

WHAT YOU DON'T EXPECT WHEN YOU'RE EXPECTING

SECURITY AND PRIVACY
ANALYSIS OF FEMTECH

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WHAT IS FEMTECH?



Digitizing Women's Health

FEMTECH

Software, diagnostics, products, and services that use technology to improve Women's Health comprises Femtech, also referred to as Female Technology.

Femtech involves the use of **digital health** to motivate patients to access and use applications for managing health issues.



FEMTECH MARKET MAP

FERTILITY SOLUTIONS



WOMEN'S SEXUAL WELLNESS



PERIOD CARE GOODS



PERIOD & FERTILITY TRACKING MOBILE APPS



REPRODUCTIVE SYSTEM HEALTHCARE



GENERAL HEALTHCARE



PREGNANCY & NURSING CARE



AT-HOME FERTILITY MONITORING DEVICES



WHY IS FEMTECH IMPORTANT?

- Women have been underrepresented and underserved by health-related apps

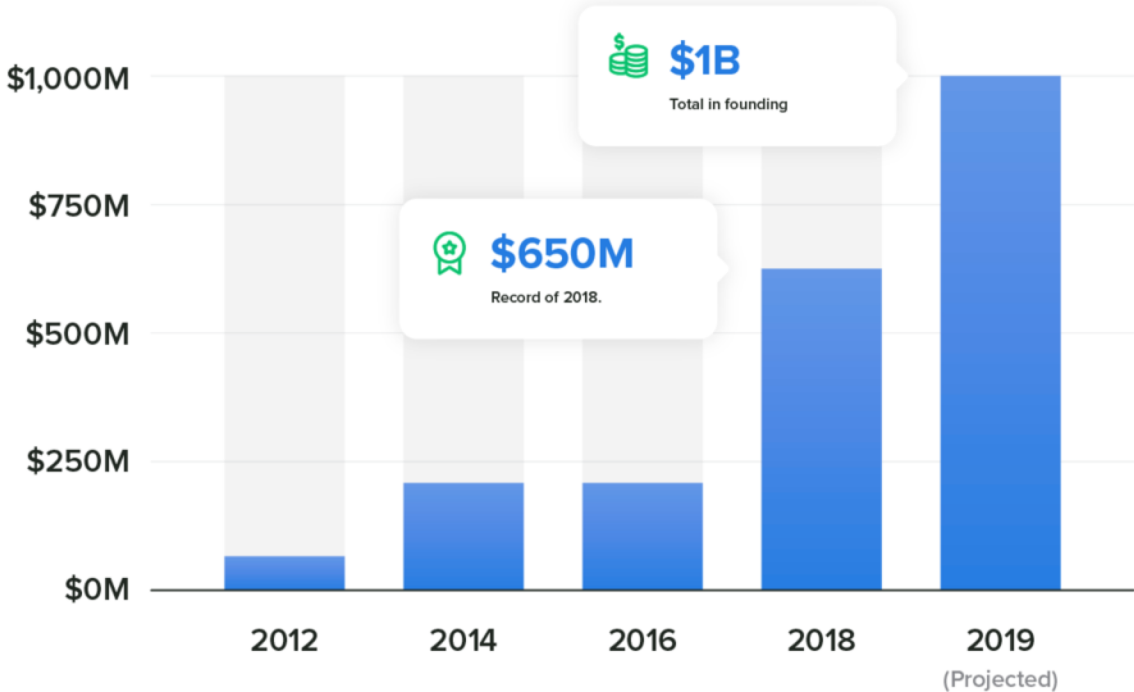
Women in Healthcare—The Movers and Shakers

- **90%** are primary healthcare decision makers for their family and key influencers for friends.
- **80%** of the household healthcare spending is done by women.
Working-age females spend **29%** higher per capita on healthcare compared to males in the same age group.
- Women comprise **50%** of global healthcare customers and are primary care givers for the elderly and children.
- **66%** of Internet users look online for healthcare information.
Women are **75%** more likely to use digital tools for healthcare than men.
- Women account for **80%** of healthcare professionals (mostly nurses), however, less than **40%** are in executive or managerial positions.
- Women comprise **4%** of CEOs and **21%** of board members at Fortune 500 healthcare companies.



GROWTH OF FEMTECH

VC Funding in the Femtech Industry



Source: Tech Crunch

“Our maternity costs were high, and we needed a more effective solution. Ovia Health helped us reduce costs by improving health outcomes in a way that was both high-tech and respectful of our employees’ privacy. Since we launched, we’ve increased the number of employees engaging with not just Ovia Health, but all of our family benefits.”

Senior Director at a major technology company

RISKS OF FEMTECH DATA BEING SHARED

- Intrusion into sensitive personal health details
- Healthcare pricing discrimination
- Workplace discrimination
- Abusive relationship dynamics

QUESTIONS RAISED

Most femtech apps are free; what's the actual price of using them?

1. What data are being transmitted to these third parties?
2. How are the data being transmitted to the third parties?
3. How are the third parties using the transmitted data?

OUR INVESTIGATION

- Identification of the existing and the emerging femtech apps
- Examination of the femtech apps' privacy policies
- Network traffic analysis of femtech apps in use

PRELIMINARY FINDINGS: PRIVACY POLICY BREAKDOWN

- Apps not governed by HIPAA (*and not compliant with HIPAA*)
- Most apps transparent about who they share the data with for marketing purposes
- Main data aggregators:
 - AppsFlyer
 - Acxiom
 - Facebook
 - Pinterest
 - Google Analytics
- *Vague language on when, how, and which data are collected*

PRELIMINARY FINDINGS: NETWORK ANALYSIS

- Traffic to and from the apps mostly encrypted
- Apps talking to:
 - Multiple AWS EC2 instances
 - Google
 - Facebook
- Further work will focus on:
 - Analyzing the nature of data is being shared with data aggregators
 - Discovering the patterns of data transmissions (only when app in use vs. periodically)
 - Collecting more information about the EC2 instances that the apps are talking to

CONSIDERATIONS

- **Inversion of privacy**
 - Third parties have access to data about an individual that even an individual doesn't know, and can't access
- HIPAA – a legal framework, regulating medical information in the US

Should femtech data be considered for HIPAA compliance too?

AVERAGE AMOUNT SPENT ON A SPOUSE/SIGNIFICANT OTHER.



Men
\$133.61



Women
\$62.14



Pets
\$26.24

Most in demand gift? Candy at 50% followed closely by flowers and jewelry.



Who will buy online?



Who will hit the
Department Store?



Who favors candy
vs. jewelry vs. flowers?

An example from Acxiom on targeting shoppers for valentine's day

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- Images:
 - Slide 2: *Digitizing Women's Health*.
 - Link: <https://venturebeat.com/2018/03/08/frost-sullivan-femtech-could-become-a-50-billion-market-by-2025/>
 - Slide 3: *Femtech Market Map*.
 - Link: <https://www.cbinsights.com/research/femtech-market-map/>
 - Slide 4: *Women in HealthCare - The Movers & The Shakers*.
 - Link: <https://ww2.frost.com/frost-perspectives/femtechttime-digital-revolution-womens-health-market/>
 - Slide 5: *VC Funding in the Femtech Industry*.
 - Link: <https://www.hitlab.org/blog/femtech-by-the-numbers>
 - Slide 13: *Marketing Attraction Made Easy This Valentine's Day*.
 - Link: https://www.acxiom.com/wp-content/uploads/2017/10/AC-0057-17-Collateral-Flyer-Data-Guru-Seasonal-Flyer-Valentines_Ir.pdf

THANK YOU!

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