





# Femtech in Ireland

The Case for Prioritising Women's Health Research and Innovation.



## Foreword



"This report provides important insights into advancing women's health in Ireland. It aligns with the Programme for Government's commitment to further transformations in women's healthcare. It informs the Department of Health's ongoing initiatives such as the Women's Health Taskforce, the Women's Health Action Plan and our on-going service and policy developments in menopause, fertility, and gynaecology. By highlighting areas for further research and innovation, this report helps guide our efforts to ensure that women's health is better understood, better supported, and better served. I welcome its findings and look forward to working with partners across the health system to build on this progress."

Dr. Jennifer Carroll MacNeill TD, **Minister for Health** 



"Innovative Irish enterprise and startups have a pivotal role in driving the future of Femtech, an emerging sector with immense potential for women's health. My Department, through Enterprise Ireland and HIHI, are strategically prioritising these businesses that focus on research and innovation through the Femtech@HIHI initiative and our R&I supports that can catalyse investment, and help grow start-ups to scale in a global market. With Ireland's strong foundation in fostering research and innovation, we can empower Irish Femtech companies to not only provide better outcomes for women's health but also bolster Ireland's position as a leader in health innovation."

Mr. Peter Burke TD, Minister for Enterprise, Tourism and Employment



"As a clinician dedicated to women's health, I've seen firsthand the transformative impact of new services on our patients' lives. This report underscores the immense potential of research and innovation in elevating women's healthcare to exemplary standards. It emphasises the importance of uniting clinicians, patients, technology, and researchers to focus on women's health. By prioritising these areas we can drive significant advancements, improve outcomes, and position Ireland as a global leader in women's health.'

**Professor John R. Higgins Professor of Obstetrics and Gynaecology** Clinical Director Ireland South Women & Infants Directorate Principal Investigator Health innovation Hub Ireland Regional Director for Strategic Planning and Performance HSE South West.



"Supporting women's health is an imperative and an opportunity for Ireland. Our report is a call to action to prioritise women's health research and innovation. It emphasises the need for increased funding, more extensive research, and greater support for innovation in women's health. By fostering start-ups, translating research into impactful solutions, and attracting global FemTech companies to Ireland, we can drive significant advancements in this vital sector, supporting our economy, advancing healthcare delivery and innovating for 51% of the population."

Dr. Tanya Mulcahy, Director Health Innovation Hub Ireland and founder of FemTech Ireland





## **Executive Summary**

and 48% of the global workforce<sup>1</sup>. They live HIHI has supported 34 Femtech companies in the

healthcare needs, is projected to reach \$97 billion by 2030<sup>5</sup>. However, limited research, lack As global investment in Femtech accelerates,

**Ireland has a strong start-up ecosystem** supported

Women comprise 51% of Ireland's population supporting start-ups and innovators in this field. last 2 years and created a network of members

> reduces healthcare costs. With **75% of Femtech** companies founded by women, investing in this

#### **WOMEN IN NUMBERS**<sup>7,8,9</sup>



of the global health research budget has been spent on women's health.

Women make up

of the workforce





## Women's Health

Historically, research funding and innovation in The lack of funding for research on conditions women's health have faced numerous challenges, contributing to a gender gap in medical research and treatment. One of the primary issues has health research. For much of the 20th century, medical research largely focused on diseases and conditions more common in men, leading to a lack of understanding and resources dedicated to health issues that affect women. This has had significant implications for diseases like heart disease, where symptoms and risks manifest differently in women, and conditions such as autoimmune diseases, which are more prevalent among women but remain under-researched.

Another critical issue was the **exclusion of women** from clinical trials until the early 1990s. For decades, women were often left out of studies due to concerns about hormonal fluctuations or the potential risks to pregnancies. This exclusion led to a knowledge gap in how treatments and drugs affected women, as most data were derived from male participants. Consequently, women were often prescribed medications that had not been adequately tested for safety or efficacy in female populations. In 1993, the USA mandated the inclusion of women and minorities in clinical trials, marking a pivotal shift, re-opening opportunities in women's health innovation.

that uniquely affect women, such as endometriosis, polycystic ovary syndrome (PCOS), and postpartum depression, has hindered been the **underfunding of women-specific** advancements in women's health. These conditions often go underdiagnosed or untreated, as they have not received the same research attention as conditions like prostate cancer. **Endometriosis**, for example, affects approximately 10% of women of reproductive age, yet it remains poorly understood, difficult to diagnose and treatment options are limited.

> More recently, there has been increased advocacy for funding and innovation in women's health. A realisation that physiological differences between men and women may unlock better treatment options. Increased investments in women's health products, advancements in digital health and Al coupled with demand for better healthcare solutions is resulting in more start-ups. Wearable technology aimed at women has taken a massive step forward with companies such as Oura and Movano specifically launching women's health devices. As we advance the field of personalised medicine, there are significant opportunities across women's health conditions.

When considering women's health conditions in relation to men, there are three broad groups:

#### Conditions that affect women only: These conditions are largely related to hormones and reproductive health and include, menstrual health, gynaecological conditions such as Endometriosis and Polycystic Ovary Syndrome, fertility, maternal health, women specific cancers,

### Conditions that affect women disproportionately to men:

menopause etc.

These are conditions that affect both men and women but in general the incidence in women is much higher, these include (but are not limited to) autoimmune conditions (80% of cases are women), osteoporosis (80% of cases), Alzheimer's Disease (AD) and Dementia (two thirds of cases with AD in the USA are women), Urinary Tract Infections (30:1) etc.

#### Conditions that affect women differently to men:

These are conditions that affect both men and women but manifest differently in terms of symptoms and outcomes. Cardiovascular Disease- Heart disease symptoms in women (fatigue, nausea, shortness of breath) are often different from the classic chest pain seen in men, leading to misdiagnoses and delays in care in women. Osteoporosis, autoimmune conditions, mental health and neurological conditions all manifest differently and research has shown that hormones and biological cycles impact symptoms, onset and response to medication in these conditions.

Researching sex and gender differences in health is crucial for scientific accuracy, medical advancements, and healthcare equality. It leads to better treatments, improved patient outcomes, and a deeper understanding of human biology. Startups developing personalised treatments, diagnostic tools, and digital health solutions for women-specific conditions (e.g., endometriosis, menopause, PCOS) can tap into a growing multi-billion-dollar industry. Additionally, by addressing gaps in drug efficacy and safety for women, companies can create innovative products that improve healthcare outcomes while reducing long-term healthcare costs. Investors are increasingly recognising the financial potential of women's health research, leading to more venture capital and funding opportunities in this field.

## CONDITIONS THAT AFFECT WOMEN ONLY, DISPROPORTIONATELY AND DIFFERENTLY TO MEN



#### **ONLY AFFECTS WOMEN**

- Menstrual Health
- Endometriosis
- PCOS
- Miscarriage
- Breastfeeding
- Postpartum Health
- Sexual Health Fertility
- Pregnancy
- Childbirth
- POI
- Menopause
- Perimenopause
- Cervical Cancer
- Ovarian Cancer



#### DISPROPORTIONATELY

- Autoimmune Disease 80%
- 80% Osteoporosis
- Alzheimer's Disease & Dementia
- Depression & Anxiety
- **Urinary Tract** Infections (UTI's)
- Migraine
- Breast Cancer
- Thyroid Disease
- 99% 5-8:1

2:1

30:1

3:1



#### DIFFERENTLY

- Cardiovascular Disease
- Bone Health
- Stroke
- Neurological Conditions
- Autoimmune Conditions
- Mental Health
- Alzheimer's
- Dementia

## The Economic Opportunity

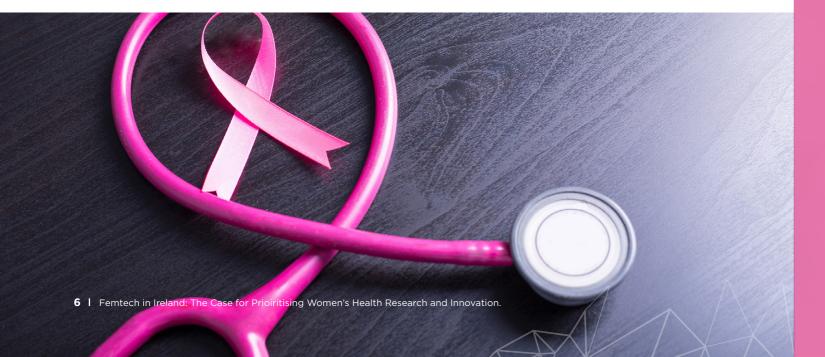
rapidly growing industry with significant financial Forum<sup>10</sup>, closing the women's health gap could generate \$1 trillion in annual global GDP by 2040. Dealroom.co estimates that Femtech companies are now valued at \$28 billion globally and Frost & Sullivan projects continued growth in key and menopause treatments, driving the sector's expansion<sup>11,12</sup>. Additionally, the **Women's Health** Access Matters (WHAM) report underscores that increased research and investment in women's health could yield substantial returns, as healthier women contribute to stronger economies through workforce participation and productivity<sup>13</sup>.

Closer to home, a recent UK report - Women's Health Economics: Investing in the 51 Per Cent (October 2024) highlights the significant economic cost of neglecting women's health in the UK and the potential financial benefits of increased investment<sup>14</sup>. Conditions like severe Women's Health Research and Innovation in period pain, endometriosis, and menopause- Ireland related unemployment contribute to £12.5 billion in annual economic losses, while investing just £1 more per woman in obstetrics and gynaecology services could yield an £11 return on investment (ROI), adding £319 million to the economy. Key recommendations include ring-fenced funding. increased research investment, better medical training, and improved data collection to close the gender health gap. Investing in women's health is positioned as both a social necessity and an economic imperative, essential for boosting workforce productivity and UK national GDP.

Recent economic reports emphasize Femtech as a These insights indicate that Femtech is not only a social imperative but also a lucrative market potential. According to the **World Economic** for investors, entrepreneurs, and governments looking to drive economic growth. Enterprise Ireland's new Strategy aims to support 1000 new start-ups by 2029<sup>15</sup>, **Research Ireland** is engaging with stakeholders to inform it's new strategy as it emerges as the national research funding areas such as fertility solutions, menstrual care, agency and the Health Research Board (HRB) will publish their plans for activity beyond 2025. It is imperative that women's health research and innovation is included in the National Strategy for Life Sciences. Given the significant advances in clinical delivery in women's health within the HSE, supported by the Department of Health-Ireland has at this moment a pivotal opportunity to recognise, embed and deliver women's health focused research, innovation development and commercialisation in all government supported strategies and policies.

Recommendations to support Femtech and

- Specific funding for women's health research
- Specific funding for women's health research commercialisation
- Specific investment funding for Femtech Start-ups.
- Requirement to disaggregate data in medical and scientific research
- Establish a Femtech Lab in a healthcare setting with fast access to clinicians, patients, data and a test-bed (sandbox).



#### HIGH POTENTIAL AREAS FOR START-UPS IN FEMTECH



#### **Reproductive & Maternal Health**

- Fertility & Contraception: Al-powered fertility tracking, egg freezing,
- Pregnancy & Postpartum Care: Remote prenatal monitoring,
- postpartum depression treatments, pelvic floor health Menstrual Health: Smart period tracking, sustainable menstrual



#### **Menopause & Aging**

- Hormone Therapy Alternatives: Personalized HRT, plant-based
- Symptom Management: Wearable tech for hot flashes, sleep
- Bone & Cardiovascular Health: Al-based risk prediction, supplements



#### **Chronic Conditions & Autoimmune Diseases**

- Endometriosis & PCOS: Al-powered diagnostic tools, non-invasive
- pain management, personalized supplements

  Migraines & PMS: Neuromodulation devices, Al-driven medication
- Autoimmune Disorders (e.g., Lupus, Rheumatoid Arthritis):



#### **Sexual & Pelvic Health**

- Sexual Wellness: Smart vibrators, arousal-tracking apps,
- Pelvic Floor Health: Al-driven kegel trainers, urinary incontinence
- **STI Prevention & Treatment:** At-home diagnostic kits, Al-powered



#### **Mental Health & Well-being**

- Postpartum Depression & Anxiety: Digital therapy platforms,
- Hormonal Mood Disorders: Personalized mental health apps.
- Sleep & Stress Management: Wearable stress trackers, biofeedback-based



### **Oncology & Preventative Health**

- Breast & Cervical Cancer: Al-powered screening tools, wearable early
- Preventative Genomics: At-home genetic testing, personalized cancer
- Post-Treatment Care: Al-driven rehabilitation programs, wearable



#### **Digital Health & Al-powered Solutions**

- Telemedicine for Women's Health: Virtual OB-GYN consultations,
- Data-Driven Personalization: Al-powered health recommendations,
- menstrual cycle tracking with predictive analytics **Femtech Wearables:** Smart bras for breast health, period-tracking rings,

## Femtech In Ireland

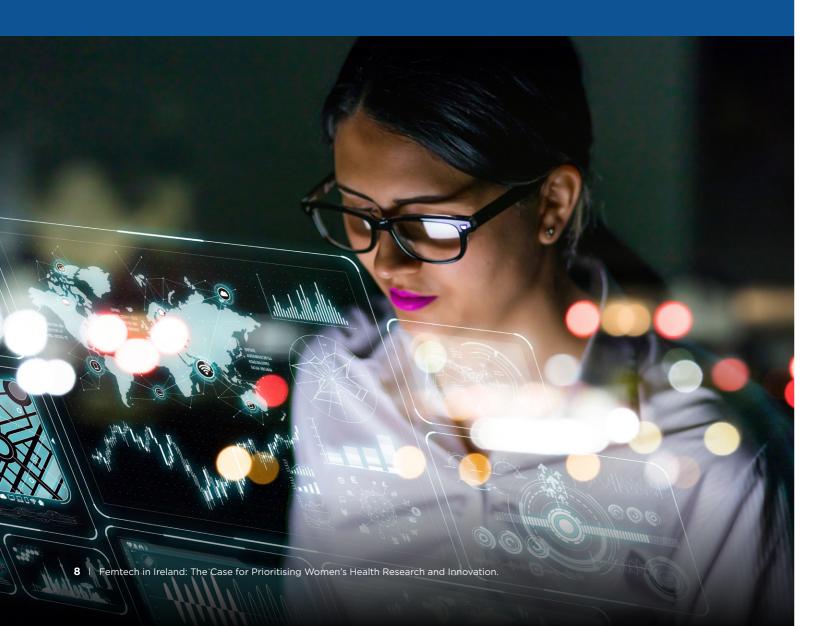
initiative funded by Enterprise Ireland and the HSE to support the development and implementation putting Ireland on the global Femtech map, of new healthcare products and start-ups in creating a network of members interested in Ireland. HIHI supports innovators at the early idea stage, prototype stage and market ready product phase by providing expert feedback, engaging with clinical staff and healthcare teams, enabling patient and end-user evaluation of products, opportunities and supports needed to drive this delivering product pilots in Irish healthcare and sector in Ireland in the future. supporting more rapid commercialisation of products www.hih.ie

Driven by an increased demand for support for women's health focused products, an obvious gap in technology across all women's health issues and the opportunities in AI, wearables and sensors, Health Innovation Hub Ireland established Ireland's first Femtech initiative.

Health Innovation Hub Ireland is a government Femtech @Health Innovation Hub Ireland was launched in November 2022, with the aim of supporting Femtech research and innovation in Ireland, mapping Femtech in Ireland, delivering a programme of work to attract and support Femtech start-ups in Ireland and identifying the







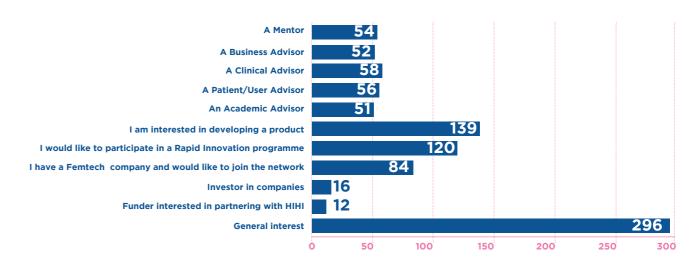


# Creating an Irish Femtech Network

The Femtech @HIHI network membership stands at 455, spanning a wide range of interests including those wanting to start their own business, clinicians offering support, investors and women willing to participate in studies. Femtech @HIHI has been able to draw on the expertise of this network to support early stage companies in their research and development. For example an El Funded Commercialisation Fund application was informed by responses received from this network in relation to menopause supplements. This network was engaged to support the development of an algorithm to drive

a device for women's health symptom tracking. Clinicians and Key Opinion leaders have been involved in providing clinical expertise and end user feedback on early stage products. We have a particularly strong engagement with clinicians at Cork University Maternity Hospital and Ireland South Women and Infants Directorate, enabled through HIHI PI Professor John Higgins, Clinical Director CUMH. Many of those clinicians have academic appointments in University College Cork and engage with research and commercialisation projects also.

#### MEMBERS INTERESTED IN FEMTECH ACTIVITIES



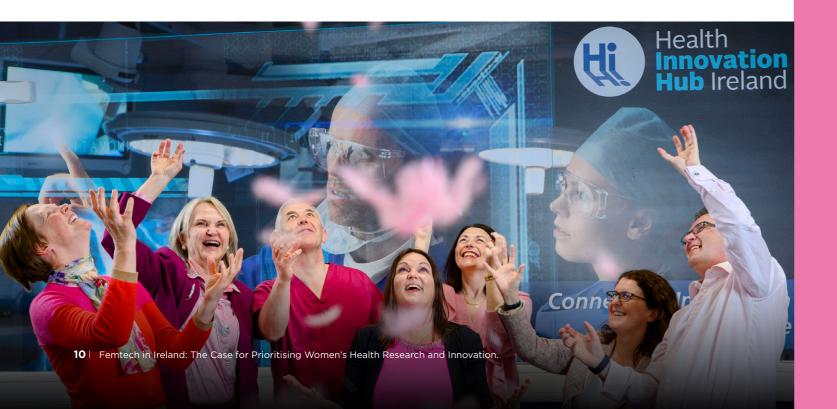
## HIHI Femtech Call

In 2023 Femtech @HIHI launched Ireland's first floor conditions, symptom tracking and data call for companies developing Femtech solutions. Thirty-seven applications were received, 11 were and women's sport, products for postpartum selected for support, 73% of applications were care and a wearable for passive monitoring of from female founders. These included a novel contraceptive device, easily inserted and reduces 
Innovation Hub Ireland has supported these startthe need for pain management, medical devices ups through clinical and patient feedback, pilots for the treatment of vaginal atrophy and pelvic and evaluations.

analytics apps for menopause, Parkinson's disease menopause (vasomotor) symptoms. Health

### **FEMTECH @HIHI CALL WINNERS**





# Map of Irish Femtech SMEs

HIHI has mapped more than 35 start-up companies\* innovating in women's health across the country.



#### IRISH SMES WITH FEMTECH SOLUTIONS/PRODUCTS



Contained Tissue Extraction



Digital therapeutics (DTx.) for the treatment of Overactive Bladder



Innovo - treatment of incontinence sexual health dysfunctions and other associated disordersstrengthening the muscles and modulating the nerves of the nelvic floor



The only simple, non-hormonal safe, affordable treatment for VaginalAtrophy that is suitable for all women.



Bladder Boss is an 8-week sciencebacked digital program, designed bladder health and reduce the impact of Overactive Bladder



Integrated online and in person women's health primary care service.



Breastfeeding monitoring device coro with app integration.



Frendo is a multi-platform app for endometriosis patients and those with suspected endometriosis



functional fitness service for all women, designed to promote strength and wellness in all stages of life, with a special focus on the menopause.

Online health education and



A patented handheld and mobile device that provides a much more accurate and easier-touse alternative to transvaginal ultrasound



Helping progressive employers to close the gap by prioritising women's wellbeing and careers.



Femtech Healthcare's Kev technology allows every woman personalisation and insight into her individual health and wellbeing.



Menstrual cycle and fitness tracking app.



Measuring menstrual blood and period symptom management tool.



Organic and Natural Personal Feminine Products.



'Fertility Coach' that leverages science to improve fertility mental fitness, bringing mind and body into balance and helps couples, women and men achieve a healthy happy IVF experience.



Their mission is to make menopause care and advice accessible to everyone. themselves throughout their menopause journey.



Norma Vaginal Pain Programme



The company has developed the Steri-CISION C-section Retractor to improve access and visualisation during Caesarean Delivery.



Premium Prenatal Fertility Supplements Women that focus on the microbiome to optimise Fertility Health.



Develop a pre-pregnancy health assessment app - bring health to life with a smartphone.



Diagnosis and Treatment of pelvic



Clinical-stage biopharmaceutical company with a focus on women's



Menopausal symptom tracker



A Med-Tech startup developing wound care dressings for women postpartum. PPR Healthcare strive to make a meaningful improvement in the lives of new mothers to help them on their recovery after giving



Female focused - Formulations that work better for women.



Optimising supplements for the most common nutritional issues women health and pregnancy.



Innovative Strap - for your post abdominal surgery recovery - C



Menopause App - a companion for peri, post, early, premature & surgical menopause.



Formulate supplements that support and sync with the hormonal phases of periods pregnancy and menopause.



Pre-startup developing technology to aid in real-time disease diagnoses in breast diseases.

## FemmeBiome'

Pre-startup creating microbiome supplements for women.



Pre-startup developing technology for in-utero foetal stress assessment

## What Femtech Founders Want

In 2025, HIHI conducted a survey with the winners of the Femtech Call- a small group with valuable insights into the needs and challenges of a developing Femtech company.

This survey identified that the biggest challenges faced by Femtech companies relate to investment and regulatory requirements, lack of specialised expertise in regulatory, market access, women's health and direct specialised access to clinicians and patients.

#### **SURVEY RESULTS**



#### **Regulatory & Compliance Barriers**

- Complex and costly MDR and FDA approval processes slow down product development.
- Lack of clear regulatory precedents for Femtech innovations, making compliance difficult
- Data privacy and security concerns (e.g., GDPR) add an extra layer of complexity for digital health solutions.



#### **Clinical Validation & Research Challenges**

- Limited access to clinicians and patients for real-world testing and trials.
- Time constraints of healthcare professionals, making collaboration difficult.
- Slow and complex ethics approval processes, delaying research and
- High costs of clinical research, with many startups opting for trials abroad.



#### **Market Access & Adoption Barriers**

- **Difficulty integrating** Femtech solutions into hospital systems due to procurement and reimbursement challenges.
- Lack of structured networks connecting Femtech startups with
- **Limited industry recognition** of Femtech, leading to slow adoption by healthcare institutions



#### **Skills & Knowledge Gaps**

- Lack of expertise in clinical trial design, affecting regulatory approvals and
- **Limited understanding of healthcare procurement** and reimbursement models. hindering adoption
- Shortage of specialists in AI, digital health, and biomedical engineering, crucial for product development



#### **Funding Challenges**

- · Lack of dedicated funding for Femtech startups, particularly for early-stage research and clinical validation
- · High financial barriers for product development, clinical trials, and market entry.
- Difficulty securing investors who understand the long-term potential of Femtech
- Limited access to grants and public funding, with Femtech often overlooked in mainstream health investment

## Enabling Femtech in Ireland

#### **WHAT**

**MORE** 

Women's

Health Research

#### **HOW**

## Focused Women's Health Funding & Calls

- Ø Disaggregation of research data Men:Women
- More women's health in medical, lifesciences education

**Focused Funding for** 

Femtech Innovation

development

Femtech experts to support

Prototyping supports Clinical and patient access

#### WHY

## Uncover what has been under researched

- **Research publications**
- **⊘** Translational research-patient impact
- Identify commercial opportunities
- **Economic benefit-significant** untapped market
- **⊘** Support indigenous start-ups
- **⊘** Create exportable products
- Enable more women founders (75% Femtech founders are women)





- **⊘** Identify Femtech Investors
- **⊘** Create a Femtech Investment
- Address the biggest issue for Femtech



- Provide a go to location for clinical, patient access
- Provide access to prototype testing facilities
- Identify regulatory and market access experts
- Address issues identified in Femtech survey
- **⊘** Fast-track idea to market



- O Document and track all women's health R&D in Ireland
- Communicate and disseminate the outputs and impact
- (i) Identify Ireland as a location of choice





- Deliver conferences, workshops, events that unite the ecosystem
- Create a culture of co-development to ensure multidisciplinary R&D
- Shared interests, varied expertise all supporting Femtech
- **⊘** Showcase success



- Create a programme to attract international Femtech start-ups
- The US has largest activity in Femtech- current politics has changed this - make Ireland a Femtech destination



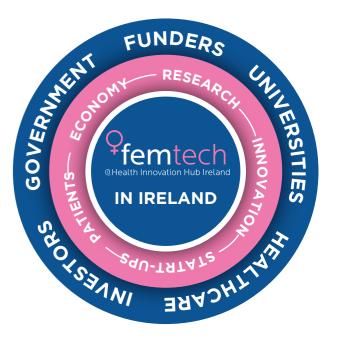
- Include Women's Health Research and Innovation in government policies and strategies
- 51% of the population!

## Our Vision for Femtech

#### **INVEST IN THE 51%**

The purpose of this report is to **inform on** the gaps in women's health research and innovation and **identify the opportunities** for researcher, innovators, investors and enablers. This report highlights the economic, social and healthcare impacts of better women's health research and innovation. This report is a call to action to our government, our politicians, our healthcare providers, our researchers, our universities, our clinicians, our healthcare systems, investors and enablers, to support research and innovation that directly impacts 51% of the population and indirectly impacts every citizen.

We are specifically calling on our government to include women's health research and Femtech innovation in the National Life Science Strategy, we are asking our funding agencies to deliver focused funding calls for women's health research and innovation, we are encouraging researchers, clinicians and academics to look at their research with a gender lens and unlock what is still unknown in conditions that affect women only, differently and disproportionately and we are calling on innovators to take that knowledge and translate to products that impact women now and for future generations. We are calling on Ireland to invest in the 51%.





#### SUPPORT WOMEN'S HEALTH THROUGH









#### **BY PROVIDING**



specific funding for women's HEALTH RESEARCH COMMERCIALISATION

specific investment +
funding for
FEMTECH
START-UPS +





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# Acknowledgements

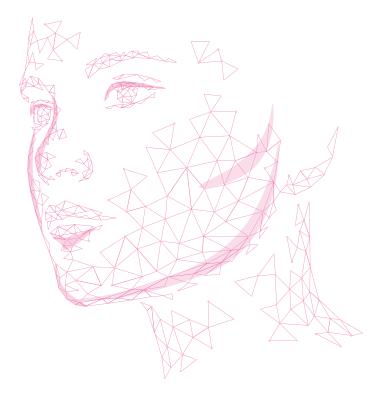
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#### **Dr Tanya Mulcahy**















An Roinn Sláinte Department of Health







