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The Hidden Revolution in Women's Health

From Infertility to Innovation

Jennifer Hintzsche reluctantly handed over her laboratory keys.

“You’re not smart enough to be here,” her academic advisor said with a sigh, as she collected the keyring.

As Hintzsche walked off campus, her mind swirled with frustration and self-doubt. She was a cancer researcher, dismissed from her master’s biology program after a single failed experiment. With less than a semester left to complete her degree, Hintzsche lost years of hard work, thousands of dollars in tuition, and the self-confidence she had spent her entire academic career building. Her advisor’s cruel parting words were the knockout punch in a series of painful blows.

But Hintzsche refused to give up.

In the months that followed, she channeled her shame and disappointment into action. Determined to stay in cancer research, Hintzsche discovered a new path: bioinformatics, a field that merges biology with computer

science. She knew she'd have to learn to code, so she poured herself into mastering programming languages, retaking classes, and restarting her master's degree from scratch.

Four years later, Hintzsche became the first person to earn a doctorate in bioinformatics from Northern Illinois University. As she walked across the stage at graduation, she locked eyes with her former academic advisor. Her expression said it all: I *am* smart enough to be here.

After earning her doctorate, Hintzsche quickly climbed the ranks of the healthcare industry. Her rare combination of skills made her indispensable, and she built a reputation for solving complex problems. Yet, despite her success, Hintzsche found herself facing a new, deeply personal struggle—one that left her feeling the same mixture of shame and unworthiness she'd experienced years earlier.

Why? She was infertile.

"Here I was, a PhD in biology but unable to conceive a child," Hintzsche confessed to me. "[That's] like Biology 101."

After trying to get pregnant for more than a year, Hintzsche and her partner turned to specialists for help. But instead of solutions, they were met with the same vague assurances and noncommittal answers many women hear. In one appointment, Hintzsche was greeted with a plush robe, a glass of cucumber water, and a pamphlet on women's health. The consultation itself was shockingly brief. When it was over, the specialist delivered a diagnosis with a shrug: unexplained infertility.

Hintzsche laughed in disbelief. "[At] the time, I was working on precision oncology—matching individual patient tumors with potential drug targets to treat their cancer. Meanwhile, this doctor looked me over for a couple of hours and said, 'Yeah, I don't know.'"

The diagnosis wasn't just a dead end—it also meant her insurance wouldn't cover additional testing or infertility treatments. Any further investigations would need to be paid for out-of-pocket. As Hintzsche checked out of her appointment, the receptionist handed her a loan application for \$10,000, as though this were a routine next step toward becoming a mother.

Hintzsche's experience isn't unique. About 30 percent of infertile women receive the same diagnosis of "unexplained infertility."¹ What sets Hintzsche apart is what she decided to do next.

Hintzsche refused to accept her vague "diagnosis." Instead of admitting defeat, sacrificing a quarter of her income, or falling into despair, Hintzsche did what she does best: She started researching.

But what Hintzsche found—or rather, what she *didn't* find—was infuriating. Her dive into fertility research and women's health literature was more of a shallow splash; the information just wasn't there. Women weren't even required to be included in clinical trials until 1993. For centuries, the healthcare system has been built on the assumption that the male body is the default, with women viewed only as deviations from the norm. Research on women's health exists almost exclusively in the context of reproduction, as if that's all women's bodies are meant for.

As Hintzsche dug deeper, she came face-to-face with modern medicine's gender data gap—a void created by decades of neglect in clinical trials, testing, and development focused on women's health. The statistics are staggering: Excluding cancer, only 1 percent of biopharma projects and 2 percent of new medical devices address conditions specific to women.² Meanwhile, less than 5 percent of global healthcare research and development funding goes to women's health.³

The gaps aren't just theoretical; they have devastating real-world consequences. Women make up 51 percent of the global population but are grossly underrepresented in medical research. Take chronic pain, for example: Women are 70 percent of those affected, yet 80 percent of pain studies are conducted on men.⁴ In cardiovascular medicine, heart disease is the leading cause of death for women in the United States, yet only 33 percent of clinical trial participants are female.⁵ Similarly, in the early stages of drug development—when doses and safety are determined—far more men participate, even though women are 60 percent more likely to have adverse reactions to prescription drugs.⁶ Comparable figures plague other common health conditions, including autoimmune diseases, sleep apnea, and osteoporosis.

The lack of understanding of the female body has far-reaching consequences. On average, women spend nine years of their lives in poor health, with significantly worse healthcare outcomes than men.⁷ According to a groundbreaking report by the McKinsey Health Institute, the women's health gap equates to 75 million years of life lost annually due to poor health and early death.⁸ Diseases like endometriosis and polycystic ovary syndrome (PCOS) take 7–10 years to diagnose, and women's health conditions are five times more prevalent than their documented diagnoses.⁹

Even when women know something is wrong, they're often ignored. Twenty-five percent of women report their healthcare providers have dismissed or ignored their symptoms, and 45 percent say they've been labeled

as “chronic complainers.”¹⁰ Alarming, more than 70 percent of women say they’ve been gaslit by healthcare professionals—told their pain is “all in their head” or “just stress.”¹¹

Whether it’s infertility, chronic migraines, chest pain, or weight management, women navigate the healthcare system with a quiet frustration that’s become all too familiar. We endure appointments where our concerns are minimized, our pain is trivialized, and our experiences are reduced to hormones or stress. We leave with more questions than answers, overwhelmed by a system—including doctors (both male and female)—that seems to know so little about female biology.

But there’s hope. A quiet revolution is brewing, fueled by people like Hintzsche who are tired of hitting dead ends, talking to brick walls, and watching doctors shrug. Women are fed up with being ignored, dismissed, and underserved by the medical establishment.

This revolution isn’t about marches or petitions; it’s about leveraging technology and data to close the gender gap in healthcare. It’s about empowering women to take control of their health with tools, apps, and devices designed specifically for the female body. This revolution is called femtech, and it’s changing the game for women everywhere.

Seeds of Change: Emergence of the Femtech Revolution

In 2012, Dutch entrepreneur Ida Tin created Clue, a period-tracking app born out of frustration that this technology didn’t already exist.¹² By 2015, Clue had attracted two million users across 180 countries,¹³ and by 2024, it boasted more than 10 million active users.¹⁴ It’s estimated that 50 million people worldwide use period-tracking apps today, making them the fourth most popular app for adults and second most popular app for adolescents.¹⁵ Clue’s explosive popularity not only proved the demand for women-centered health solutions but also ignited something far greater: the largest movement in women’s health technology to date, called femtech.

Femtech, short for “female health technology,” encompasses a broad spectrum of products and services designed to address health challenges unique to women. While most people associate femtech with reproductive health innovations like period trackers, fertility apps, and menstrual products, the industry goes far beyond that. As Tin herself put it, femtech refers

to “products and services leveraging technology to address needs specific to people with female biology.”¹⁶

You may have already encountered femtech without realizing it. Popular apps like Clue, Flo, Glow, Natural Cycles, Ovia Fertility, or period-proof underwear brands like Thinx and Knix, are just the beginning. Menopause tools like Embr Wave have transformed how women experience hot flashes, while breast-health devices like AI-powered gloves and smart bras offer more accurate detection and monitoring for breast cancer than traditional methods. Femtech is addressing everything from early-stage ovarian cancer detection via simple blood tests to innovative intrauterine devices for managing endometriosis, fibroids, and abnormal bleeding. This isn't just innovation—it's a reimagining of healthcare for women.

Yet, like many women, Hintzsche had never heard of femtech when she faced her infertility diagnosis. Turning to traditional medicine, Hintzsche researched her options, diving into the scientific literature on conception and intrauterine insemination. But the more she learned, the more frustrated she became. The available treatments were invasive, expensive, and often came with limited success rates. She wasn't satisfied with the one-size-fits-all approach to women's reproductive health.

Determined to find another way, Hintzsche analyzed the effectiveness of different fertility treatments and uncovered a method called intracervical insemination (ICI). Simpler, less invasive, and more affordable than IVE, ICI involves placing sperm directly into the cervix using a syringe. While the DIY version—commonly known as the “turkey baster method”—is widely recognized, its success rates are dismally low due to the lack of sterility. However, Hintzsche discovered a game-changing detail: When ICI is performed in a sterile, controlled environment, its success rate skyrockets.

The revelation sparked an idea. What if Hintzsche could create a safe, sterile at-home ICI kit? It would be a solution that could bypass the invasive nature and high cost of IVE, providing an affordable, accessible option for women like her. And she wouldn't need a \$10,000 loan to do it. Fueled by frustration and hope, Hintzsche got to work.

With her husband—a mechanical engineer—by her side, Hintzsche researched materials, developed prototypes, and conducted rigorous testing. She collaborated with the US Food and Drug Administration (FDA)

to ensure her product met safety and efficacy standards. Her work culminated in the launch of the only FDA-cleared and sterile at-home insemination kit.

Hintzsche herself was the first customer to use the kit. On her second attempt, she became pregnant and later gave birth to a healthy baby girl. While her joy was immeasurable, her frustration with the medical system lingered. She wasn't just angry with the specialists who dismissed her and encouraged her to go into debt to conceive—she was angry with an entire industry that routinely overlooks women's needs.

That anger became a mission. Naming her company “PherDal” as a nod to her PhD and the word “fertile,” Hintzsche launched a crowdfunding campaign, raising more than \$600,000, which allowed her to produce 200 proof-of-concept kits. In just 90 days, every kit sold out, resulting in 34 successful pregnancies.

A quick look at the statistics and costs associated with infertility treatments shows just how powerful and accessible Hintzsche's kit is for women. ICI boasts a 37.9 percent success rate after six attempts, according to a study of more than 1,000 women.¹⁷ With PherDal, women can achieve six attempts for just \$400, compared to \$10,000 for a single round of IVF, which has a similar success rate of 46.7 percent.¹⁸ Hintzsche's innovation wasn't just a product—it was a lifeline for women who felt overlooked, dismissed, or priced out of motherhood.

Hintzsche's story exemplifies the rise of femtech. Faced with dismissive doctors and inadequate solutions, women like Hintzsche are stepping up to create the answers themselves. Increasingly, when traditional medicine fails to meet women's needs, they turn to outside experts—or become experts themselves. But what's striking is that even women like Hintzsche, deeply embedded in healthcare, often have no idea the femtech movement exists.

Why Haven't I Heard About Femtech?

If you haven't heard of femtech before, you're not alone. Many women are unfamiliar with the term, even as the industry experiences rapid growth.¹⁹ By 2021, femtech surpassed \$1 billion in funding, and the global market is projected to skyrocket from \$50 billion in 2023 to \$177 billion by 2032—a more than threefold increase in less than a decade.²⁰

So why haven't more people heard of femtech?

The biggest reason is censorship, particularly online. Women's health is often stigmatized and labeled as inappropriate, while ads for prostate exams, testosterone enhancers, and Viagra are widely accepted. Smart bras, menopause kits, and pelvic health products, however, are routinely flagged as explicit content. Even when femtech companies create valuable products, they're rarely visible to potential users because search engines, social media platforms, and advertising networks reject the posts and advertisements as "adult" material. A 2022 study by the Center for Intimacy Justice found that 100 percent of femtech companies surveyed had their ads rejected on Meta platforms like Facebook and Instagram.²¹ Over half had their accounts suspended entirely, often for ads addressing topics like breast cancer symptoms, menstruation facts, pelvic floor health, fibroids, or endometriosis.²²

The digital gatekeeping of women's health doesn't just stifle awareness; it perpetuates harmful stigmas, equating essential health education with taboo topics like pornography and sex advertisements. These policies make it nearly impossible for femtech companies to reach their audiences, forcing them to fight an uphill battle to simply inform women about their own bodies. To see how pervasive this issue is, take a look at some of the femtech advertisements and content that were flagged as inappropriate and banned:²³

- "It takes 3.5 years to sail around the world. It takes 7–10 years to get an endometriosis diagnosis."
- "75% of women report experiencing pain with intimacy at some point, and it's a chronic problem for some. Learn more."
- "Many have already grabbed their spots for our breast/chest feeding workshops this week. If you are a new or expecting parent and would like to participate, make sure you register."
- "Run. Dance. Play. Love. Don't let intimate health concerns get in the way. vFit's new patented technology helps strengthen pelvic floor muscles so you can live life fully."
- "Don't wait another minute. You deserve to live your best life without embarrassing leaks. You can have stronger pelvic muscles and more bladder control in two weeks."
- "Hot flashes, headaches, crazy moods, no sleep? Consult with a specialist doctor or nurse practitioner for answers and solutions, for FREE."

In contrast, men's health advertisements that included language such as "get hard or your money back," "Say Goodbye to Nicks and Snags while Shaving Your Balls," "hard made easy," "Empower Your Balls Now," "My husband is having S** with me for 2 hours straight, and isn't getting tired," and more were approved by these platforms.²⁴

This widespread censorship creates a significant barrier. Many femtech products aren't discovered unless you already know what you're looking for or hear about them through word of mouth. For countless women searching for solutions, the silence surrounding these innovations only adds to the frustration of feeling ignored by traditional healthcare. The stigma and taboo surrounding women's health means you're unlikely to encounter the full range of femtech out there today.

Hintzsche faced similar challenges. "I need all the help I can get spreading the word," she shared. "This product can help so many people, but they still don't know about it. Between the censorship and advertising barriers, we have a really hard time reaching consumers. But we want women to know that this product exists for them."

Beyond censorship, mainstream media has contributed to misconceptions about femtech, often dismissing it as unsafe, untested, or unreliable. While there are some misleading products on the market, this isn't a problem unique to femtech—every industry has bad actors. Safe, clinically effective femtech solutions do exist, but they're hard to find amid advertising bans, algorithm biases, and misinformation. The result? Women are left unaware of the groundbreaking tools available—or worse, they believe femtech can't be trusted at all.

Finding Femtech SAFELY

Women's lack of awareness and trust in femtech doesn't exist in a vacuum—it's the result of deeper frustrations with traditional healthcare and the absence of reliable guidance. This gap often leaves women to take matters into their own hands. After a frustrating or inconclusive doctor's appointment, many women find themselves diving into an all-too-familiar ritual: hours of relentless internet scrolling through forums, social media threads, and short videos desperately searching for answers, solidarity, and support. This phase, which I call the "Internet Research Storm," often provides a

sense of comfort. Women find connection and validation from others who share their struggles. However, it also comes with significant risks: Misinformation spreads quickly, and poorly informed decisions can lead to wasted money, ineffective treatments, or—worse—compromised health.

In the chaos of the Internet Research Storm, women are bombarded with products and services that fail to deliver. Some don't work, others aren't safe, and many exploit desperation for profit. Targeted ads, influencer endorsements, and flashy marketing often steer women toward pseudo-femtech products that undermine trust in the entire industry. At the same time, the censorship on search engines and social media platforms makes it harder to find reputable femtech options, burying the very solutions that could genuinely help. This can make it difficult to know which femtech products to trust, but fear shouldn't hold women back from exploring solutions. Instead, we must arm ourselves with the tools to make informed decisions, demand better from the industry, and reclaim our power in healthcare. We must learn to critically evaluate femtech offerings—whether found during an Internet Research Storm, through targeted searches, or even word of mouth. By identifying credible and innovative solutions, women can ensure their choices support their well-being.

That's why I created the SAFE method—a simple, practical framework to help you navigate femtech safely and effectively. As a lawyer, my core values center on safety, compliance, and transparency. The SAFE method reflects those values, offering a roadmap for you to evaluate femtech products with confidence. SAFE stands for:

- **Security:** How well does the product protect your data and personal information?
- **Accuracy:** Is the product backed by research, clinical trials, and validated scientific data?
- **Foundation:** Do the company's mission, leadership, and values align with ethical and user-focused innovation?
- **Equity:** Is the product accessible, affordable, and inclusive, designed to meet the needs of diverse consumers?

Though designed with femtech in mind, the SAFE framework can also be applied to other health technologies. Most products can be evaluated in 15 minutes or less, and throughout the book, we'll explore each of these

pillars in depth. I'll provide actionable tips and strategies to help you assess products quickly and effectively, equipping you to demand transparency, accountability, and ethical practices from healthcare and tech companies.

By embracing the SAFE method, you can engage with femtech confidently and unlock its transformative potential. Femtech is poised to revolutionize the healthcare landscape, but we must embrace it, and demand continued innovation for the industry to succeed. The possibilities are vast and empowering, promising a future where women are no longer dismissed by doctors, where their pain is acknowledged and treated, and where open discussions about their bodies are met with support, not stigma. Together, we'll navigate this exciting new era of women's health, empowering you to become both an informed consumer and an active participant in the femtech revolution.

Conclusion

This transformative combination of medicine, autonomy, and technology empowers women to shift from being passive recipients of care to active participants in their health journeys. Femtech has the potential to fill the gaps left by traditional healthcare, not by replacing compassion and expertise but by enhancing and personalizing the care women receive. It offers tools to bridge the divide between outdated systems and the unique, evolving needs of women, opening the door to better outcomes and greater empowerment.

To fully grasp the significance of femtech and its promise, we must first examine the history that shaped today's healthcare system. Centuries of neglect, bias, and inequality have left a profound mark on women's health. In the next chapter, we'll trace this journey from ancient remedies to groundbreaking modern innovations, exploring the societal forces that deepened the disparities between men's and women's health. This story of resilience and progress will set the stage for understanding how femtech is uniquely positioned to drive lasting, meaningful change—and why it's more crucial now than ever.