: Concerned about misinformation, but confident in the advice of those closest to them

51% feel very concerned about false health information

but only **33% do not think they are sufficiently informed** about the risks of health infox.

They get more information about their health primarily from **those close to them** (18% compared with 5% on average)

They give almost as much legitimacy to a source of "good advice" in their circle of friends (78%) or to someone who has had an identical personal experience
(78%) as to a public body (81%) or recognised academic training (81%)

67% have already made a decision about their health based on inaccurate or misleading information. (10 points above the national average)

csa CONSUMER SCIENCE & ANALYTICS X

Nearly 3 out of 5 French women

think they have already made a decision about their health based on inaccurate or misleading information

FOCUS ON THE OVER-65S:

The healthcare professional[1], a credible reference source

60% are very concerned about health misinformation

44% do not think they are sufficiently informed about the risks associated with health misinformation

82% consult a healthcare professional first[1]

Only **39%** report having already ever made a decision about their health based on inaccurate or misleading information (18 points below the national average)

Two main sources of this misinformation were cited:

- **37%** Internet, social network exchange, AI, influencer
- **34%** A healthcare professional[1] (27%) or a health institution[2] (7%)

With a large generation gap:

- **67% among 18-24 years old**
- **39% in the + 65 years**

Almost 40% of these women have seen the consequences, the most frequently cited are:

- deteriorating confidence in the source
- the ineffectiveness of the recommended treatment

29%

of 25-34 year olds consult the internet, AI or social networks first when they have a health question (10 points above the national average)

CSA survey in collaboration with Femmes de Santé (1003 women surveyed, representative of the French population in terms of age, SPC and region)

[1] general practitioner, specialist, pharmacist, occupational physician, other

[2] Ameli, ministry of health, mutual insurance

A wide range of information providers, with varying degrees of influence

A mapping of the key players in health information and their influence was carried out by the working group on the basis of the Net-Map methodological approach developed by Prof Eva Schiffer[41, 42].

› Mapping methodology adopted: drawing subjectively

Two women's health themes have been explored: cancers (developed below), and mental health (presented at the Etats Généraux 2025 by the Femmes de Santé Collective, available online and on request).

These themes were chosen by the working group on the basis of the ease of contacting potential participants for the interviews.

The oncology mapping presented on the following page was carried out face-to-face using paper, post-its and felt pens, while the mental health mapping was carried out remotely using a virtual whiteboard. The same interview guide was used. This is available in the appendix.

The graphical approach allows you to visualise very quickly, "thanks to the reduced space of a drawing", the positioning and links between numerous players active in the women's information ecosystem and to qualify the relationships between them - such as cooperation, opposition, dependence or lack of relationship.

In practice, **3 successive interviews were planned for each of the mappings**: a woman with experiential patient knowledge, then a field practitioner confronted with the subject of misinformation and finally an institutional representative. The order in which the interviews were conducted was deliberate, in order to hear from those who need the information most and to get feedback from those who receive and regulate it.

The challenge in positioning the links between the players was to identify the risks that could generate misinformation.

> An over-consumption of information linked to a lack of structure

In these maps, it was observed that all the players in the healthcare system participate in the information ecosystem, with two specific features:

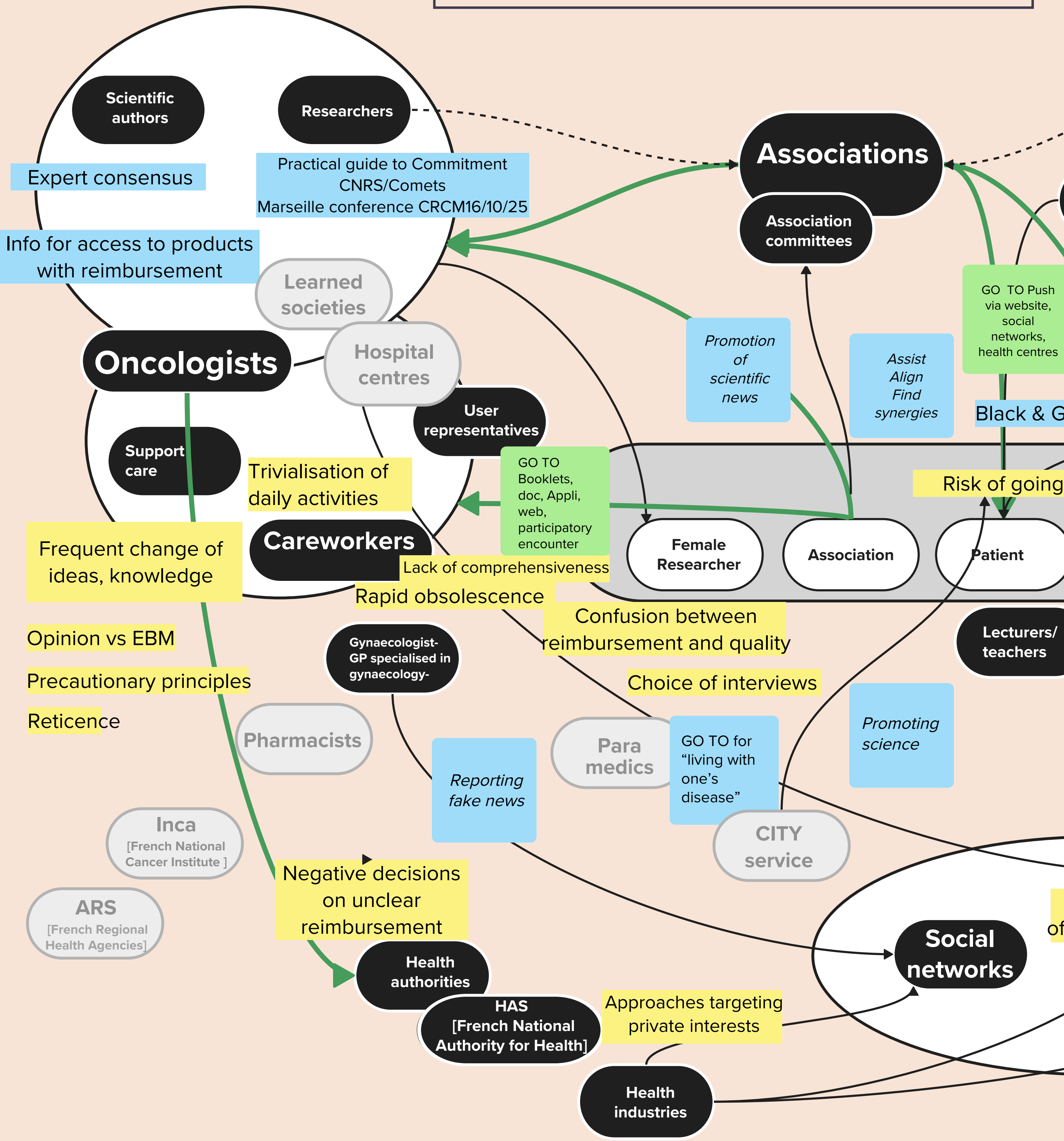
- **the major and expected role of content creators on social networks** who may be healthcare professionals, people directly affected by the disease or content creation professionals supporting the care system,
- one player that is unique and destined to develop as the social link seems primordial: the **event organisers calling on patient associations.**

Women can find reliable information from a wide range of sources, even if:

- sources of information appear redundant or even discordant (indistinct, uncoordinated institutions),
- some topics of interest are over-invested and others under-invested (likely influence of commercial dynamics),
- the heterogeneity of the players and therefore of their levels of responsibility and constraints (Researchers >> Media >> Content creators) can serve as loopholes for misinformation.

Discover the subjective mapping of the information system for women undergoing oncology treatment on the following page

Subjective mapping of the players in the information system for women undergoing oncology treatment



Scientific authors

Researchers

Expert consensus

Practical guide to Commitment
CNRS/Comets
Marseille conference CRCM16/10/25

Info for access to products with reimbursement

Learned societies

Associations

Association committees

Oncologists

Hospital centres

User representatives

Support care

Promotion of scientific news

Assist
Align
Find
synergies

GO TO Push via website, social networks, health centres

Black & G

Trivialisation of daily activities

GO TO
Booklets, doc, Appli, web, participatory encounter

Risk of going

Careworkers

Female Researcher

Association

Patient

Frequent change of ideas, knowledge

Lack of comprehensiveness

Rapid obsolescence

Confusion between reimbursement and quality

Lecturers/ teachers

Opinion vs EBM

Precautionary principles

Reticence

Gynaecologist-GP specialised in gynaecology-

Choice of interviews

Pharmacists

Promoting science

Para medics

GO TO for “living with one’s disease”

Reporting fake news

CITY service

Inca
[French National Cancer Institute]

ARS
[French Regional Health Agencies]

Negative decisions on unclear reimbursement

Social networks

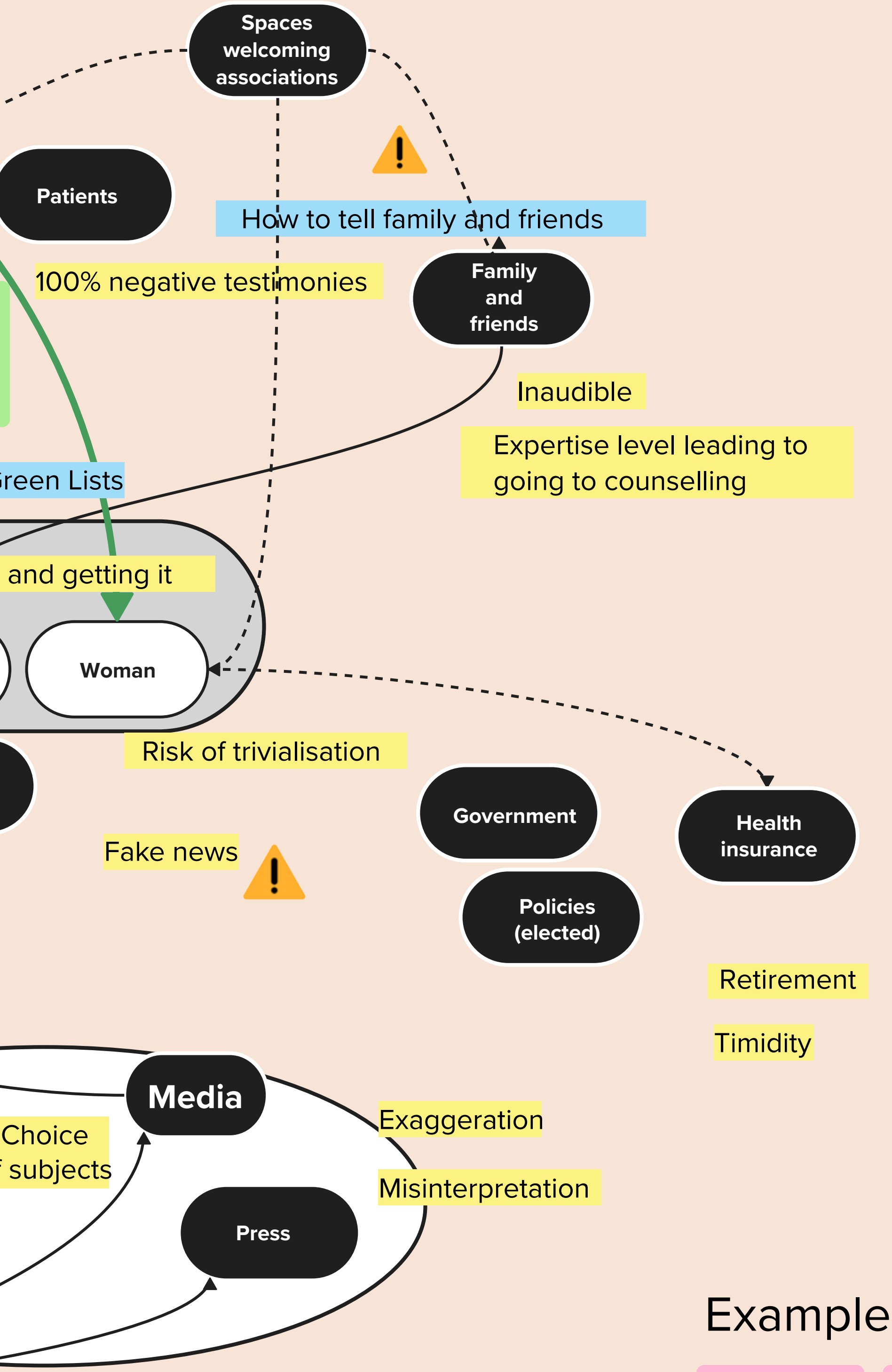
of

Health authorities

HAS
[French National Authority for Health]

Approaches targeting private interests

Health industries



Spaces welcoming associations

Patients

⚠ How to tell family and friends

100% negative testimonies

Family and friends

Inaudible

Expertise level leading to going to counselling

reen Lists

and getting it

Woman

Risk of trivialisation

Government

Health insurance

Fake news ⚠

Policies (elected)

Retirement

Timidity

Media

Choice
f subjects

Exaggeration

Press

Misinterpretation

LEGEND

↔ Bidirectional flow of information

→ Unidirectional flow of information

⇢ Recent and impactful flow of information

→ Highly impactful flow of information

Examples

Communi
cation
channel

Type of information

Type of risk experienced

⚠ Type of risk

Risk zone

Actors cited by a patient

Actors cited above by a health professional

Examples cited

Use of morphine products	Urinary infections and cancer	PAC implantation	Low-visibility prevention campaigns
Use of vaccines	Nutritional information	Malpractice	Early and systematic collective educational intervention

Faced with the plethora of players involved in the information system, patients consider first and foremost the local players and/or those who correspond most closely to them, which is not necessarily the most satisfactory from the point of view of reliability of information.

Three elements play on the quality of the information environment:

1. **understanding the scope of scientific work and the limits inherent in the nature of the players**: researchers obliged to share it but not always equipped to popularise it; healthcare professionals lacking the time to explain it; patients underequipped to integrate it into their way of thinking.
2. **the visibility and synchronisation of all the healthcare players** : for the patient to be properly informed, the relationship with the people taking care of her requires a genuine meeting (being on the same time scale, establishing a level of trust to dare to clearly communicate what they know). An organisation that is not clear to the patient can be a source of "informational distress".
3. **the lack of recognition and coordination of players to make reliable information visible, accessible, complete and actionable**: undervaluing the work of associations, lack of time and skills in popularising science among scientists, variable reliability of content publishers.

One piece of good news: the link between patient associations, researchers and healthcare professionals seems to be becoming more structured. This collaboration makes it possible to integrate experiential knowledge, which facilitates the appropriation of information that is more rooted in the reality of the patient/user (oncology) or raising awareness among the general population to limit stigmatisation (mental health).

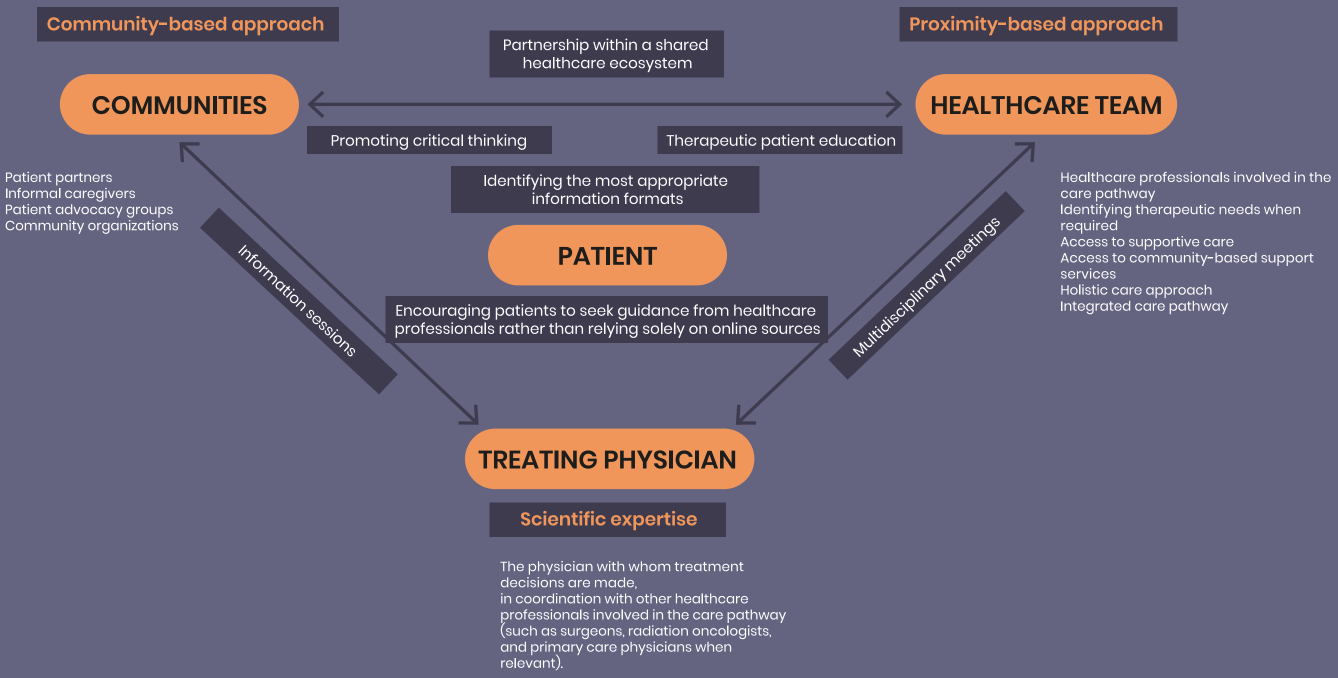
› Visualize patients' informational structure and triangulate

It emerges from this mapping work the interest of patients in seeking as much scientifically validated information as sensitive information[43] as for other topical issues. This sensitive information, such as the testimonies of patients and carergivers, provides immediate and direct knowledge that can give people a lasting impression of how to make progress in their own lives.

The work even highlighted the value of adding a third information hub: that of the local area (care, town).
The following structure was devised and added to during the interviews:

The virtuous triangle of health information for women along the care pathway

To be mobilized at every stage, life transition, and patient question



Community-based approach

COMMUNITIES

Patient partners
Informal caregivers
Patient advocacy groups
Community organizations

Partnership within a shared healthcare ecosystem

Promoting critical thinking

Therapeutic patient education

Proximity-based approach

HEALTHCARE TEAM

Healthcare professionals involved in the care pathway
Identifying therapeutic needs when required
Access to supportive care
Access to community-based support services
Holistic care approach
Integrated care pathway

Identifying the most appropriate information formats

PATIENT

Encouraging patients to seek guidance from healthcare professionals rather than relying solely on online sources

Information sessions

Multidisciplinary meetings

TREATING PHYSICIAN

Scientific expertise

The physician with whom treatment decisions are made,
in coordination with other healthcare professionals involved in the care pathway (such as surgeons, radiation oncologists, and primary care physicians when relevant).

The aim would be to ensure access to an operational information system meshed within the healthcare system, in the form of a **virtuous triangle of reliable players** close to the patient: scientific expertise (doctors, reliable news), a local team (care, town), a sensitive community (neighbourhood associations, patient associations, peer support, etc.).

This would enable the patient to "triangulate her information", and be a stakeholder in an informed decision.

Confidence, public health challenge

In the wake of the COVID-19 crisis, a number of researchers have looked at trust, its influence on the effectiveness of the health response, and the influence of misinformation on this response.

Trust is multidimensional. It is situational, a function of context and past experience. Trust is also about relationships. It depends on the person or thing you trust, and their reliability.

To be confident you need:
- **belief in the ability or competence** of an individual, product or institution to deliver what is expected of them,
- and/or **believe that the intentions** of individuals or the institution **are benevolent and fair**[44].

Recent surveys[45] of French people on their confidence in sources of health information reflect these determinants of confidence. Legitimate health experts are people who have:
- recognised academic training
- personal experience of health issues
- or have provided good advice in the past

Misinformation, a threat to women's mental health

A 2025 report by the Women's Mental Health Network stresses the importance of adopting differentiated public policies, integrating awareness of informational biases with reinforced societal support (social security, facilitated access to psychological care) specifically designed for women vulnerable to the deleterious effects of misinformation[46].

The study[47] **of women's experiences of online health misinformation indeed shows** nearly ubiquitous exposure to content mixing non-validated recommendations, dramatised personal accounts, and commercial discourses specifically targeting women's health such as perinatal mental health. The psychological impact of this misinformation manifests itself in increased anxiety symptoms, widespread doubt about medical diagnoses and treatments, and erroneous self-diagnosis processes. **In mental health, misinformation has specific features**: it increases distress, reinforces doubt about diagnoses, blurs the boundary between individual experience and professional expertise, and encourages self-diagnosis, which is often erroneous. The psychological impact of this misinformation manifests itself in increased anxiety symptoms, widespread doubt about medical diagnoses and treatments, and erroneous self-diagnosis processes.

Research published in 2025[48] shows that **young women, particularly graduate students, make massive use of social networks to seek answers to their mental disorders,** but in doing so they expose themselves to numerous misinterpretations, strongly correlated with an increase in depressive and anxiety symptoms. They often develop avoidance strategies (such as over-consumption of digital content), which perpetuates a vicious circle of isolation and distress.

More broadly, epidemiological data shows that women suffer more chronic stress linked to social factors (income inequality, increased family burden, domestic violence) which exacerbate the negative impact of misinformation. A clear link is established[49] between perceived gender discrimination and impaired mental quality of life, with a greater reduction in life satisfaction among women exposed to misinformation about health. Induced anxiety also increases the risk of not seeking care or resorting to unproven practices.

Beyond the psychological aspect, these phenomena have social and clinical consequences. Several reports[50] point out that the **saturation of contradictory content is driving some women away from qualified professionals**, preferring alternative or community-based solutions relayed by influencers or online groups, which promote, for example, scientifically unvalidated "cures" for perinatal mental health or anxiety disorders. This tendency can delay accurate diagnosis and effective treatment, increasing the chronicity and severity of disorders.

The marketing dimension of well-being adds a layer of complexity: it instrumentalises women's mental health by proposing commercial solutions, rituals, applications or food supplements that exploit psychological distress and the search for performance or relief[51]. This commercial content, often propagated by influencers or micro-brands, reinforces the confusion between validated professional help and commercial promises, adding to the mental burden and potentially distracting from scientifically proven therapeutic strategies.

03

Providing information on women's health:

a multifaceted challenge

Health information is at the heart of multiple changes in the French healthcare system: difficulties accessing healthcare professionals, growing recognition of associations and expert patients /partners, and taking gender bias into account in medicine, which are reshuffling the cards in terms of access to information and the trust and credibility placed in it.

The rise of digitisation and AI and the growing influence of social networks are also having a strong impact on the information environment.

Finally, **marketing dynamics and the use of non-conventional medicines** can be a major, and sometimes dangerous, source of misinformation.

Determinants of the health information environment

The health information environment is influenced by a complex set of cultural, technological and socio-political factors.

The WHO, in its work on infodemic management during the COVID-19[52]crisis, identified several structuring dimensions for the health information environment:

Policy and regulatory framework which sets out the responsibility for providing reliable health information

The commercial determinants of information, i.e. private sector practices (algorithms, economic logic, content marketing) that have an impact on the quality, distribution and amplification of health information.

The availability of reliable and transparent health information, designed and distributed to meet people's information needs and promote healthy behaviour

Equity in health information, i.e. the availability and accessibility of health information and infrastructures for all populations, adapted to their socio-economic characteristics and level of vulnerability, in acceptable and usable formats and channels

The mastery of digital tools and informational, scientific, and health literacy, which not only enable users to understand health information and act accordingly, but also to recognize health misinformation.

During the year of work and reflection by the Femmes de Santé group who drafted this White Paper, these five determinants were often used as common threads in their reflections.

Current tensions over women's health information

Following the structure of the determinants presented above, this chapter delves into the various challenges that make women's health information environment particularly complex, paving the way for the adoption of inappropriate behaviours fuelled and sustained by misinformation, or even disinformation.

> Tensions relating to information availability and equity within the healthcare system

#1 A lack of data and medical training on women's health

Women remain vastly underrepresented in clinical research, with only 10% of health research budgets devoted to them[53]. Historically excluded from trials to avoid any risk of affecting a possible foetus, they are still poorly or rarely followed up in studies. Unanticipated side effects are therefore not uncommon in treatments designed on the basis of male physiology[54].. **They continue to be under-diagnosed in serious pathologies, such as heart attack**, whose sometimes atypical female symptoms are unrecognised[55].

Caregiver training has not yet adapted: many faculties do not have a module dedicated to gender differences or female pathologies outside of reproduction[56,57]. As a result, carergivers may lack practical guidelines for correctly interpreting symptoms or adapting treatments for women, leading to delays in diagnosis, generic or inappropriate therapeutic choices, and opening the door to misinformation and non-evidence-based approaches.

So, without a specific scientific data base and without medical training that fully integrates the woman/gender dimension, **it will be difficult for proper care of women's health to progress**.

Moreover, several recent publications denounce a major ethical and technological turning point for scientific publishing[58,59]. Misinformation is not the result of isolated errors, but of a system weakened by pressure, economics and technology. There are several systemic causes of this phenomenon: the explosion in the number of scientific journals without enough qualified experts to assess articles properly, academic and economic pressure to publish, lack of resources and editorial rigour, misuse of technology, and a lack of a culture of scientific integrity.
But the development of tools to detect fraud in scientific literature and the growing mobilisation of an international community show that a more honest and verifiable science is still possible, provided there is a collective will to act throughout the

chain: authors, publishers, institutions, journalists and the general public. **Using literature of low scientific quality as a source is indeed one of the sources of health misinformation to be taken seriously**.

#2

A care system under strain, a catalyst of misinformation and infodemic

In 2023, the French population will only benefit from an average of 3.3 consultations per year per inhabitant, compared with 4.06 in 2015[60, 61]**.** These data, which illustrate a **deterioration in access to healthcare professionals, are not gendered**, but it is likely that women particularly suffer because of their specific healthcare needs (contraception, gynaecological monitoring, maternity, sexual health centres, among others).

While recent measures proposed by the State do exist (e.g. free contraception up to the age of 26, full coverage of telemedicine consultations and preventive check-ups, extension of the remit of nurses, pharmacists and midwives), they do not compensate for the reduction in consultation time, which **limits exchanges and information and leaves patients looking for supplements**, particularly online, where quality is heterogeneous and reliable sources non-existent or little known.

Several recent government reports point to the need to reorganise women's care in perinatal care[62], gynaecology[63], and psychiatry in particular[64]. As a result, temporary or permanent maternity unit closures compromise prenatal care[65]. **In the field of mental health, there is a difficulty in accessing care**, from child psychiatry to post-partum monitoring or the menopause period, which particularly affects women, whether this concerns perinatal depression, anxiety disorders or intra-family violence[66]**.**

So the combination of "restricted access + compressed medical time + disrupted pathways" could reinforce the reflex to seek medical information on social networks. Sensationalist messages about contraception, vaccinations and the menopause circulate faster than available appointments, leaving women more exposed to misinformation.

This convergence is not just a question of healthcare provision: it is also fuelling an information ecosystem in which rumour takes precedence over clinical advice, directly undermining women's health.

#3 An asymmetry of information between caregivers and patients

Information asymmetry, i.e. the systematic gap between the knowledge held by healthcare professionals and that of patients, provides fertile ground for misunderstanding, feelings of being called into question and increased vulnerability to misinformation.

The literature points out that the classic model of the medical appointment is based on a structural inequality: the caregiver has technical expertise, clinical data and documentary resources, while the patient arrives with her symptoms and experiences, but often with fewer tools to interpret what is suggested or recommended.

This **informational dependence** is described by some as a "foundation of the medical enterprise"[67]. This dependence is not negative or denounced; it is simply part of the care relationship. However, **the changing information environment and increasing exposure to misinformation means that it must be given greater attention to prevent it playing into the hands of low-quality information**.

Indeed, in a context of access to the internet or other widespread sources of information, the asymmetry does not disappear: the ability to question, reformulate and negotiate options remains unequal, even though women arrive with a higher level of information (accurate or inaccurate).

This asymmetry can manifest itself in :

- inadequate medical explanations of treatment options, risks or uncertainties,
- patients who don't ask questions for fear of disturbing or appearing "ignorant",
- voluntary withholding of information (the patient hides information) or involuntary (the professional thinks he has explained everything, but the patient has not understood).

For consent to be truly informed, the information (benefits, risks, alternatives) must be presented, heard and understood.

When the patient does not fully understand the stakes, statistics and probabilities, or has not been invited to participate actively in the decision, space opens up for alternative logics: rumours, testimonials, social networks, which fill the explanatory void left[68].

Information asymmetry within the care pathway is therefore not only a determinant of trust, but also a major lever for preventing erroneous information from entering a vulnerable decision-making terrain.

#4 Gender stereotypes need to be deconstructed to combat misinformation

Current training courses for caregivers do not yet sufficiently integrate the concepts and consequences of gender stereotypes and the specificities of women's health, which has an impact on prevention and care. In France, the report on Sex, Gender and Health (Haute Autorité de Santé[69]) and the white paper Women's Health – Fresh Perspectives and courses of action [70] (Fondation de l'Académie de médecine) call for these issues to be integrated into medical training and practice.

This deficit encourages, for example, under-diagnosis of pain and differentiated management[71]. The Nijmegen scale (N-GAMS), validated in France among general practitioners, highlights uneven awareness and persistent gaps on the subject, underlining the importance of better integration of issues specific to women's health, in initial and continuing training[72]. Faced with these findings, some learned societies, such as the French Society of Intensive Care (FICS), are already advocating workshops dedicated to cognitive gender bias[73].

Evolving training and practices to take account of issues specific to women's health would also be acting against misinformation in health and contributing to better protection for women in the face of persistent inequalities.

› Tensions over digital, information and health literacy

#1 Internet and social networks: new channels for disseminating and accessing information

Since the early days of the Web (1990s), women's access to health information has been structured online, long before social networks. Women's WIRE (1992-1995), the first digital space dedicated to women, offered forums, advice and medical information, preceding the rise of the consumer Web.

But a certain amount of misinformation quickly spread and continues to do so. A narrative review (2024) of 112 types of misleading reproductive health content (contraception, abortion, fertility) online found that 23% disseminated medical recommendations contrary to professional guidelines[74]. The arrival of social networks in the 2000s amplified this phenomenon, with their recommendation algorithms encouraging misleading content to go viral.

For example, a study of TikTok found that over 65% of young women used the platform to search for health information and perceived a high presence of misinformation[75].

The European Commission, moreover, points out that the manipulative algorithmic systems of the major platforms amplify misinformation and constitute a systemic risk, which is what motivated the risk-reduction obligations under the Digital Services Act[76].

#2 The development of peer support and the growing recognition of patients' voices

Social networks, forums and associations provide a place to exchange ideas, share experiences and offer support.

They help to break patients' isolation and raise awareness of conditions that have long been invisible in the public arena, such as endometriosis, PCOS (polycystic ovary syndrome), uterine fibroids, premenstrual dysphoric disorder and infertility.

In addition to women's health, they have also played a central role in raising awareness and developing knowledge about chronic diseases such as the human immunodeficiency virus, certain cancers and diabetes.

This process of patients helping each other has a name: peer support. A person who has experienced a difficult health situation (**the peer helper**) mobilises their **lived experience to accompany**, support and help another person experiencing a similar situation.

Historically an essential part of health democracy, peer support is now playing an increasingly important role, particularly for women, in managing their own health, whether or not they have been diagnosed with a medical condition.

The concept of the " **patient expert** ", or "patient-partner" is relatively recent[77]. **It was introduced in France in the early 2000s, notably through the work of** Didier Sicard (chairman of the National Consultative Ethics Committee) and the first therapeutic education initiatives[78]**.** An expert patient is a **patient with a chronic disease**, who has developed an **in-depth knowledge** of their disease and has often received **specific training** to intervene in:

- Therapeutic education,
- Peer support,
- Training professionals,
- Health research,
- Health policy development.

In France, users' rights, participation and representation are now governed by several texts[79]**.** But with the rise of social networks, spaces for expression where patient voices, medical information, influence and advertising intersect, **health democracy has taken on a new dimension, partially escaping its initial legal framework**. The hierarchy of information is much less certain.

A diversity of players and intentions at the root of an information fog

Example of information on polycystic ovary syndrome (PCOS)

Today, a variety of people are speaking out about PCOS[80]: committed patients, structured associations, healthcare professionals involved in educating the public, as well as influencers and commercial players.

This diversity can be a source of richness, as long as clear guidelines are provided to distinguish between scientifically validated information, personal opinions and commercially motivated discourse.

In a context where medical care often remains unsatisfactory, many patients say they lack time for their health and turn first to the Internet for information.

A questionnaire conducted in 2024 among 282 PCOS patients (more than 2 million women affected in France) shows that :

social networks are the primary source of information for

75%

participants, ahead of associations (60%) and the medical profession (20%).

44%

in the 12 months following their diagnosis, used additional support found on Instagram to make up for a lack of medical information

85%

trust the advice of another patient as much as a doctor.

20%

can no longer tell the difference between a health professional and a wellness professional when faced with so many different products on offer.

These results highlight a veritable information fog that leaves patients vulnerable, especially when accompanied by contradictory messages or unsupervised commercial offers.

Source : E. HELUIN. Social networks in the public arena and health democracy: development and limits of peer support and self-proclaimed expertise in the evolution of recognition of polycystic ovary syndrome. DU Démocratie Sanitaire 2023/2024 dissertation. Faculty of Medicine - Sorbonne University
https://scan.page/p/uc0H7O

#3 The media, channels or barriers to misinformation about women's health

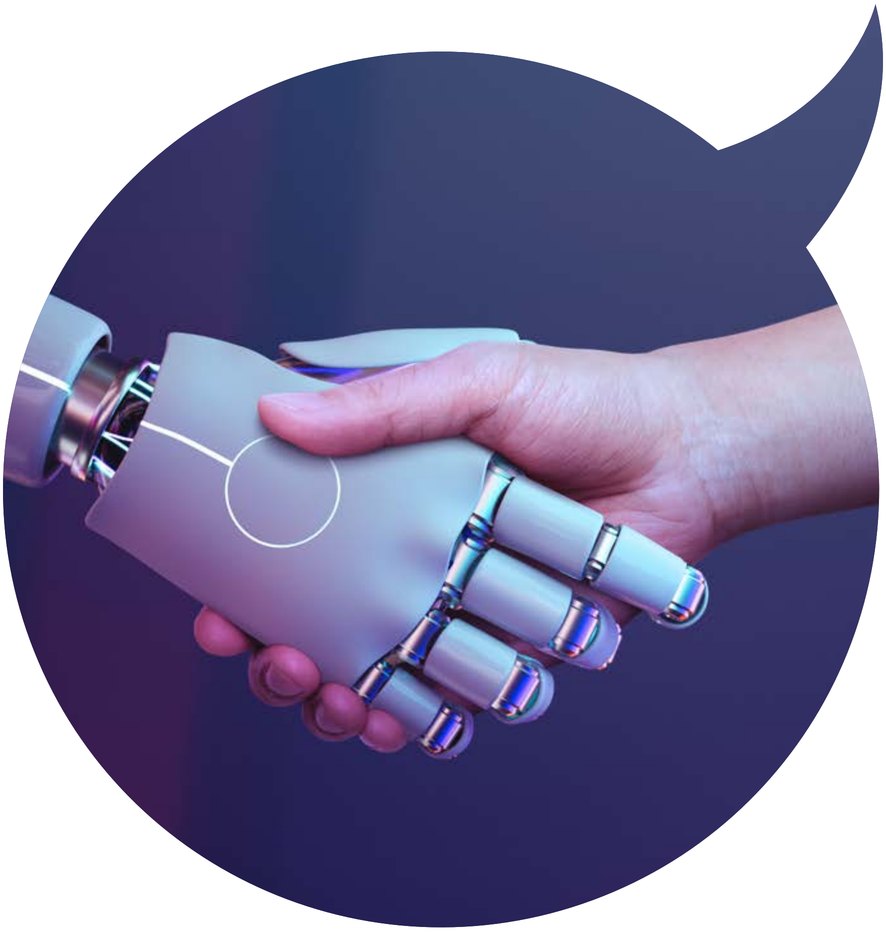
In the French media landscape, women's health suffers from a twofold distortion: poor representation of female experts and an often emotional rather than scientific treatment of information on women's health. **According to the CSA report on the representation of women in the audiovisual media during the Covid-19 pandemic, only** 20% of the experts invited to speak were women[81], even though they represent almost half of the medical profession. This under-representation reinforces a male perception of scientific authority and contributes to making women's knowledge of health invisible.

At the same time, media presentation favours the spectacular and the emotional to the detriment of reasoned analysis: illness becomes a heroic tale or a personal drama[82], leaving little room for the complexity of women's experiences, particularly of pain, infertility or hormonal disorders. Added to this is the **pressure of editorial output**: while there are a few health journalists who do well-sourced and conscientious work, short deadlines and the race for readership are pushing too many women's press editors to simplify subjects, or even to reproduce clichés or angles that sell rather than enlighten.

Some journalists, who are sometimes less vigilant and methodical, agree to relay information sourced from companies or start-ups with commercial ambitions, without taking the time to check it. This vigilance is essential to our issue and should be the subject of a Charter to which all the media should be obliged to adhere.

Finally, **social networks amplify this logic: their algorithms favour emotional or militant content, to the detriment of scientifically validated publications**. Patients find powerful but often unverified narrative identities, where sincere testimonials, commercial promises and pseudo-scientific discourses are mixed together. **This blurring between information, influence and marketing creates confusion and complicates the construction of a reliable information environment for women's health**. Repositioning the scientific source as the reference information is becoming a key issue in re-establishing structural trust in the "hubbub" of the media/digital ecosystem.

The new European regulation, the Digital Services Act, which comes into force in 2024, responds to this challenge. By making digital platforms more accountable, if properly implemented, it could become a lever for demanding that their algorithms give priority to health content written by recognised creators, rather than content designed to generate clicks.



#4 The promises and risks of generative artificial intelligence (GAI)

Since November 2022, GAI tools (Chat GPT then Gemini, Mistral, Claude, etc.) available to the general public have opened up new perspectives for access to medical information, thanks to conversational chatbots, available continuously and offering private, personalised and accessible exchanges.

In France, no official survey yet specifically measures the use of GAI in healthcare by gender. However, the 2023 Digital Survey already reported that 12% of women and 20% of men have used AI tools in private life (all uses combined)[83]**.** The 2024 Common Standard for Digital Uses indicates that a third of the general population used GAI (77% of 18-24 year olds)[84]**.**

The FLASHS × Galeon survey (March 2025, n=2003) finds that 34% of French people have already asked a GAI a health question (68% of 18-24 year olds, 10% of ≥ 65 year olds). Of these, 60% followed the recommendations, 17% without consulting a doctor. When it comes to gender, 70% of men versus 58% of women say they have heard of AI in healthcare; 41% of women (versus 27% of men) say they are worried if their doctor uses GAI[85]**.**

These tools can meet the specific needs of women, who are often faced with taboos or a lack of reliable resources. In India, for example, the Myna Mahila Foundation's chatbot, developed with OpenAI, disseminates information on contraception, sexual health and reproductive rights in several local languages, aimed at women excluded from conventional channels[86].

However, while the GAI facilitates access to medical information, it presents several limitations and risks:

- **unreliability and inaccuracy of content**, with "hallucinations" generating false but plausible and potentially dangerous claims[87];
- **gender bias**, with some AIs underestimating the severity of female cases at equivalent data[88, 89];
- **training biases**, linked to male-centric databases and stereotypical visual representations of women (young, smiling), reinforcing implicit norms[90];
- and finally a significant environmental impact (**high energy consumption** and CO_2 emissions linked to the drive and use of the models).

Mental health uses also raise concerns, documented in several non-gendered studies: increased loneliness and emotional dependence, reduced real social interactions91, reduced psychological well-being in cases of isolation[92], dysfunctional emotional attachments[93], even extreme clinical cases of delirium or suicide linked to chatbot addiction[94].

Limiting these abuses would require a diversification of training data, integrating the biological, cultural and social diversity of women; algorithmic transparency enabling biases to be evaluated; human supervision guaranteeing that GAI complements without replacing medical expertise; clear regulation and digital education programmes for all.

#5 The digital divide: a barrier to access to health information

The use of the internet, networks and AI in healthcare remains hampered by illiteracy[95] and uneven digital skills. In France, 15.4% of people aged 15 and over are digitally illiterate and 27.8% have poor digital skills[96], and digital health literacy is "inadequate" for 53.9%[97].

The gender gaps, which are small before the age of 70 (6% of women vs. 7% of men for digital illiteracy), widen thereafter: **in the EU, 54% of women have basic digital skills compared with 57% of men, with an 8-point gap in the 65-74 age group**[98]. These vulnerabilities limit access to digital health information.

> Tensions arising from commercial dynamics and confusion between health and well-being

#1 Healthcare industries: an important player involved in health information

Communication about health products, particularly those linked to women's health, is played out at the **interface between commercial interests, scientific expertise and public health issues.** Businesses are making a massive contribution to patient care by investing heavily in the research and development (R&D) of innovations (vaccines, anti-cancer drugs, etc.).

Manufacturers of healthcare products are carrying out **numerous initiatives to inform women's health**: awareness and prevention campaigns, information for healthcare professionals and work on more integrated care pathways that include medicines as part of overall care. Set within a demanding framework (Public Health Code, ANSM approval, HAS certification), these initiatives can **support high-quality, more readable scientific information** for professionals and consequently for patients.

However, because these companies remain private, their communications to professionals and, indirectly, to the public may be targeted; they should therefore be read with caution and sometimes cross-referenced to obtain complete information.

In France, advertising for healthcare products (medicines and medical devices) is strictly regulated by the Public Health Code (Art. L.5122-1 et seq. and L.5213-1 et seq.). It is forbidden for the general public to use prescription or reimbursable products (except for rare exceptions such as certain vaccines). Only products not subject to prescription and not reimbursable may be advertised, after prior approval from the Agence Nationale de Sécurité du Médicament (ANSM)[99].

The framework for medical check-ups and their certification is part of an overall system involving the French National Authority for Health (HAS), the Code of Medical Ethics and the regulations governing the benefits offered to healthcare professionals. Links of interest are governed by the "Bertrand" law (2011) via Transparence Santé, and by the EMA, EFSA and WHO (FENSA framework) for various activities (trials, publications, training, congresses).

From a scientific and information point of view, the choice of themes can lead to bias and abuse; in the past, a lack of transparency, selective results and cover-ups have been reported (Mediator, Vioxx, opioids). **The major challenge lies in the rapid updating of knowledge and the crucial importance of transparency and ethics** in the communication of scientific and medical data.

Despite this regulatory framework, risks can persist (sponsored communications that are difficult to identify, ghostwriting, data selection, etc.). These practices are becoming increasingly rare but have a major impact. **Strengthening transparency and enforcement of the framework remains an essential safeguard against misinformation affecting women's health.**

The contraceptive pill at the centre of the storm

The pill is a perfect example of how the search for solutions to a societal problem, women's need for information, public health objectives and economic considerations all came together to create a melting pot of misinformation.

Contraceptive pills were widely promoted between 1960 and 2000, giving women the right to control their own bodies - a real emancipation that transformed women's place in society.

They act on complex hormonal mechanisms, with a range of potential adverse effects that vary from one woman to another. Among the most serious is a possible increase in venous and arterial thromboembolic diseases, particularly in women with under- or non-assessed cardiovascular risk factors[100]. In 2012, a news item linking a death to the pill received a great deal of media coverage, which contributed to blurring communication about the risk of thromboembolism. The widespread media coverage of this misinformation has reinforced the idea that hormonal contraception is dangerous for all women, even though the absolute risk remains low and lower than that of pregnancy. It also revealed a lack of reliable communication of stroke risk and an underestimation of actual cardiovascular risk.[101]

The combination of factors such as the trivialisation of the use of contraceptive pills, ignorance of adverse effects and minimisation of the risks and/or their seriousness, has contributed to the development of widespread misinformation about the benefit/risk balance of these drugs, leading to the current situation of unjustified demonisation of the pill among the population, particularly among young women [102,103].

#2 Non-conventional healthcare practices: opportunities and risks of misinformation

According to a European study, the use of "complementary and alternative medicine (CAM)" **varies widely**, depending in part on countries' resources, healthcare expenditure, and individual and national socio-economic levels.

It is **more common in women**, particularly those of middle age, with a high level of education and often faced with chronic health problems or unmet medical needs[104]**.** These physical treatments (e.g. acupuncture, chiropractic) and product-based treatments (e.g. homeopathy, phytotherapy) are often used to complement conventional care rather than replace it. The integration of CAM into healthcare systems is more marked in countries with high economic resources and high healthcare expenditure. In France, they are known as "non-conventional healthcare practices".

However, **while these approaches can offer complementary support, they are also exposed to the risks of misinformation**, particularly less regulated products. There are many **deceptive contents** circulating (coffee enemas, extreme diets, DoItYourself remedies) that lead some patients to **refuse established treatments**, sometimes with fatal consequences[105].

In its 2022 to 2024 report, Miviludes[106] reports that 37% of reports and requests for information handled are related to health and well-being. Among them, 80.6% of those aimed at private individuals concerned non-health professionals.

These various factors highlight **the need for better education and appropriate communication** to support therapeutic choices, reduce the risks associated with self-medication and limit the impact of misinformation in this area.

The lack of **regulation** of the well-being professions encourages confusion between non-conventional care practices and the paramedical professions, particularly through communication using codes that are close to medicine (lab coats, scientific vocabulary, promises of wellbeing or even healing). The **regulation of non-conventional healthcare practices also appears necessary to promote evidence-based use, while limiting the risks associated with misinformation.**

#3 The wellness industry, a major cultural and (mis) informational player

The wellness industry has established itself as a major economic and cultural player, but also as a prime breeding ground for health misinformation and disinformation.

The global wellness sector is worth over $6,300 billion, or around 6% of global GDP, and continues to grow at over 7% annually[107, 108]**.** In France, it covers a wide range of areas: nutrition, sleep, mental health, physical activities, mobile applications, connected objects, cosmetics and so-called "natural" practices.
This diversity is a strength: it illustrates the growing desire of individuals, particularly women, to take back control of their health and quality of life. Women are

consumers of wellness services and are the target audience for brands, companies and start-ups in the sector.

They are often looking for answers to needs that are not or not adequately covered by the healthcare system: chronic pain, fatigue, hormonal disorders, stress, mental workload or post-partum recovery. In this context, the wellness industry appears as a space for innovation, prevention and *empowerment* (encapacitation).

But this boom can be accompanied by worrying collateral effects in terms of information. The lack of clear regulation and uniform scientific validation means that wellbeing is fertile ground for misinformation. **Many offers play on the porous boundary between comfort support and therapeutic promise**. In therapeutic areas where there is a strong medical need, women can easily be cheated. Some start-ups and content creators are putting out seductive but scientifically flimsy messages, with no evidence of effectiveness or assessment of potential risks: 'natural' detoxification, hormone rebalancing with no biological basis, extreme diets or connected devices claiming to correct posture or mood. These speeches, often relayed on social networks, use medical vocabulary to legitimise practices that have not been validated, perpetuating the confusion between health and marketing. In this way, the wellness industry contributes, sometimes in spite of itself, to feeding an infodemic where useful innovations and misleading claims coexist[109]..

Performance and self-control, hidden dangers for women

The emphasis on performance and self-control, often promoted by the wellness industries, can reinforce guilt and social pressure around the female body.

The "wellness" discourse becomes prescriptive: it suggests that a healthy woman is one who "self-optimises", who manages her stress, her figure or her productivity.

These injunctions contribute to a form of insidious misinformation: that which naturalises unrealistic standards under the guise of health.

The **multiplication of players** (cosmetics brands, wellbeing influencers, unqualified coaches, food supplement companies, health start-ups, even pharmaceutical laboratories, etc) also makes it difficult to read the information. The public does not always have the means to distinguish between a scientific approach, a personal account or a commercial strategy. This confusion is exacerbated by the lack of transparency regarding sources, links of interest and advertising funding.

Finally, the **fragmentation of the sector** sustains a paradox: the more diversified the wellbeing offer becomes, the more complex it becomes to locate reliable information. In an environment where every player presents himself as an expert, users are left to arbitrate between science, experience and belief. This blurring of the lines weakens confidence in healthcare professionals, diverts some women from validated care pathways and can lead to real loss of opportunity, particularly in the case of substitution for medical treatment.

So while the wellness industry is helping to democratise prevention and promote women's health, it is also at the heart of contemporary mechanisms of misinformation.

A source of hope, but full of grey areas, it illustrates the extent to which access to clear, verified and contextualised health information remains a central issue in protecting women's health in the digital age.

04

Numerous but scattered possible solutions

Responses do exist, although they are often scattered or unevenly implemented.

These responses involve prevention, awareness-raising and education, as well as the active correction of false information.

They do not all specifically concern women's health, but are aimed at all citizens.

They involve schools, healthcare institutions, the media, associations, healthcare professionals, digital tools and sometimes even artificial intelligence.

To structure these solutions, five complementary lines of action can be identified.

Strengthen health literacy and critical thinking (education)

Structure the collective response (organisation)

Develop the ability to obtain information through all media (trans-literacy)

Prepare citizens to recognise manipulation (pre-bunking)

Correcting false information effectively (debunking)

When it comes to women's health, we need to educate early and throughout life, organise a collective response, facilitate multi-media access to reliable information, prepare the public for manipulation techniques and effectively correct untruths. **The issue is health, but also autonomy and justice for women.**

Strengthen health literacy and critical thinking (Education)

Scientific literacy, i.e. the ability to understand, analyse and use scientific information, is an essential lever for countering misinformation, particularly in the field of health. It must be developed from secondary school onwards, reinforced by public awareness campaigns[110].

Numerous initiatives are being put in place to strengthen scientific literacy and give citizens the means to analyse information.
Efforts are also needed in the area of health literacy. The findings are clear: **44% of adults** have difficulty in understanding health information and **29 %** in communicating with caregivers[111].

Responses have been initiated, such as the **National Plan** integrated into the 2018-2022 National Health Strategy, or the **HAS** recommendations to adapt tools to all levels of literacy.

Educational programmes are trying to anchor skills from school onwards, such as with media and information literacy programmes with health strands[112]. However, the IME often remains a one-off event; it needs to be firmly anchored in curricula and educational staff need systematic training.

The sex education programmes integrated by the French national education system provide a solid factual basis on subjects such as contraception, abortion or STIs, which are essential for deconstructing the misconceptions (or received ideas) that circulate in society[113]. However, these programmes remain insufficiently implemented, 15% to 20% of secondary school students had benefited from sex education sessions by 2021[114].

Many **associations** are also working to deconstruct misconceptions in schools, such as the SQUARE association.

Training in critical thinking means learning to[115]:

Assessing the reliability of sources

Who is speaking?
Is this verifiable?

Detecting cognitive biases

Mental prejudice
Error of judgement

Distinguishing between correlation and causation

2 related facts ≠ cause
Looking for the real cause

Identifying pseudo-scientific discourse

False scholarly speeches
Lack of evidence

In education, the promotion of critical thinking is too often reduced to a simple method of verifying information (fact-checking, source analysis). But it is above all about **teaching people to think independently and reflectively**, by confronting knowledge with values, cognitive and social biases, and by questioning the purposes and context of knowledge in relation to their own needs. The critical spirit thus goes beyond formal logic to include a reflective, cultural and ethical dimension, enabling learners to develop their autonomous and collective thinking[116].

Structuring the collective response (organisation)

Today, there are many players involved in the transmission of health information.

- The **health professionals** and scientists: they are the primary transmitters of knowledge (correcting preconceived ideas, teaching, listening). They are beginning to invest the digital space, as shown by the growing number of caregivers who run social networking accounts with the aim of popularising science (on Instagram, for example, **@thefrenchvirologist, @docteur.marvel, @mon.gyneco**). To provide a framework for these practices among healthcare professionals, the **Ordre national des médecins** published a **Charte du médecin créateur de contenu**[117] in early 2025.

- Collectives such as **NoFakeMed** are strongly and publicly committed to denouncing the excesses of non-conventional "medicines".

- Public **institutions and platforms** disseminate up-to-date scientific information: **Ministère de la Santé** (section décryptage of the
- Santé.fr website, Vaccination Info Service, campagnes ciblées), **HAS** (recommendations portal, Users area), **Ameli Santé, Institut Pasteur**, **Unicancer**, **Institut Curie**.

- **Extended ecosystem**: the specialist press (**Science & Vie, Pour la Science, Science Feedback**), analysis platforms (**CoVerif.info** - Inserm), and laboratories (MSD, Organon) offer scientific training modules to the general public. Associations and caregivers (e.g. Ligue contre le cancer) also distribute modules to patients.

On the research side, projects by the **ANR or/and the European Union** (Infodemic, **REACTing**) analyse bias and propagation mechanisms to adjust pedagogy; the **Fondation Descartes** is working on the conditions for quality information.

Territorial initiatives target concrete needs, for example the ARS Île-de-France in perinatality (2023-2025) to support pregnant women with literacy difficulties[118]**.**

Develop the ability to obtain information in all media (trans-literacy)

Enabling everyone to navigate between public sites, media and social networks and providing them with formats adapted to their life situation is key in the fight against misinformation.

The "easy to read and understand (FALC)" method, which aims to translate conventional language into simplified language, is slowly becoming widespread on information media, particularly websites[119].

Research institutions are seeking to reach audiences far removed from traditional scientific codes by producing multiple **videos, podcasts or infographics**.

Accounts on social networks **specialise in popularising science** to make reliable information more visible, particularly to teenage girls, such as Gaêlle Baldassari with her "Kiffe ton cycle" account.

Supporting vulnerable people in precarious situations

The Samu Social de Paris has designed a tool, Idéordo[120], to improve understanding of medication prescriptions and to facilitate communication between patients and caregivers for people in precarious situations.

- **Reducing health inequalities**: combating the foregoing of medical care, non-observance, stigmatisation of patients, and drug iatrogeny, potential consequences of poor understanding of health information.
- **Autonomising people**: a humanising and fun mediation and learning tool, designed to empower people in taking their treatments.
- **Prescribing well**: offering Idéordo to patients is not part of an effort to prescribe but rather about taking the right treatment correctly.
- **Co-constructing the tool**: the development of Idéordo was collective and collaborative. The project steering committee is made up of both patients and caregivers.

Prepare citizens to recognise manipulation (pre-bunking)

Inspired by vaccination, the prebunking technique involves preparing people by exposing them to misinformation techniques so that they are better able to detect fake news when they are confronted with them.

Examples of tools designed to 'immunise' people before they are exposed to infomercials include:

- **YouVerify!** : MOOCs, serious games (Bots Busters) and educational fact sheets to help people spot misinformation, including in the field of health and sexuality.
- **GoViral!** Digital mini-games designed by psychology researchers to identify misinformation mechanisms.
- **Anticipation campaigns**: the **OMS Mythbusters** prepared audiences on COVID vaccination, fertility or 5G, or the **Inserm Detox Channel** (Detox Channel).

These "misinformation literacy" approaches can be directly transposed to sensitive female topics (the pill, menopause, endometriosis) in order to reduce the impact of misleading narratives **before** they influence healthcare decisions.

Media and information literacy (MIE) approaches are also important, as they provide tools for identifying sources, decoding manipulative rhetoric and understanding the economic/ideological motivations behind content.

Correcting false information effectively (debunking)

When misinformation or disinformation is already circulating, the correction must be **rapid, clear, accessible, empathetic and scientifically rigorous**, with particular attention to topics that are sensitive for women's health (such as sexuality, fertility, pregnancy, menopause, mental health).

The new European regulation, the Digital Services Act, which aims to make digital platforms more accountable and help correct false information, should be made a more coercive tool in order to guarantee its effectiveness as a deterrent.

At present, various players are involved in these correction/verification issues (non-exhaustive list)

- **Caregivers** (consultations, online speaking);
- **Media and fact-checkers** (AFP Factuel, France Info - Vrai ou Fake, CheckNews, Science Feedback, new health channel "Mieux");
- **Targeted campaigns by institutions or associations** (e.g. "The pill does not make you sterile", "The HPV vaccine is safe").

A number of tools have been developed since the COVID-19 crisis: **CoVerif**.info (Inserm) to analyse false claims, **SPF campaigns, apps and chatbots** for information, all of which are relayed regularly on social networks.

However, there are many obstacles to pure debunking: fake news often circulates much faster and more widely than verifications. Confirmation bias also comes into play, with rejection of corrections perceived as attacks[121].

EXAMPLES OF INITIATIVES TO COMBAT MISINFORMATION

Institutional sources and projects

Inserm Canal Detox - Platform for popularising science and checking the latest news in biology and health.

Santé publique France - Information campaigns Ministère de la Santé - "Décryptages" platform to combat fake news in healthcare.

Institut Pasteur, Institut Curie, Institut Gustave Roussy, Unicancer - Popular health information websites.

Fondation Descartes - Association dedicated to the fight against scientific misinformation.

Observatoire des infox en santé (created in 2021) - Group of experts to detect and counter rumours.

PHARE Platform (2023) - French government tool for combating health infomercials.

Scientific research and technological development

ANR and European projects (Infodemic, VIRAL, REACTing) - Interdisciplinary studies on the spread of misinformation.

AI development - Automatic detection of fake medical news on social networks[122].

CoVerif.info (Inserm) - Platform for analysing and deciphering false scientific claims.

Education and literacy

YouVerify" European project - MOOCs, serious games and educational resources for teachers and librarians.

CLEMI (Centre pour l'éducation aux médias et à l'information) - Recommendations for integrating media literacy into school curricula.

Sex education programme (Éducation nationale) - Factual information on contraception, abortion and menstruation.

GoViral! - Prebunking project using digital games (social psychology).

Fact-checking and the media

AFP Factual - Regular checks on rumours linked to women's health.

France Info - Vrai ou Fake - Checking false health information.

CheckNews (Libération) - Documented answers on reproductive health.

Science Feedback / Health Feedback - Validation by medical experts.

Full Fact (UK) - Fact-checking on preconceived ideas about the pill and endometriosis.

Conspiracy Watch - Analysis of health-related conspiracy theories.

Professional organisations and groups

#TeamVaccin and #NoFakeMed - Collectives of healthcare professionals against pseudoscience.

Collège National des Gynécologues et Obstétriciens Français (CNGOF) - Public statements against fake news in gynaecology.

Syndicat représentant les médecins généralistes remplaçants, jeunes installés et universitaires (ReAGJIR) - TikTok and Instagram accounts @healthbuster5 created to raise public awareness of the risks of misleading medical advice by confronting its authors with the reality of their own recommendations.

Feminist associations (Planning Familial, CIDFF) - Information sessions and combating preconceived ideas.

Digital tools and social networks

Instagram / TikTok (e.g. @gynandco, @vulgarisante, @docteur.fanny) - Popular science accounts specialising in women's health.

YouTube Health - Promoting reliable health content.

WHO Mythbusters - Series of infographics and content to counter health rumours.

Vaccination Info Service (France) - Neutral platform on vaccination.

NGO LAREPONSE.TECH and its AI tool for verifying information askvera.org

05

Towards a desirable future for women's health information

The challenges posed by women's health misinformation and the infodemic phenomenon are complex and systemic. They can be resolved by **a coordinated and collective response from all players in society**.

To sustainably improve the way information on women's health is produced, shared, used and even consumed, we can mobilise three levers:

- **Sharing a common vision of an information ecosystem** accessible to all, reflecting the diversity of women's experiences, knowledge and needs, where reliable, clear and useful content circulates.
- **Identify the needs and responsibilities of everyone**, whether healthcare professionals, associations, the media, researchers, public institutions, economic players such as healthcare industries and digital platforms, as well as citizens/patients.
- **Work collectively to meet these needs**, sharing our knowledge, resources and experience, because each player (individual, collective, public or private) holds part of the solution.

It is by moving forward together, with a clear and shared vision, that we will be able to build **accurate women's health information that is more representative and genuinely accessible and useful to all.**

Women's health information is everyone's business.

The major transformations desired for information in women’s healthcare

› 1. From mistrust to enlightened informational autonomy

Women are becoming strategists of their own information.

They take ownership of knowledge, decipher sources, master health and digital literacy, and know where to find reliable and enlightening information. Protecting their cognitive autonomy becomes the first line of defence against misinformation.

They are reassessing their information ecosystem to realign their relationship with knowledge and digital technology to their needs, and maintain a calmer, more conscious relationship with information.

› 2. From prescribed care to a dialogue of trust

Healthcare professionals are (re)becoming trusted mediators.

Trained to communicate and relay information, respond to misinformation and share clear benchmarks, healthcare professionals play an active role in their region in developing their patients' health literacy by encouraging multidisciplinary activity and working with complementary players such as associations. At key moments in the process, proximity is a priority: time is devoted to listening and talking, to build up appropriate information and lasting trust.

› 3. From the school of life to the school of rationality

Critical thinking can be taught from an early age.

Education in the areas of health and the principles of science, the media and the verification of information is becoming a civic skill.
Taboos fall, the way the body works is taught from an early age, and curiosity becomes a reflex for self-fulfilment and protection. Everyone finds the tone and approach that best suits their information needs.

› 4. From dispersed information to a trusted ecosystem

Institutions, the media, researchers and citizens work hand in hand.

Journalists verify, institutions guarantee reliability, researchers disseminate their research and consensus, health professionals are trained, citizens have access to the right sources and share them.
The patient voice is systematically consulted.

The ecosystem becomes co-operative and co-ordinated, contributing to the building of structural trust that facilitates the collective appropriation of knowledge/information.

› 5. From neglected words to embodied knowledge

Women's experience becomes legitimate knowledge.

Research and information on women's health and the way their bodies function are better funded, supported and promoted in order to address real women's issues and counter unsubstantiated opinions.

Experiences, stories and diversity (social, cultural, physical) now feed into research, policies and public health campaigns. Thus the information ecosystem combines the factual and the sensitive[a, 123].
Health information is not designed for women, but with them.

› 6. From reaction to collective responsibility

The fight against misinformation is becoming a public policy and a shared commitment.

National and local decision-makers, as well as scientists, journalists and citizens, have the tools to foster an information environment based on evidence and trust, and the means to support grassroots initiatives and regulate abuses. Health information is becoming a common good, the responsibility of all.

› 7. From defensive communication to narrative innovation

We learn to speak the truth in a different way.

To help people understand, convince and mobilise, public players, researchers and communicators are uniting around new forms of storytelling. Hackathons, collaborations, storytelling, creative campaigns: providing the right information also means knowing how to tell a different story.

We use the same tools as the web to spread the truth as forcefully as those who misuse it.
Creativity becomes a public health tool.

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[a] "sensitive": refers to information perceptible by the senses, constituting immediate and direct knowledge, without the intervention of reason, such as testimonies, practical everyday information.

General systemic recommendations

To achieve the desired future championed by the Femmes de Santé Collective, enable each player to act at their own level, support each other's initiatives and work together, our first recommendations are systemic.

The aim is to create an information environment that is reliable, human and trustworthy, inclusive, coordinated and local, enabling every citizen, caregiver, institution, media outlet or decision-maker to take effective action against misinformation and disinformation in health, and enabling women to access information that protects their health.

> 1. Strengthening citizen health literacy and inoculation[b, 124] against misinformation ("pre-bunking")

- Develop people's skills in assessing the reliability of sources and identifying signals of manipulation using dedicated tools.
- Raise awareness of existing reliable sources.
- Training in the use of generative AI tools and their limitations.
- Incorporate these benchmarks into school, university and continuing education programmes for healthcare professionals.

Objective: to equip all citizens to make informed choices when faced with health information.

> 2. Co-constructing legitimate, shared benchmarks for information on women's health issues

- Involve the women concerned, healthcare professionals, scientific institutions, elected representatives, professional bodies and associations in the development of common guidelines dedicated to women's health issues throughout their lives, while ensuring that they are accessible.
- Promote and integrate these tools into care and prevention programmes.
- Organising and simplifying access to reliable and useful information for every patient (care) and citizen (prevention).

The aim is to make reliable information an integral part of women's daily lives and care.

> 3. Support citizen and professional initiatives for reliable information

- Accompany and support caregivers, researchers, associations and content creators who disseminate reliable and accessible health information.
- Provide support mechanisms (logistical, financial, institutional recognition) for players who contribute voluntarily to the dissemination of validated information, or who are currently forced to adopt an economic model distorted by sponsorship or algorithms.
- Encourage the production of content tailored to different audiences: visuals, videos, short formats, multilingual, etc.
- Encourage and promote the emergence of multi-professional centres to develop a new "micro-ground" community health approach, based on targeted communities (young women, students, women of childbearing age, etc.) and nurturing the bond of trust that is beneficial to the therapeutic alliance.

↘ **The aim is to amplify credible voices that are close to the ground.**

> 4. Create a multi-stakeholder 'do-tank' observatory of women's health information needs

- Set up an operational system that can be used at both national and local level to monitor questions, concerns and gaps in health information for women, and an optimised method for checking the quality and reliability of the information circulating.
- Bringing together public institutions, medical experts, researchers, the media, associations and citizens.
- Coordinate the production and provision of reliable, appropriate and accessible information by the various players, in line with women's real expectations in terms of response.
- Implement a platform for exchanging tools and good practice to adapt information to different audiences (cf Idéordo[c]) and inoculate against misinformation.
- Produce regular indicators of confidence and exposure to health misinformation/disinformation.

↘ **The aim is to provide a structure for listening to the needs of citizens and for discussion, based on transparency, coordination and co-construction.**

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[b] Inoculation theory posits that it is possible to preventively confer psychological resistance against (malicious) persuasion attempts.

[c] Idéordo, an initiative of Samusocial de Paris https://www.samusocial.paris/ideordo

› 5. Regulating digital platforms and protecting whistleblowers

- Reinforce the application of effective regulation of algorithms that encourage the visibility of verified content without subjecting it to the same moderation constraints as non-validated content, and the real implementation of mechanisms (legal, technical, financial, informational, etc.) to stop abuses and excesses.
- Clarify the procedures for reporting misleading content in the fields of health and well-being and ensure that it is dealt with quickly and transparently.
- Guarantee legal and moral protection for whistleblowers in healthcare.

↘ **The aim is to make the platforms more accountable and provide security for those who defend the quality of information.**

› 6. Regulating commercial practices in the field of women's health

- Combat pseudo-scientific messages and commercial abuses that exploit women's health.
- Impose transparency on sources, scientific data and commercial partnerships.
- Regulate the advertising and promotion of "wellness", "health" and "health application" products and services.

↘ **The aim is to protect the public against commercial content disguised as medical information.**

> 7. Roll out a national strategy to mobilise stakeholders to create a reliable health information environment

- Triggering a collective awareness of the scale of health misinformation and their consequences among healthcare professionals, associations, the media, researchers, public institutions, elected representatives, economic players and citizens/patients.
- Make society as a whole aware of the value of reliable, understandable and co-constructed health information, in particular by creating a national day to raise awareness of health misinformation.
- Set up a general public communication campaign to alert people to the risks of misinformation, with an annual national questionnaire, a kind of "Golden Dicos" or "100%logic: the answer is in front of you", but dedicated to misinformation in health, allowing everyone to test their skills in detecting misinformation anonymously.
- Include a module on the dangers of health misinformation and how to avoid creating it in training materials.

↘ **Objective: to create a collective and sustainable dynamic around accessible, verified and benevolent women's health information.**

The first step is for all the players involved to be made aware of the issue of misinformation in women's health.

What stakeholders need to protect themselves and take action against misinformation

To contain health misinformation, five complementary levers for action can be mobilised:

- Strengthen health literacy and critical thinking (**education**)
- Structure the collective response (**organisation**)
- Develop the ability to obtain information in all media (**trans-literacy**)
- Prepare citizens to recognise manipulation (**pre-bunking**)
- Correct false information effectively (**debunking**)

To reduce the negative impact of the health epidemic on the female population, the Femmes de Santé Collective is proposing, after 30 hearings and 11 months of work (300 proposals put together), to consider the needs of each player in order to collectively meet the challenges of transformation.

Health institutions and authorities (e.g. Ministry of Health and other ministries involved, Public health and scientific institutions, Professional orders, Health insurance and mutual insurance companies)	
Education	Develop a national curriculum for health literacy, misinformation detection and digital literacy. Set up a **national training programme** (MOOCs, teaching kits, common frames of reference, method for detecting misinformation) tailored to each age and stage of life, in order to strengthen the informational autonomy of women and the public.
Organisation	Create a **national observatory of multi-actor healthcare information needs** and responsive decision-making circuits that can easily be rolled out at local level. Organise monitoring and coordinate the production of relevant information as close as possible to women's needs and define **short, operational decision-making circuits**, to quickly identify unmet needs (questions, concerns, information gaps) and respond to them. This observatory will also be responsible for proposing a **national strategy for mobilising stakeholders** to create a reliable health information environment.

Trans-literacy	Produce **reliable, clear, differentiated and multi-format resources**, tailored to the needs of the women identified as recipients. Designing and distributing accessible, easy-to-understand information materials based on scientific data, broken down by gender, age, life stage (pregnancy, menopause, chronic illnesses, etc.) and life situation (socio-economic conditions, vulnerability, etc.) and methodological "where to find/how to sort" guides.
Pre-bunking	Anticipate misinformation using **a prevention toolbox ("pre-bunking") easily adaptable to the realities of local situations**, including: • standard messages and tutorials to respond to sensitive issues • checklists of good reflexes for quickly checking information to be included in health records, DMP, my health space, ameli account; • a seasonal editorial calendar (e.g. vaccination, contraception, cancer, etc.). • a standard document offered to all patients illustrating a clear and accessible methodology for checking information for yourself.
Debunking	Set up an **inter-institutional rapid response cell (complementary to the observatory)**, involving health institutions, professional bodies, associations, NGOs (e.g. askvera.org) and the reference media, to: • verification and rapid correction of false information; • coordinating the reporting and moderation of problematic content; • management of an official reliability label for health information sources.
Healthcare professionals and structures (primary care, hospital/city, primary care)	
Education	Regular training (initial and ongoing training through specific programmes) in clear, caring, educational and appropriate communication in women's health. Learn how to refer patients to reliable community health sources tailored to their profile, using real cases, practical sessions or validated digital tools.

Organisation	Set aside time for dialogue and feedback with patients (discussion groups, associations, hospital/city relays) to strengthen confidence in the healthcare team and preserve its central role in sharing information. Promoting multidisciplinary communications.
Trans-literacy	Set aside time for dialogue and feedback with patients (discussion groups, associations, hospital/city relays) to strengthen confidence in the healthcare team and preserve its central role in sharing information. Promoting multidisciplinary communications.
Pre-bunking	Anticipate recurring misinformation (HPV, screening, treatments, cycle, etc.) with ready-to-use scripts of answers to difficult questions (detected by the Observatory) and documents to hand out at the consultation.
Debunking	Relying on updated fake news verification and demystification sheets (integrated into the business software) and reporting misinformation to the relevant bodies or observatories via a dedicated channel ("Infovigilance"), particularly for healthcare professionals (reporting circulating fake news and elements of response and debunking).
National education, higher education and research (universities, schools, scientists)	
Education	Include compulsory modules on women's health, critical thinking (e.g. SIFT method) and media literacy in training courses. Offer free online training courses and playful formats such as frescoes, accessible to all.
Organisation	Create/favour **bridges between academia-institutions-associations** to produce gender-related or specific knowledge. Promote transferable results and coordinate the messages disseminated.
Trans-literacy	Designing and testing with women clear multimedia resources (videos, infographics, podcasts) based on gender-related data and useful to decision-makers and the general public.

Pre-bunking	Carry out research into strategies for preventing misinformation and detecting weak signals (social networks, fieldwork, late diagnoses) in order to anticipate misinformation/disinformation.
Debunking	In conjunction with the Observatory described above, run workshops ("Fab lab") at school level to verify and rapidly disseminate validated scientific information (express reviews, summaries, open data) for the media and decision-makers.
Patients, caregivers and representatives (associations, patient partners)	
Education	Use self-training kits on women's health and reliable sources. Taking part in peer workshops and compulsory training on detecting and preventing misinformation for patient partners and association managers.
Organisation	Claim an official place on local bodies (hospital/city committees, advisory groups) and strengthen long-term partnerships with caregivers and researchers for reciprocal exchange and training.
Trans-literacy	Use clear resources accessible to all (simple texts, audio, video, several languages) and benefit from personalised support to help them find their way around the healthcare system.
Pre-bunking	Learn the right reflexes before sharing information (ask the right questions, apply the SIFT method[d] and relay anchored positive campaigns, focused on women's life moments.
Debunking	Use simple tools to report or correct fake news (sample posts, association relays) and raise awareness in communities without judgement or stigmatisation.

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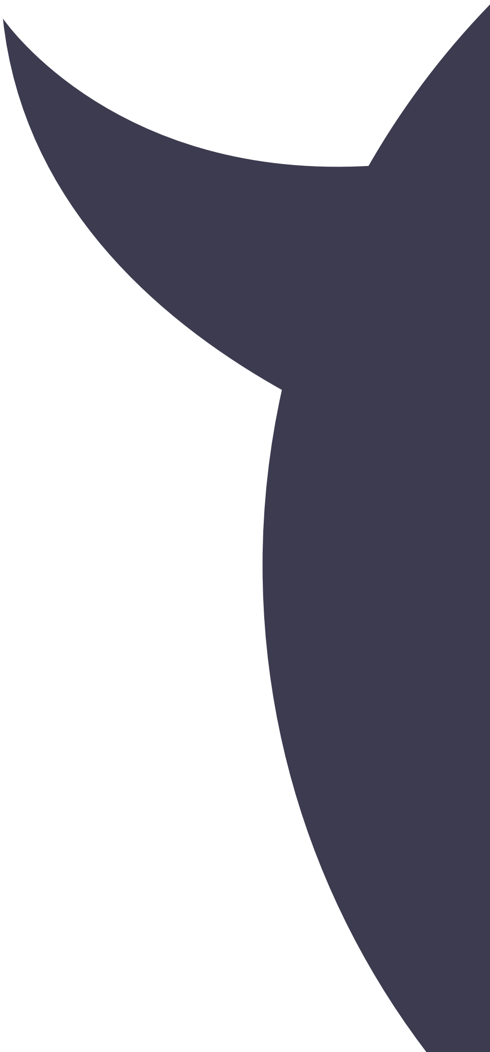
[d] Evaluating Information: SIFT (The Four Moves): https://clark.libguides.com/evaluating-information/SIFT

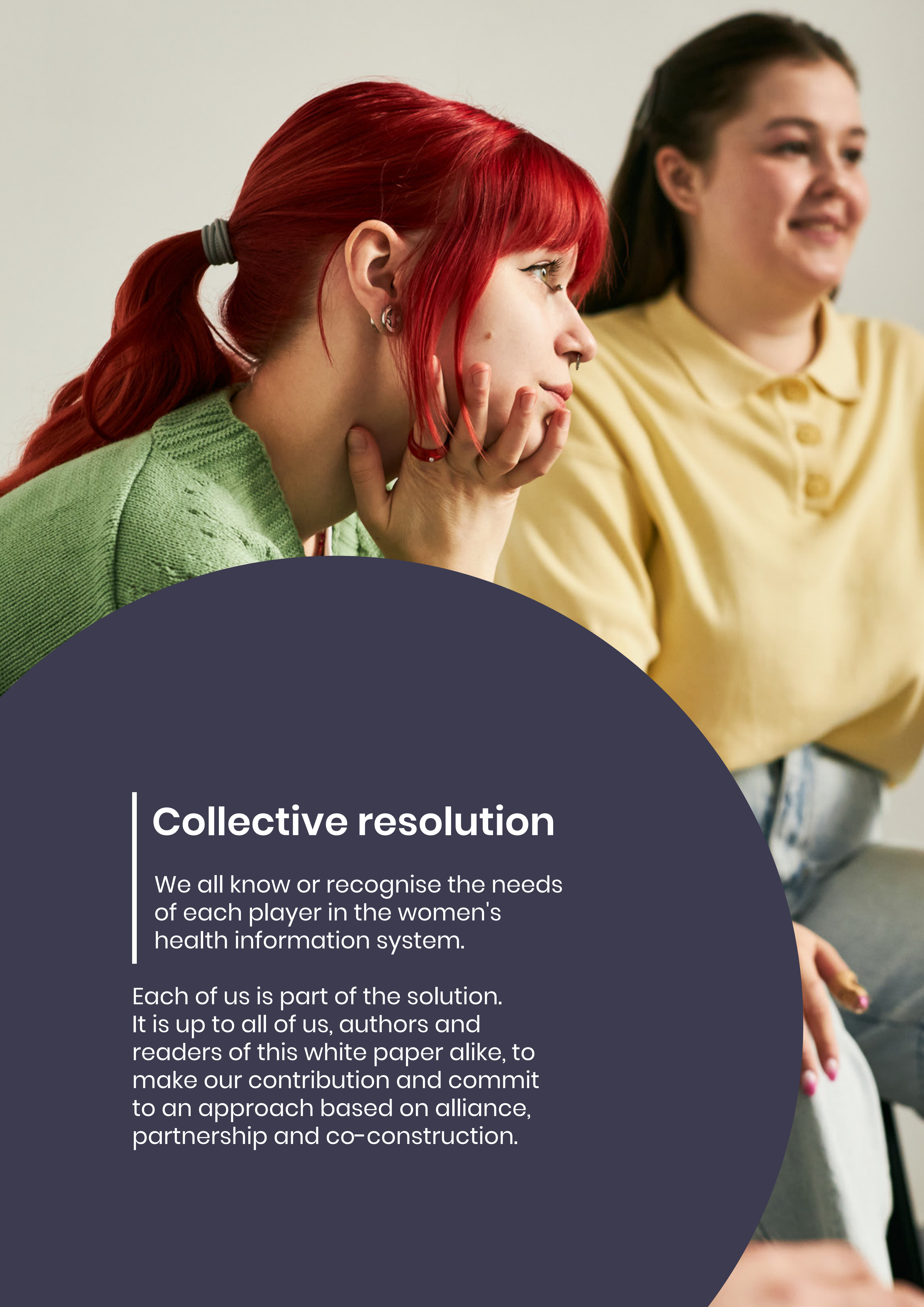
Communication, media and influence (journalists, media, social networks, organisers, health influencers)	
Education	Introduce compulsory training courses or MOOCs for journalists, editors, influencers and communicators on women's health, good practice in disseminating health information and preventing misinformation, with stricter editorial requirements to prevent misinterpretation of scientific and medical data. Distribute and publicise the "Charter for doctors who create content" published by the Ordre national des Médecins in early 2025.
Organisation	Develop regular links between the media, institutions, researchers and the general public (events, storytelling awards, festivals) in order to co-produce validated, reliable and accessible content. Communicating and talking about health, particularly women's health, requires recognised expertise and educational skills to avoid any drift and to provide the keys to a better understanding by the public.
Trans-literacy	Promote a variety of formats (short, visual, audio) and a common glossary that is clear and accessible to the general public, to increase understanding and reduce mistrust.
Pre-bunking	Develop anticipatory editorial lines (pre-bunking sequences, alternative narratives, calendar of recurring misinformation) and pre-publication verification checklists.
Debunking	Develop rapid and massive rectification protocols (expert review, transparency, traceability) and moderation tools against abuses (reporting to the Observatory mentioned above).

Economic and industrial players	
Education	Communicate in accordance with regulations, in an accessible and transparent way, on health products (clinical research studies, product life cycle, post-marketing surveillance), medical devices and food supplements, using educational and accessible media.
Organisation	Involve patients, caregivers and authorities in co-development committees right from the design stage, to guide studies and communication.
Trans-literacy	Write documents in plain language and share gender-specific data on product efficacy and safety.
Pre-bunking	Assess the risks of misinformation before each launch and work with patients and experts to develop appropriate prevention strategies.
Debunking	Create content to correct misconceptions about healthcare products (drugs, devices) and disseminate them widely. Ensure that all information with a potential negative impact on health, particularly for women, is communicated.

Citizens and civil society organisations (general public, young women, teenagers, etc.)	
Education	Acquire basic knowledge of the female body, its particular features and means of prevention. Guidance on where to find reliable information and how to navigate the care pathway. Detecting false information.
Organisation	Take part in self-help groups, workshops or local communities and talk to health professionals, to obtain accurate and validated benchmarks, without barriers.

Trans-literacy	Access to resources adapted to age, background and situation (videos, computer graphics, simple explanations, translations or cultural adaptations).
Pre-bunking	Acquire the reflexes to detect information manipulation in health and well-being, learn to **sort** and **compare** reliable information (where to look, how to check, what to do before sharing) and **concrete examples** rooted in everyday life.
Debunking	Use ready-to-use tools (message templates or tutorials) to **calmly** correct information in your circle/community.





Collective resolution

We all know or recognise the needs of each player in the women's health information system.

Each of us is part of the solution. It is up to all of us, authors and readers of this white paper alike, to make our contribution and commit to an approach based on alliance, partnership and co-construction.

bio-gra-phies

Stéphanie Abadie

Sales Director - Health & Innovation

A trained dietitian with an Executive MBA, Stéphanie Abadie has built a career in sales management at the intersection of healthcare, innovation and sustainable performance. After gaining experience working closely with patients and healthcare professionals (clinical nutrition, home infusion, diabetes), she has managed sales activities in in vitro diagnostics, accelerated the growth of established product portfolios and contributed to the launch of innovations in cancer screening. As the Auvergne-Rhône-Alpes regional delegate for the Femmes de Santé collective and a member of the board of the Club Santé emlyon alumni, her guiding principle is: «Innovate to transform, perform to endure, with and for people.»

Charlotte Berthaut

Doctor and founder of Dépist&vous

Marked by her experience with cancer both professionally and personally, she chose to become a docpreneur to take action before the disease strikes. She created Dépist&vous in 2020 to democratise cancer prevention and screening, with a clear mission: prevention is better than cure. Dépist&vous offers a personalised digital platform as well as prevention@work workshops and screening in the workplace to move from awareness to action. Recognised for her impact and commitment, she has been named Forbes Woman, Health Personality of the Year, winner of the Be a Boss Awards, and is one of the 40 most influential personalities under 40 in Nouvelle-Aquitaine. As an ambassador for French Care and regional delegate for the Femmes de santé collective in Nouvelle-Aquitaine, she mobilises healthcare professionals to make prevention a collective reflex.

Catherine Bertrand-Ferrandis

Health risk communication expert, Doctor of Veterinary Medicine

Catherine Bertrand-Ferrandis has been working in public health communication for over twenty years. She specialises in risk communication, infodemic management and training for healthcare professionals. A veterinary doctor by training, she headed up communications at the World Organisation for Animal Health from 2013 to 2020. She now supports organisations such as the WHO on these issues through her company OLYLO. She is a member of the ethics and scientific committee of the Femmes de santé Collective and in 2025 she created the newsletter Les Clés de l'Infox Santé, dedicated to «health professionals committed to quality information» (5,000 subscribers).

Camille Boivigny

Pharmacist & CEO of CamComm

Trained as a pharmacist, Camille was quickly drawn to her literary side. As a science journalist, she wrote for nearly a decade on new technologies applied to health. After publishing a white paper on in silico trials and conducting over a thousand interviews with start-up founders, researchers and other players in the tech and health ecosystem, she founded CamComm. She remains driven by the same passion: learning, sharing and promoting advances in medical research!

Margaux Darras

Health Project Coordinator

With a background in health communication, Margaux spent five years coordinating the activities of the Femmes de Santé collective and supporting public and private medical organisations in their gender equality efforts. Deeply committed to issues of equity and women's health, she continues to work on these themes to contribute to the society of tomorrow.

Agnès Dessaigne

Expert in public health and innovation assessment, Doctor of Pharmacy

With a doctorate in pharmacy and an MBA in management, Agnès Dessaigne has a cross-disciplinary background in the health sector, including community pharmacy, hospitals and the health products industry (clinical research, marketing, communication and medical affairs). At the Haute Autorité de Santé (French National Authority for Health), she developed screening recommendations. Now a consultant in public health and digital innovation, she evaluates calls for prevention projects for private actors. A member of the Bpifrance jury, contributor to the HAS report «Sex, Gender and Health» and editorial manager of the White Paper of the Foundation of the Academy of Medicine on women's health, she holds university degrees/certificates in health policy, social protection , therapeutic education, AI and big data ethics, and enjoys combining strategy with practical experience.

Fabienne Faudé

Senior health executive, Director of Development and Partnerships.

A senior executive and trained nurse, Fabienne Faudé spent the first part of her career in the public hospital service. She specialises in initial and continuing training for healthcare professionals. She then developed her expertise in various private organisations, including medical-social institutions, mutual insurance companies and associations, in management positions. She now works at Léo Lagrange Formation, promoting support schemes for the most vulnerable members of society. She has been a member of the ethics and strategy committee of the Femmes de Santé collective and speaks on topics related to artificial intelligence in healthcare.

Raphaelle Genin Martinez

Institutional communications expert for Enliensûr.

After completing studies in law and political science, Raphaëlle chose to focus on corporate communication. She is passionate about science and health and has significant experience in institutional communications, having spent 15 years in this sector, working both for agencies and companies. This career path has given her a deep understanding of the challenges facing a wide range of stakeholders, from manufacturers and start-ups to academic societies, patient associations, professional organisations, federations and media. Throughout, her focus has remained constant: helping to articulate what healthcare means in practice and ensuring that the needs and priorities of patients and users of the healthcare system remain at the centre of the conversation.

She firmly believes that building a more efficient and fairer system requires a collaborative, inclusive and multi-disciplinary approach.

Juliette Hazart

Addiction specialist – Speaker & Columnist

Dr Juliette Hazart is a coordinating physician and addiction specialist, specialising in public health and social medicine. Author of Mon ado est accro aux réseaux sociaux (My teenager is addicted to social media) (De Boeck Supérieur), she is a columnist for the press and radio and regularly appears in the media to discuss mental health and addiction issues. As a speaker in corporate settings, she supports organisations in the prevention of drug and digital addictions. A consultant and advisor in health communication strategy, she teaches at the University of Lorraine.

Emelyne Heluin

Patient partner, consultant and vice-president of SOPK Europe

Diagnosed with PCOS (polycystic ovary syndrome) twenty years ago, she is now vice-president of the patient organisation PCOS Europe, where she coordinates advocacy, editorial strategy and awareness-raising activities to improve the recognition, care and representation of those affected. With a degree in Health Democracy and International Affairs, she is currently pursuing a Master's degree in Biomedical Humanities at the Sorbonne. Her work focuses on the sociological dimensions of PCOS and the risks of misinformation to which patients are exposed, combining community involvement, research and public action.

Imene Kaci

Freelance midwife and general coordinator, project manager, company manager and content creator.

Midwife graduated from Pierre and Marie Curie Medical School.

Imène has been a private midwife for over 10 years, with hospital experience at the APHP in particular. She is the author of the article «Assessment of an e-learning training programme for cardiotocography analysis» in the European Journal of OG. She led the project to open the Vitry-sur-Seine birth centre, strengthening her expertise in healthcare organisation and innovative project management. Now general coordinator of the Gynélia Santé Femmes centre, she oversees the structuring of care pathways and external partnerships. As manager of Homemed and a trainer, she supports professionals in optimising their practices. As a content creator, she produces educational materials on women's health, prevention and health literacy.

Camille Le Fur

Building bridges for a desirable future

A pharmacist by training, she draws on her public/private sector experience to develop and deliver useful and innovative healthcare solutions, leveraging her in-depth knowledge of the French healthcare system and her expertise in influence and communication techniques. Her area of expertise lies in drawing on a diverse group of stakeholders to solve public health issues through experiential learning, collective intelligence and creativity. Trained in foresight, she reinforces her approach with new ideas, a systemic approach and the power of social ties. She plans to join the associative/philanthropic world in order to bring about a single health system and, around a common cause, innovative holistic health programmes.

Jessica Leygues

Executive Director of the IHU des Cancers des Femmes, Institut Curie

Jessica Leygues is Executive Director of the IHU des Cancers des Femmes. An engineer from AgroParisTech, she has been involved at the intersection of health innovation and public-private partnerships for nearly 20 years. After working as a consultant in innovation strategy and public health policy at Alcimed, she led the development of Value-based Healthcare at Celgene, then headed up the Medicen competitiveness cluster for four years, supporting the healthtech ecosystem in the Paris region. Committed to transforming healthcare systems for and with patients, Jessica now oversees the strategy and deployment of the IHU founded by the Institut Curie, PSL University and Inserm, dedicated to better preventing, diagnosing and treating these female cancers and reducing their impact on women's quality of life.

Micheline Misrahi-Abadou

Medical Doctor, M.D., PhD, Professor of Biochemistry and Molecular Biology Paris Saclay University. Expert in women's reproductive health.

Micheline Misrahi-Abadou is a medical doctor trained in gynecology and endocrinology and has a PhD. in molecular biology. She is a professor of biochemistry and molecular biology at the Paris-Saclay Faculty of Medicine. She has dedicated her career to the study of reproductive mechanisms and was the first to identify new causes of infertility. She was a pioneer in the development of genomic medicine for female infertility. She directed a research unit at Inserm (the French National Institute of Health and Medical Research), served on national (Inserm, League Against Cancer) and international scientific advisory committees, and was an expert for the French National Agency for Medicines and Health Products Safety (ANSM). She is a member of the European Academy of Sciences and of national and international learned societies. She is the author of two books, « Nouvelle fertilité, nouvelles familles, nouvelle humanité» co-directed with Boris Cyrulnik, 2024, published by O Jacob's editions, and «Ménopause (très) précoce », 2025, with Line Rifaï, published by Éditions du Rocher.

Danielle Nommay

Medical Affairs Manager

Danielle Nommay has extensive experience in pharmaceutical and biotechnology companies, mainly in the pre-launch and early access phases in oncology and rare diseases, as head of medical affairs. Highly patient-focused, she works to improve access to therapeutic innovations and the quality of the patient journey. She has also contributed to Gilead's development in the field of HIV. With a scientific background in neuroscience complemented by an MBA, she combines scientific expertise, strategic vision and a strong commitment to patient needs. She is a member of AMMIS and the Collectif femmes de Santé (Women in Health Collective).

Anne-Marie Pernet

Director of the Health Department at the CSA Institute

Anne-Marie Pernet, a pharmacist by training, has been head of the Health Department at the CSA Institute for the past three years. After more than 15 years in marketing positions in the pharmaceutical industry, she decided to join the world of market research. After 10 years as director of a research company specialising in health, she now coordinates research conducted at the CSA Institute. She assists her clients (both public and private) in setting up surveys to meet various objectives depending on the issues encountered. Respondents may be healthcare professionals, patients, carers or members of the general public. She is a member of the Women in Health collective and, three years ago, worked with the collective to create a barometer measuring women's perceptions of their health.

Hadia Ripoll

Managing Director and co-founder of Doado

A graduate of business school, she then studied healthcare management. Hadia managed a nursing home and then held marketing and sales positions in the healthcare sector. She subsequently co-founded the start-up Back Learning with the Doado solution, an AI-powered application that combats musculoskeletal disorders, including back pain, with tailor-made video programmes of micro-exercises and advice presented by physiotherapists and doctors. Appointed regional delegate for the Femmes de Santé collective in Nouvelle-Aquitaine, Hadia is committed to promoting the importance of prevention and the risks of medical misinformation.

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Appendices and biographies of the authors are available
on the Femmes de Santé website at the following link
www.femmesdesante.fr/livre-blanc-mesinformation

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