

EVOLUTIONS IN WOMEN'S HEALTH

AN ANALYSIS ON THE GROWTH OF INVESTMENT
SPENDING IN THE WOMEN'S HEALTH SPACE



LAWRENCE, EVANS & CO., LLC

Investment Banking | Healthcare Finance | Consulting

Table of Contents

Why Women’s Health is More Relevant Than Ever	2
Major PE Transactions in Women’s Healthcare.....	3
The Rise of Femtech	4
New Tech for Obstetrics.....	5
VC Femtech Transaction Activity.....	9
Fertility	12
Changes in Fertility Treatments.....	13
VC Activity in Fertility Treatments.....	14
PE Activity in Fertility Treatments.....	16
Other Transactions Including: Multispecialty Clinics, Practice Management, and Staffing	18
Other Transactions.....	19
Oncology & Contraception	21
Changes in the Oncology Space.....	22
Breast Cancer Investment Activity.....	24
Female Reproductive Tract Cancers, Treatment, and Cure Search.....	25
New Contraceptive Technologies.....	26
Contraception Investment Activity.....	27
Lawrence, Evans & Co., LLC	29

WOMEN'S HEALTH IS MORE RELEVANT THAN EVER

The movement to redefine the roles and ambitions for women over the past few decades led to a need for new innovations to accompany them. The Office on Women's Health (OWH) was established in 1991 within the U.S. Department of Health and Human Services (HHS). OWH coordinates women's health efforts across HHS and addresses critical women's health issues by informing and advancing policies, educating health care professionals and consumers, and supporting innovative programs. The government report of the largest women's health prevention study ever in 1991 – the Women's Health Initiative, showed women are living longer, breastfeeding more, participating in prevention ranging from teen pregnancy to quitting smoking, and being included in more clinical studies. Additionally, this report changed how we address minority women's health and recognized needs of the LGBT community in getting access to healthcare.



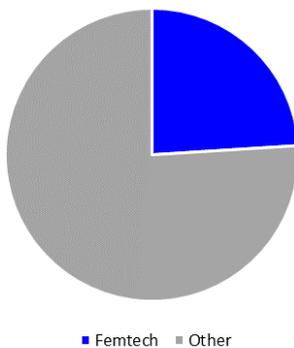
Data on childbirth indicates that women have been delaying starting a family over the past several decades. In 1972 the average age for a first-time mother was 21 years old. In 2016 that number was 26 years old. In large metropolitan areas the average age that a woman starts a family is near 30 as opposed to rural areas where it is 23. There are many factors involved in this shift to later-life childbearing; among them, more affluent women are both willing and able to make educated family planning decisions. There is also a demand for new technologies that assist women who need to delay motherhood - everything from precision medicine with egg health, egg freezing, IVF, and various apps for hormone cycles to pregnancy tracking and wellness, as well as, diagnostics covering preventative measures for breast and cervical cancer.

All of these facts have led to the blossoming of a new era in the healthcare industry. Women now demand high quality care in every aspect of their lives. As such, the market is responding. In the past three years, women's health clinics and practices have sprung up across the country and across the globe at a remarkable pace. The progression of technology has advanced this movement even further. Now, companies and practitioners are able to distribute assistance, products, and advice on a direct-to-consumer basis or through the use of telemedicine. The ease of access to these products is growing with each passing month. It is expected within five years to be a major sector, not only within healthcare, but within the global economy. Not surprisingly, speculators are driving much of this growth on the expectation of guaranteed returns.

This new field of both invention and innovation has spawned the new term: **Femtech**. But Femtech is not just limited to fertility. The Femtech sector also addresses sexual wellness, women's healthcare & diagnostics, pregnancy and nursing care, and general women's wellness.

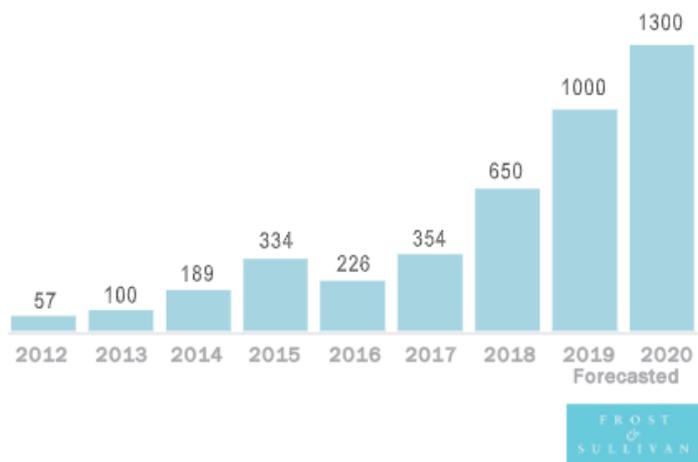
As women make 80 percent of healthcare decisions in the United States, according to the U.S. Department of Labor, it's no wonder investors have taken notice of women's health and influence on the health of the entire family. Perhaps the most impressive fact to take away from this paper is that FemTech has accounted for 24% of all digital health startup investment activity since 2014 with approximately \$1b in 2019, nearly double from the year before. A variety of companies in the Femtech space have emerged bringing a new wave investment opportunity in venture capital circles. Furthermore, private equity has also taken note of the opportunity to successfully invest and build women's healthcare companies. These primarily include physician practices and services within IVF, OBGYN, practice management or staffing. Below is a highlight of some of the recent and notable private equity transactions that have taken place within the developing women's health market.

Health IT Investment Activity



Source: PitchBook Data, Inc.

Global VC investments in Femtech 2012-2020 (\$ million)



MAJOR PE TRANSACTIONS IN WOMEN'S HEALTHCARE

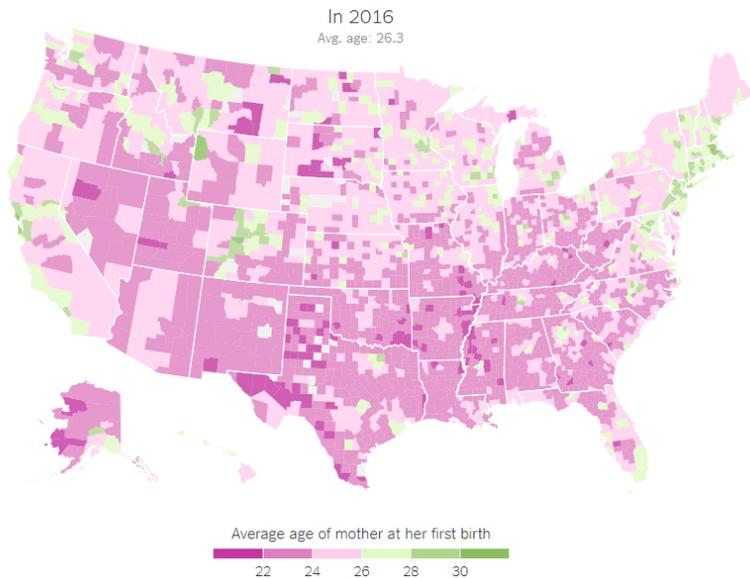
#	Company Name	PE Firm	Deal Date	Description
1	In Vitro Sciences	Sverica Capital Management	1-Oct-19	Provider of business management services to women's health and IVF clinics. Spun out of Womens Health USA
2	Ovation Fertility	Morgan Stanley Capital Partners	17-Jun-19	Operator of laboratories which conduct full-spectrum IVF, genetic testing, and fertility preservation services. Acquired from MTS Health Investors
3	Inception Fertility	WayPoint Capital Partners	29-Mar-19	Provides access to fertility preservation clinics. Purchased from Lee Equity
4	Extend Fertility	Regal Healthcare Capital Partners	4-Feb-19	Provider of a female fertility and egg freezing services. The company offered fertility management and support services, egg retrieval and egg freezing services, supporting the physical and emotional needs of women interested in alternative fertility options.
5	Onsite Mammography	Revelstoke Capital Partners	14-Dec-17	Developer and operator of in-office 3D mammography services within the OB/GYN profession
6	Women's Care Enterprises	Lindsay Goldberg	29-Sep-17	Operates a multi-specialty women's health physician group offering patient care services in obstetrics and gynecology, gynecologic oncology, gynecologic pathology, breast surgery, maternal fetal medicine, and numerous other lines of care in Tampa Bay and Central Florida
7	Women's Health USA	Sverica Capital Management	9-Aug-17	Operator of a national physician practice management organization for OB/GYN practices.
8	OB Hospitalist	Gryphon Investors	1-Aug-17	Provider of in-house obstetrics and gynecology programs intended to elevate the standard of women's healthcare. Acquired from Ares
9	Axia Women's Health	Audax Group	22-Mar-17	Provider of women's healthcare services and centers across NJ, PA, and IN.
10	Colorado Center for Reproductive Medicine (CCRM)	TA Associates Management	4-Aug-15	Operator of a network of IVF laboratories intended to offer fertility treatment services. The company partners with industry-best IVF physicians and focus on advancing research and development to fight infertility.
11	Advantia Health, LLC	BlueMountain Capital Management	8-Jan-20	Operator of an integrated healthcare delivery network intended to help women to manage their health and the health of their families.
12	Women's Integrated Network	NexPhase Capital	11-Nov-10	Provider of comprehensive fertility management and specialty pharmacy management
13	Progyny (NASD: PGNY)	Kleiner Perkins, M Ventures, TPG Biotech	IPO: 25-Oct-19	Progyny Inc is engaged in specializing in fertility and family building benefits solutions
14	US Fertility	Amulet Capital Partners	21-May-20	Amulet Capital Partners and Shady Grove Fertility form a business support services platform to fertility focused physician practices with a range of non-clinical services including clinical and business information systems, facilities and operations management, finance and accounting, and fertility treatment financing programs.

THE RISE OF FEMTECH



NEW TECH FOR OBSTETRICS

In recent years, American generations have become more and more educated. As a result, these young people have exponentially furthered their focus on work life and career progression. These facts come with many unintended results. A couple of which are the migration from the land locked rural areas of the continental United States to the East and West Coast with a concentration in large cities and the growth of general wealth among those in this millennial group (ages of 20 to 40). Perhaps the largest of these unforeseen consequences is the unmistakable trend of women choosing to push motherhood off further and further into the future. As women's earning power has increased, we have seen the rise of the "She-economy," the economic contribution of women is expected to outpace the combined GDP of both the United States and China by the end of the year.



Counties with the oldest first-time mothers

	AVG. AGE OF FIRST BIRTH		
	OVER ALL	MARRIED	COLLEGE+
1 San Francisco County, Calif.	31.9	32.8	33.4
2 Manhattan, N.Y.	31.1	32.4	32.9
3 Pitkin County, Colo.	31.1	31.5	32.5
4 Falls Church City, Va.	31.1	31.9	32.0
5 Marin County, Calif.	31.1	32.5	33.5
6 Arlington County, Va.	31.0	31.7	32.1
7 Teton County, Wyo.	30.6	31.8	32.6
8 Norfolk County, Mass.	30.3	31.2	31.5
9 Alexandria City, Va.	30.3	31.3	31.9
10 Middlesex County, Mass.	30.2	31.3	31.7

Source: <https://www.nytimes.com/interactive/2018/08/04/upshot/up-birth-age-gap.html>

The average age for a woman to have her first child was 26.9 in 2018. Compare this to 1980 when the average age was 22.7. This 4-year difference

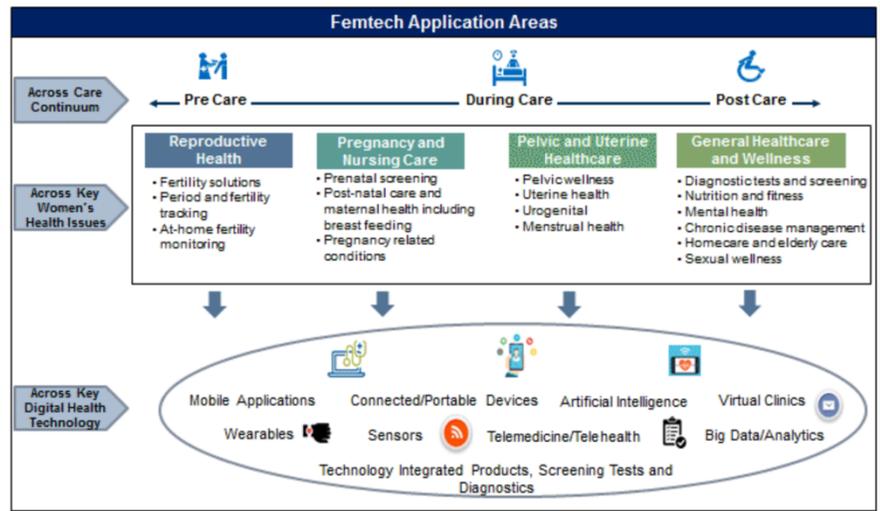
has implications as it relates to fertility. With each passing year, it can prove more and more difficult to become and remain pregnant. Thankfully women's economic power isn't the only thing that has progressed in the last 70-years. Today, economically advantaged women turn to technology in order to help them plan and track their pregnancy and, ultimately, help both the mother and child have a seamless and successful pregnancy. Another improvement is the widespread use of fertility benefits such as **Progyny**. This service can be included in employer's health benefit plans and allows couples of all types to have coverage in their pursuit to have a child. Some of these plans, Progyny included, cover egg and embryo preservation as well. All of the above are driving factors in the creation of a whole new industry fueled by a seemingly never-ending stream of demand. To elaborate, 66% of internet users look to the web for healthcare information and also, women are 75% more likely to use digital tools for healthcare than men.

Beyond the inherent demand for digital feminine care products, regulatory agencies have started to approve digital applications for conventional women's health issues. For example, the mobile contraception product from **Natural Cycles** received CE approval as a Class-Two medical device two years ago, since then the approvals have continued. As for Natural Cycles, they went on to receive the only FDA approval of any birth control app and a ranking amongst the best fertility apps of 2019 by healthline.com. They boast an all-natural, hormone free birth control method that can also be used to maximize the most fertile days of the month. The technology uses an algorithm to analyze the users unique cycle pattern allowing for an accurate prediction of the user's fertile window. The system is simple. A woman takes will take her temperature every morning and inputs that data into the app. Through regular use, the app will begin to understand exactly where the woman is in her menstrual cycle. It is 93% effective with typical use and 98% effective with perfect (everyday) use. As is common in today's economy, Natural Cycles offers a variety of subscription plans. They recommend an annual plan for \$89.99 (oral basal thermometer included), but also offer a \$9.99/month plan. As of 2020, they have raised \$38 million with their last deal coming mainly from EQT Ventures with a \$30 million Series B in 2017.



This new industry, coined Femtech, extends beyond pregnancy and fertility. It has a general focus on nearly all women's health needs. Currently, there are countless products that provide improved sexual wellness, parenting and nursing tips, as well as, female healthcare diagnostics. What lays in front of both the private equity and venture capital communities is a plethora of growth opportunities that may only come around once in a generation. The players that choose to act fast and act drastically could find themselves built into the very foundation of an emerging cornerstone of the global healthcare system.

This vast need for new female orientated technology is rooted in the past. The male dominated investment and IT industry has placed a stark focus on health apps that track everything from the number steps walked in a day to headphone volume levels. In a world where the population will always be 50% female, why are there so few health tracking options specifically for women's health issues?

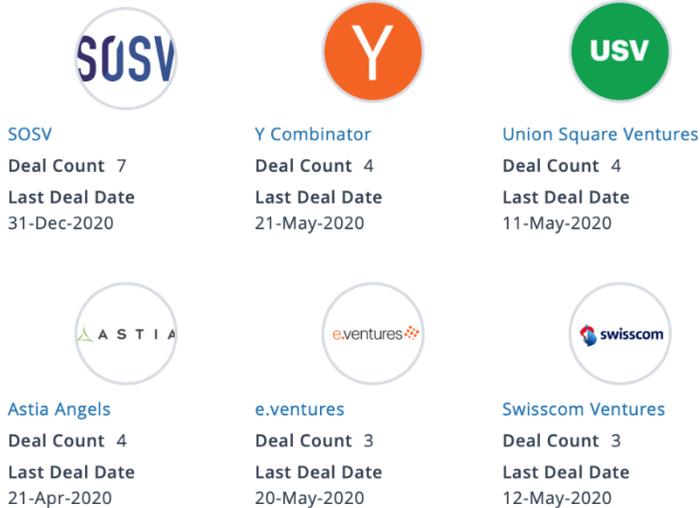


This fact is changing quickly as the tech industry has begun to recognize Femtech's potential. In the last six years, Femtech has accounted for 24% of all investments in digital healthcare startups. In the same time period, over \$1.1 billion of venture capital investments have poured into the Femtech space. Venture capital has been especially interested in this developing field. In 2010, VC funding amounted to \$23 million of equity stakes in Femtech startups. Five years later, that number jumped by nearly 15 times to \$334 million. In these last ten years, VC has conducted 365 deals and, yearly, about \$380 million spread throughout 40 transactions. However, in 2019 alone funding climbed to a staggering \$750 million. A few notable examples of recent VC investments include **Kindbody** boasting an enormous \$22.5 million Series A and a total \$31.1 million raised in 2019, and **Nextgen Jane** with a \$9 million Series A (44.72% acquired by Material Impact Fund and other undisclosed investors) for their product which is a smart tampon that allows for effective menstrual and cervicovaginal sample collection. One of the most successful rounds of funding was **Elvie**, a breast pump technology and women's pelvic fitness program that raised \$42 million for a 27.52% equity stake and a post-deal valuation of \$120.79 million led by IPGL in March 2019. Another brand operating in this market is **Tia** who offers a health advisor application which provides women with recommendations on birth control and sexual health. It serves its client base through its website, smartphone application, and in-person appointments and it recently raised a \$24.27 million Series A led by Threshold Ventures on March 17, 2020 to expand from its single location in NYC. It does not come as a surprise that it is expected to be a consolidated \$50 billion-dollar industry within the next five years (an implied total growth rate of 4,254%). But still, just 2.2% of all VC funding goes to women-led companies and 80% of healthcare VCs have yet to back startups in women's health.

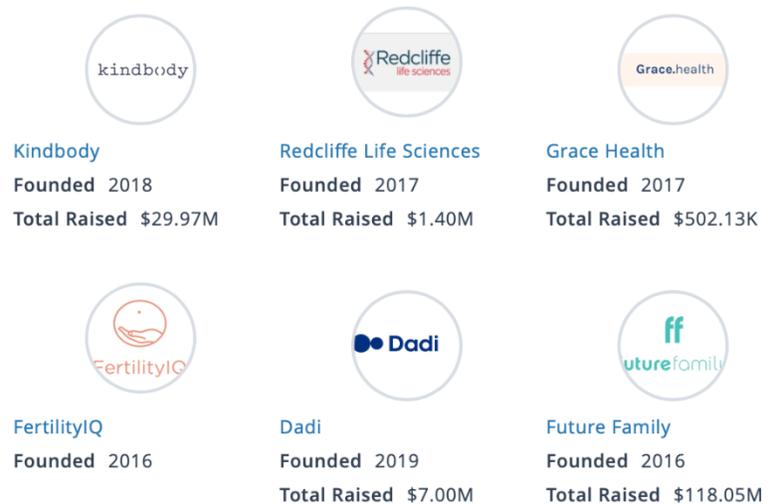
As can be seen by the table below, deals in the "fertility tech" space have become concentrated in the years after 2015, with most occurring around 2019. Other important things to note is that at the time of their latest deal the average age of the company involved was 4.7 years old and they usually went about 10 months in-between deals. You can also find below a collection of the top six companies in the fertility tech space, as well as, the six most active investors.



★ These 6 investors are in 22.9% of all deals in Fertility Tech

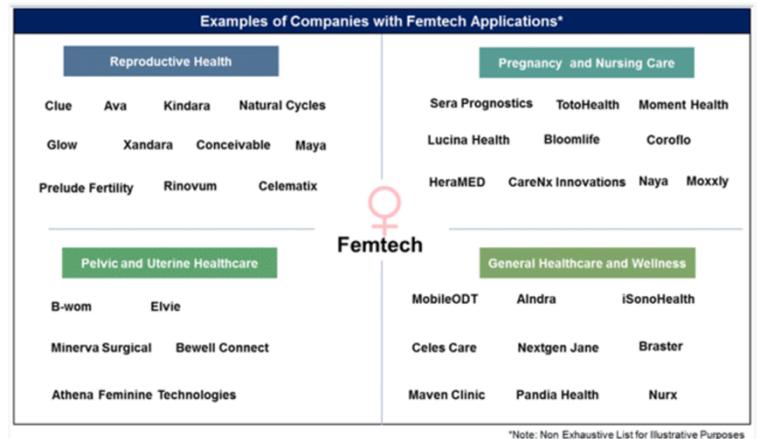


★ These 6 companies have 44.3% of all capital invested in Fertility Tech



*\$100 million of Future Family's "Total Raised" was in the form of debt and FertilityIQ has an undisclosed amount raised as of June 2020

As technology continues to develop and demand rises, a stream of new startups provides countless other opportunities for investors of all types. For example, everyone is aware of the booming "wearables" market. As can be assumed, there is a female application as well. **Ava**, a new bracelet technology started by Lea von Bidder, allows the user to monitor stress levels, sleep patterns, menstrual cycles, and even alerts the wearer when the most fertile five days will occur. The product has facilitated over 30,000 pregnancies and offers three bundle options that start at \$279 and extend to a \$359 "6-month guarantee" package that can be refunded if the client isn't pregnant after 180 days. Additionally, the bracelet itself is FDA approved and comes in assorted colors and can even be paid as a subscription for \$50 a month. So far Ava has raked in \$42.28 million in new capital and, most recently, \$29.93 million in Series B funding (with over ten VCs acquiring 39.96%) on the grounds that the old ways of facilitating pregnancy are not sustainable in our modern age. It is worth noting that Femtech is not only increasing the collective female quality of life, but males as well. Often times couples are frustrated and tired of trying month after month. Products and services that make the process easier makes each member of the relationship better off. Lea von Bidder stresses that normally a couple only has a 25% success rate in any given month. Ava is working to level the playing field.



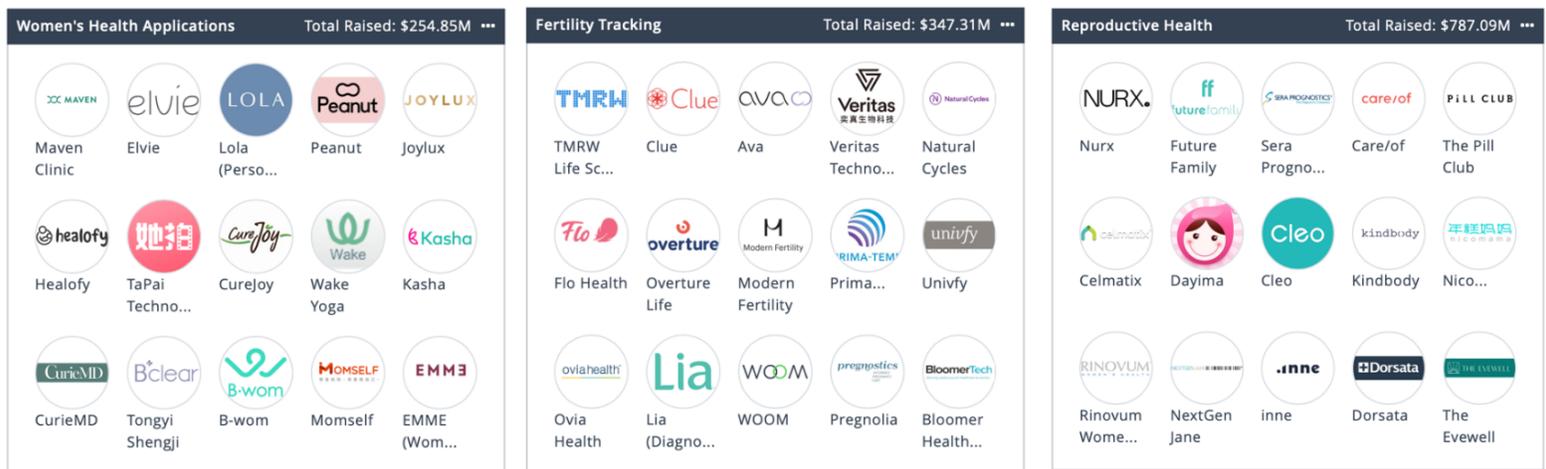
Another new company in the Femtech space is **Peanut**. Peanut offers a free app available on the App Store that works as a social media platform for women who are trying to conceive, as well as, those who are already mothers. The platform is set up in a manner similar to that of Tinder or Bumble where the users swipe left or right with the goal of connecting people who may have parallel needs, experiences, and advice for each other. They also just achieved a \$12 million Series A funding round on May 6, 2020 for a 25.09% stake going to EQT Ventures, Female Founders Fund, and Index Ventures with total funding climbing over \$21 million and a post-money valuation of \$47.83 million.

Still, many newly formed Femtech business have trouble gaining traction. This is likely a direct result of the demographics that make up most senior management around the country. Nonetheless, new startups seem to pop up every day and even go beyond promoting fertility.



One such startup is called **Clue**. They look to capitalize on the over 60% of smartphone users who check their device for health data. This menstrual cycle monitoring app tracks period pain and other key data points and allows the patient to take this information to their healthcare professional. Clue can be summarized as a “period diary” for the modern woman and has raised over \$45 million with their latest Series C led by Union Square Ventures and NGP Capital dragging in \$15 million in January of this year. Other startups include, **Lioness**, which sells “smart vibrators” that adapt to the user’s preferences and pair with your smart phone to track your routine and open the user’s world to a better sex life and the **Willow Pump** that offers a wearable, functional breast milk pump that monitors milk production for real-time results and period proof underwear from **Thinx** that allows the garments to be worn and washed repeatedly. Thinx has recently expanded and now offers everything from active wear to thong underwear, all of which come in assorted colors and all are reusable. As of this

writing, Thinx has raised nearly \$27 million and is valued at \$100MM. Their September 2019 Series A grabbed \$25 million for 25% led by Kimberly-Clark. A competitor of Thinx is **Ruby Love**, which offers a similar product mix, and received a \$15 million Series A from The Craftory, Launch Fund, and LunaCap Ventures in July of 2019. Outside the startup arena is GE’s Healthcare’s **Vscan** with **Duel Probe**, which allows women in developing countries to view their ultrasounds with a portable device and, in turn, better manage their pregnancies. The list goes on and on. For further Femtech startups, you can simply search online with page after page of results. Alternatively, check the IOS or Android App Store to download a few. For an even deeper dive, check Femtech Insider (<https://femtechinsider.com>) for a complete breakdown of every known Femtech brand, all accessible in their free Company Database. Here is a quick run-down of the major players in the Femtech space and the amount raised within their respective subsectors from the “Market Maps” feature in Pitchbook.



The Femtech sphere will undoubtedly expand in the coming months and years. This growth will not be limited to products revolving around fertility or sex. The prospects are boundless. In a recent Forbes article, high level, female, senior management from exclusive venture capital firms from around the country collaborated on what 2020 and beyond may hold for the budding industry. A few options they touched on include infant and fetus nutrition, women’s mental health, postnatal depression, breast screening, and CBD infused hygiene products. Only time will tell how far and fast this new sector will grow, but one thing is clear, the market is expansive, and the opportunities are endless.

VC FEMTECH TRANSACTION ACTIVITY

#	Company Name	\$ Amount	Investor	Deal Date	Deal Type	Description
1	WOOM	€2 million	BrightCap, Begin Capital	21-May-2020	Later Stage VC	Developer of a fertility application designed to empower women to maximize the chances of pregnancy. The company's application features a calculator that uses advanced algorithms to calculate for fertile days and ovulation or menstrual calendar for accurate identification of fertile window, enabling women to get pregnant faster and receive support through an engaged community and fertility services platform.
2	TMRW Life Sciences	\$36.5 million	5AM Ventures	19-May-2020	Early Stage VC	Developer of a cryo-storage platform intended to improve the success rates of assisted reproductive technology. The company's platform offers an in-clinic robotic storage system and a fully digital chain of custody from clinic to off-site long-term storage, continuous remote and local monitoring and electronically integrated processes characterized by digital health signals received from every oocyte and embryo daily, enabling clients to streamline embryology lab operations, eliminate manual steps and integrate digital quality control.
3	Peanut	\$12 million	EQT, Female Founders, Index Ventures	06-May-2020	Early Stage VC	Developer of a social networking platform designed to build a community of women who are attaining motherhood. The company's platform connects moms with similar interests, builds friendships, finds support and learn from one another, enabling users to make it easy to meet and share their experience.
4	Dear Media	\$8 million	Magnet Companies	30-Apr-2020	Early Stage VC	Operator of a podcast production studio intended to help individuals conceptualize customized podcasts with a personalized touch. The company's female-oriented focus on topics including career development, parenting, wellness, activism and advocacy, relationships, and wellness enabling women to showcase their talent.
5	Lilia	\$1.4 million	Panache, Hustle Fund, Y Combinator	23-Apr-2020	Seed Round	Provider of egg-freezing concierge service intended for fertility and family planning. The company's services have fixed cost and consult members about their best option based on egg count, menopause timing and age, enabling clients to be informed and avail fertility management services at a low cost.
6	Haoyunshuo	3.8 million	Undisclosed investors for CNY	16-Apr-2020	Later Stage VC	Developer of a mobile application designed for assisted reproduction patients. The company's application provides users with online consultation and prediction tools, enabling the assisted reproduction community to manage pregnancy, share experiences and encourage each other conveniently.
7	Dorsata	\$5.24 million	Women's Health USA, QED, Gore Range	08-Apr-2020	Later Stage VC	Developer of a prenatal record application intended to help manage electronic health records. The company offers a platform that employs a simple and intuitive user-experience alongside a powerful rules engine that builds a precise plan-of-care for each patient, enabling clinicians and nurses to visualize and manage a patient's entire pregnancy process through one application, ensuring patients receive the right care at the right time.
8	Kasha	\$1 million	Finish Fund, Industrial Cooperation	01-Apr-2020	Early Stage VC	Provider of an e-commerce platform intended to sell women's healthcare and hygiene products. The company's platform engages in delivering a range of healthcare products for female groups in the African regions such as contraceptives, tampons and sanitary pads, enabling women to make confidential order and delivery of key health and personal care products such as contraceptives and menstrual care.
9	Bloomer Health Tech	\$3 million	Material Impact, John Abele, One Brave Idea	12-Mar-2020	Seed Round	Developer of a device designed to understand bodies and use ordinary clothing to collect extraordinary data. The company is integrating advanced fabrics technology and machine learning to turn everyday clothes, such as a women's bra into lifestyle medical and healthcare devices and meaningful data is collected that is analyzed and made accessible, enabling users, doctors, and medical professionals to access real-time personalized healthcare data and early detection.

VC FEMTECH TRANSACTION ACTIVITY – CONT.

#	Company Name	\$ Amount	Investor	Deal Date	Deal Type	Description
10	Knix	\$3 million	Action Capital, Alumni Ventures, SWAT Equity	06-Mar-2020	Later Stage VC	Owner of an intimate apparel brand designed to create and market comfortable and naturally woven underwear for women. The company's underwear are designed to have leak proof, absorbent and anti-odor feature within them, enabling women to find and order innerwear based on individual size and choice of linen.
11	Raydiant Oximetry	\$1.1 million	Global Health Impact Fund, Springlde, Tri-Valley	06-Mar-2020	Early Stage VC	Developer of a non-invasive medical device designed to deliver healthy babies and prevent cesarean section issues. The company's medical device measures the baby's actual oxygen levels during labor and delivery using improved fetal monitoring during childbirth, enabling clinicians to reduce the risk of birth injury and over-intervention as well as decrease healthcare costs and disparities.
12	Tia (Bot)	\$24.27 million	Threshold, Homebrew, Compound, Torch Capital	06-Mar-2020	Early Stage VC	Developer of a health advisor application designed to help every woman make independent and informed healthcare decisions. The company's application offers women recommendations about birth control and sexual health and more, enabling women to make independent and informed decisions for their own bodies, health and lives with confidence.
13	Equilibria (Personal Products)	\$1.97 million	Salveo Capital, Hyde Park Angels	01-Mar-2020	Seed Round	Provider of fitness training and wellbeing products and services intended to provide nourishment. The company's products facilitate building strength, increasing proprioception, bringing clarity to the mind, regulating hormonal imbalances, nervous system responses and nutritional deficiencies, thus providing customers with the awareness to make conscious choices and expand the capacity to withstand intensity in the uncontrolled, and stressful reality dealt daily.
14	Joylux	Undisclosed	Keiretsu Forum, Reform ventures, Alliance of Angels	01-Mar-2020	Later Stage VC	Operator of a global femtech company intended to offer high-tech intimate health devices and products that improve confidence when dealing with common female issues.
15	AuntFlow	Undisclosed	Harlem Capital Partners and other undisclosed investors	28-Feb-2020	Seed Round	Manufacturer and distributor of menstrual products created to ensure everyone has access to menstrual products. The company's products include tampons and pads that are made of 100% organic cotton and are biodegradable, enabling businesses and schools to take better care of their female employees and students.
16	Sera Prognostics	\$65.74 million	Blue Ox, InterWest, Intermountain, Catalyst, Domain Associates	27-Feb-2020	Later Stage VC	Operator of a biotechnology company intended to develop diagnostic blood tests for pregnant women.
17	Maven Clinic	\$45 million	Icon Ventures, Spring Mountain, Sequoia Capital, Oak HC/FT, Harmony Partners	19-Feb-2020	Later Stage VC	Provider of a digital health platform created to help women to book video appointments with healthcare practitioners. The company's mobile application offers a platform for booking appointments through a network of the nurse, gynecologists, mental health specialists, physical therapist and nutritionists, enabling women to avail of hassle-free healthcare service.
18	Care/of	\$40.67 million	Bayer	18-Feb-2020	Later Stage VC	Provider of an online healthcare platform designed to recommend personalized vitamins and supplements. The company's platform offers a personalized approach to consumers shopping for vitamins via a platform that recommends a specific mix of vitamins, minerals, probiotics and specialty supplements tailored to each user's individual health goals, lifestyle and values, enabling consumers to get monthly box of specifically tailored packs delivered directly to their doors.
19	Sanfe	₹80 million	SucSEED, Elixer Pharma, Titan Capial, BIRAC	18-Feb-2020	Seed Round	Manufacturer of reusable sanitary pads created to improve feminine hygiene in India.

VC FEMTECH TRANSACTION ACTIVITY – CONT.

#	Company Name	\$ Amount	Investor	Deal Date	Deal Type	Description
20	TOP The Organic Project	\$1.6 million	Maroon Ventures and other undisclosed investors	11-Feb-2020	Seed Round	Provider of female hygiene products created to empower women to make better choices, protecting their bodies and the environment. The company creates Developer of a synthetic breast-milk product. The company offers a virtual tool to connect parents through video conferencing with lactation consultants and infant nutrition experts, enabling parents with breastmilk alternatives.
21	Helaina	\$410,000 in convertible debt	Hedgewood	07-Feb-2020	Early Stage VC	
22	Polipop	€ 15,000	EIT Climate-KIC	31-Jan-2020	Grant	Developer of biodegradable and safely flushable sanitary products designed to deliver sanitary pads straight to the user door. The company's sanitary products are a more sustainable and convenient alternative to regular pads and are designed to provide support to women during their periods through a machine-learning application, providing women with leak-proof, biodegradable, organic and considerably cheaper pads than others in the market.
23	Tempo (San Francisco)	Undisclosed	Polymatch Capital Partners, Dorm Room Fund	22-Jan-2020	Early Stage VC	Manufacturer of environmentally sustainable and efficient tampons designed to empower menstruating persons by eliminating tampon leakage. The company's tampons are made from a blend of bamboo and cotton with a novel thread channel, enabling women to access tampons that have higher absorbency and eliminate leakage.
24	Clue	€13.48 million	Union Square, NGPC Capital	17-Jan-2020	Later Stage VC	Developer of an application designed to track the fertility cycle. The company's application is an accurate menstrual calendar, ovulation application and fertility tracker that helps to make sense of menstrual cycle and gives predictions and set calendar reminders for the period, track and find patterns in symptoms, and manage menstrual health with an application, enabling females to track their monthly cycle by entering data about period, pain, mood, fluid, sexual activity, and personal notes.
25	PROMISS Diagnostics	10,000 in convertible c	Cream City Ventures, Wisconsin Alumni Research Fund	09-Jan-2020	Seed Round	Developer of a diagnostic tool intended to provide a globally accessible, non-invasive and precise diagnostic test for ovarian cancer. The company uses data on calcium, albumin, age, and menopause to distinguish cancerous masses in the ovary, helping clinicians detect ovarian cancer early while lowering costs and improving patient outcomes.
26	Clarity Imaging	Undisclosed	Valor Equity Partners	01-Jan-2020	Early Stage VC	Developer of a computer-aided breast cancer diagnosis system designed to improve patient care, by enhancing the diagnostic insights available to radiologists. The company's artificial intelligence-based QuanIX software is an effective tool that integrates images from multiple modalities to interpret MRIs and analyze differences between cancerous and noncancerous lesions, enabling radiologists in the assessment and characterization of breast abnormalities.

Fund Type	% of activity
Venture Capital	79.80%
PE/Buyout	8.08%
Angel Group	2.02%
Sovereign Wealth Fund	1.01%
Accelerator/Incubator	4.04%
Hedge Fund	1.01%
Corporate Venture Capital	3.03%
Asset Manager	1.01%



Source: PitchBook Data, Inc.

FERTILITY



CHANGES IN FERTILITY TREATMENTS

As the landscape of women's healthcare adapts due to changes in technology, fertility treatments are no different. Today's medical abilities go far and beyond those of years past. Women are able to achieve pregnancy with far greater ease and in much less time. Unfortunately, the failure rate for IVF is high at 70% so multiple treatments are necessary to achieve success. This process can be costly and price many out of the market when reviewing options. Luckily, fertility treatment as a benefit being offered at employers from companies like Progyny (NASDAQ: PGNV) who show 1 in 8 people have infertility issues believe the market could nearly double to \$12b from only approximately \$6.7b if there was support for treatment for these couples on their journey. As a result, more and more women, and couples in general, are turning towards alternative forms of conception. There are only 480 fertility clinics in the United States and 100+ sperm banks in a fragmented market that is ripe for consolidation.

In Vitro Fertilization

The most effective fertility treatment available on the market, yet it is highly invasive. It is a very complex and detailed process which is why it can be the most expensive option. A woman is first injected with hormones, spurring her ovaries to produce follicles containing mature eggs. A doctor then removes the eggs from the woman's body. The fertility clinic uses sperm to fertilize the extracted eggs. The eggs are kept in a stable environment; promoting growth into more stable embryos. Finally, the doctor transfers the embryos into the woman's uterus where she develops the baby. The IVF process is meant for women who are unable to conceive naturally. An IVF can help combat women with no ovulation, poor egg quality, or closed fallopian tubes. Also, the laboratory can help with a woman's partner having low quality sperm. As a result of all these potential barriers, most women will undergo multiple cycles in the IVF process. A woman's chances of having twins dramatically increases using IVF because multiple eggs are fertilized and transferred simultaneously back into the uterus. The cost averages between \$10,000 - \$15,000.

Intrauterine Insemination

A much simpler procedure where a fertility doctor inserts the partner/donor semen directly into the uterus of the woman. Similar to the IVF process, the female will take hormones to stimulate ovulation. The lab will collect a sample of semen from a partner/donor and will conduct a process called sperm washing. During this process, chemicals reacting with the uterus that make it harder to get pregnant are removed; leaving only healthy sperm to be extracted. The IUI procedure aids the sperm to get closer to the egg, enabling the egg to be fertilized easier and dramatically increases the chances of getting pregnant. A benefit of an IUI is the inexpensive cost relative to other fertility treatments. Along with this, it is a very simple procedure. A downside to the process is that everyone's body is different, making it uncertain if an IUI will be successful. The cost averages around \$2,500.

Embryo Cryopreservation

A technique used that freezes and thaws eggs for use in IVF/IUI cycles. A fertility doctor will use hormones to stimulate ovulation for the retrieval of healthy eggs. Once fertilized in the laboratory, an excess amount of eggs may present. Instead of disposal, the embryos are cryopreserved (frozen) to be used by the woman in the future. In the case that a woman needs to conduct more IVF cycles, she can forego the need for stimulation by fertility medicine by having frozen embryos readily available. The only drawback with embryo cryopreservation is its effectiveness with older patients. The average cost is approximately \$12,000 per cycle.

Egg/Sperm Donors

Egg and sperm donors are in high demand with the enhancement of fertility technology. Donors are important for couples that are experiencing infertility. Many egg donations benefit women experiencing ovarian failure, old age, or avoidance of congenital anomalies in the fetus. Men can benefit from sperm donors if they have low counts of healthy sperm or are unwilling to pass on an inherited disease. Along with this, this could be an option for men wanting to have a baby alone. Egg donation is a process involving a fertile woman "donating" her egg to another woman to help her conceive a child. Similarly, men can donate their sperm to help fertilize an egg. This process holds many legal ramifications that can't go unnoticed. Patients seeking an egg/sperm donor are recommended to use a registered donor instead of making a private arrangement. With the use of a registered donor, the baby will legally be your child. Within a private arrangement, however, the donor is also the child's legal parent. After a law passed in 2005 regarding donor anonymity, any child born through the process of a donor and over the age of 18, may legally receive identity information about the donor. The cost varies significantly.

Gestational Surrogacy

With the use of an IVF, the eggs are extracted from the mother and the sperm is collected from the father. This embryo is then curated and once ready, placed into the uterus of the gestational surrogate mother. The surrogate mother will carry the baby until birth. Unlike the traditional surrogate approach, a gestational surrogate has no genetic ties to the child because her eggs are not used. The celebrity, Kim Kardashian, has used this approach for three of her four children in order to ensure a safe birth due to her condition of placenta accreta. The cost averages approximately \$87,000.

VC ACTIVITY IN FERTILITY TREATMENTS

#	Company Name	\$ Amount	Investors	Date	Type	Description
1	Breathe ilo	N/A	Merck Accelerator	30-Jan-20	Accelerator/Incubator	Provider of a medical device intended to track ovulation cycles. The company's device predicts fertile days with just 60 seconds of normal breathing, enabling women to accurately track their cycle and fertility, giving them a better chance to become pregnant.
2	Redcliffe Life Sciences	\$1.4 million	Jaipuria Group	23-Jan-20	Seed Round	Developer of an end-to-end pregnancy and fertility platform created to offer various diagnostic and screening services.
3	Clue	\$15 million	Union Square Ventures	17-Jan-20	Later Stage VC	Developer of an application designed to track the fertility cycle.
4	Kegg	\$200,000	SOSV	8-Dec-19	Early Stage VC	Provider of a fertility tracking device designed to track vaginal fluid.
5	MotiveBio	N/A	Capital Factory	11-Nov-19	Accelerator/Incubator	Developer of a mobile application and at-home device for women intended to better understand their fertility health.
6	She's Well	Undisclosed	Merck Capital, Alumni Ventures, ChinaRock, and 500 Startups	25-Oct-19	Early Stage VC	Provider of fertility management services intended to offer a flexible subscription plan for egg freezing.
7	Kindbody	\$22.5 million	GV, RRE Ventures, Perceptive Advisors for \$22.5 million	4-Sep-19	Early Stage VC	Operator of healthcare clinics intended to offer fertility and gynecology treatment.
8	Modern Fertility	\$15 million	Forerunner Ventures	11-Jun-19	Early Stage VC	Developer of a women's health company making fertility hormone testing accessible earlier in life, at a fraction of the traditional cost.
9	Spring Fertility	Undisclosed	Wildcat Capital Management	11-Jun-19	Early Stage VC	Operator of modern fertility center designed for redefining the reproductive and fertility patient experience.

VC ACTIVITY IN FERTILITY TREATMENTS – CONT.

#	Company Name	\$ Amount	Investor	Date	Type	Description
10	Grace Health	\$400,000	Almi Invest, Anna Ryott, Eva Redhe	31-Jan-19	Early Stage VC	Developer of a femtech application software designed for tracking information about female health. The company's tracker is integrated in messaging services such as Facebook Messenger, Whatsapp and Telegram for smartphones, acting as a chatbot that provides fertility tracking services, enabling women in emerging markets to have information about menstruation, health and general mood in their mobile phones.
11	Pera Labs	€20,000 in convert. debt	Rock Start	1-Jan-19	Accelerator/Inc.	Operator of a fertility technology company intended to transform the reproductive health field through AI and lab-on-chip technology.
12	Proov (Urine Test Strips)	\$700,000	Undis.	18-Oct-18	Seed Round	Developer of an in-vitro diagnostic device designed to track ovulation and diagnose hormonal imbalances at home.
13	Future Family	\$11.45 million	Aspect Ventures	5-Sep-18	Early Stage VC	Provider of reproductive healthcare services intended to offer women and couples comprehensive fertility testing and support.
14	Adia Health	\$250,000	London Co-Investment Fund, Seedc.	26-Jul-18	Seed Round	Developer of a fertility platform designed to empower women with knowledge, and to change the approach to women's reproductive health to one that is proactive, personalised and holistic..
15	Ava	\$30 million	Polytech Ecosyst., Alpana	30-May-18	Early Stage VC	Developer of a wearable medical device designed to be used for monitoring a woman's fertility and menstrual cycle.
16	Natural Cycles	\$30 million	EQT Ventures Sunston.	9-Nov-17	Early Stage VC	Provider of a mobile based fertility tracking application designed to empower woman with knowledge about their body, menstrual cycle and fertility.
17	Kindara	\$690,000	SeedInv.	21-Jun-17	Angel (individual)	Developer of a fertility tracking application designed to revolutionize women's healthcare. The company's application helps women to understand their cycle by tracking ovulation calendar and menstrual cycle, enabling women to learn more about their reproductive health.
18	Tempdrop	N/A	Vertical Engine	1-Mar-16	Accelerator/Inc.	Developer of a fertility tracking device intended to help predict ovulation.

PE ACTIVITY IN FERTILITY TREATMENTS

#	Company Name	Add-ons	PE Firm	Deal Date	Description
1	IVI-RMA Middle East		Gulf Capital	14-Jan-20	Provider of fertility treatment services at 3 locations. IVI-RMA is one of the fastest growing fertility treatment providers in the Gulf Cooperation Council. IVI-RMA was formed through a merger of equals in 2017. Gulf Cap. announced its aggressive 3 year expansion plan upon this \$100m acquisition.
2	In Vitro Sciences	2	Sverica Capital Management	1-Oct-19	Provider of business management services to women's health and IVF clinics. Spun out of Womens Health USA
	addon: Advanced Fertility Care	1	add-on	1-Oct-19	The company offers in-vitro fertilization, artificial insemination, fertility preservation, embryo biopsy, genetic testing, and other services, based in Scottsdale AZ
	addon: Troché Fertility Centers	2	add-on	2-Mar-20	Fertility center based in Glendale, AZ
3	Ovation Fertility	4	Morgan Stanley Capital Partners	17-Jun-19	Operator of laboratories which conduct full-spectrum IVF, genetic testing, and fertility preservation services. Acquired from MTS Health Investors
	addon: Texas Fertility Center - San Antonio	1	add-on	9-Oct-18	Company offers a wide range of combined infertility diagnosis and treatments for males and females, along with fertility preservation, frozen embryo IVF, and laboratory testing services
	addon: Midwest Fertility Specialists	2	add-on	20-Sep-18	Operator of fertility clinics. The company offers diagnostic fertility testing, basic and advanced fertility treatments, donor programs and surgical procedures
	addon: The Institute for Reproductive Health	3	add-on	19-Jun-18	Provider of fertility diagnostics, IVF and artificial insemination treatment in Cincinnati, Ohio. Provides individualized reproductive endocrinology, infertility treatment, surrogacy, egg freezing, andrology and embryology laboratory services using the latest assisted reproductive technology
	addon: Fertility Answers	4	add-on	26-Oct-17	Two infertility care laboratories in Baton Rouge and Lafayette.
4	Nova IVI Fertility		Asia Healthcare Holdings	24-May-19	Nova bought out by AHH with the assistance of financial sponsor TPG Capital. They provide fertility treatments in India
5	Inception Fertility	2	WayPoint Capital Partners	29-Mar-19	Provides access to fertility preservation clinics. Purchased from Lee Equity
	addon: Prelude Fertility	1	add-on	29-Mar-19	Prelude offers egg freezing, in-vitro fertilization (IVF), embryo screening and donor egg-matching services at 44 clinics mostly TX.
	addon: RMA of Texas	2	add-on	7-Jun-18	Provider of fertility services in Texas. The company provider Intra Uterine Insemination, In-Vitro Fertilization, LGBTQ family building, 3rd party reproduction and other fertility services

PE ACTIVITY IN FERTILITY TREATMENTS – CONT.

#	Company Name	Add-ons	PE Firm	Deal Date	Description
6	Extend Fertility		Regal Healthcare Capital Partners	4-Feb-19	Provider of a female fertility and egg freezing services. The company offered fertility management and support services, egg retrieval and egg freezing services, supporting the physical and emotional needs of women interested in alternative fertility options.
7	eIVF		Atlantic Street Capital	19-Dec-20	Developer of fertility software and related consulting services. The company's services include workflow analysis, implementation, training, research and development, enabling its clients to automate workflow, schedule management and configure information related to patient demographics.
8	Village Fertility Pharmacy	1	BelHealth Investment Partners	27-Oct-16	Operator of a pharmacy. The company provides fertility-focused education services. It also provides clinical support and educational resources to fertility patients and clinics nationwide.
	addon: Integrity Rx Specialty Pharmacy	1	add-on	19-Feb-19	Operator of a fertility specialty pharmacy. The company focuses on fertility-focused reproductive pharmaceutical programs, enabling patients to achieve their dreams of having a family through assisted reproductive technologies.
9	Colorado Center for Reproductive Medicine (CCRM)	3	TA Associates Management	4-Aug-15	Operator of a network of IVF laboratories intended to offer fertility treatment services. The company partners with industry-best IVF physicians and focus on advancing research and development to fight infertility.
	jv: Atlanta Center for Reproductive Medicine	1	joint venture CCRM Atlanta	1-Oct-15	The company's services include in vitro fertilization, basic fertility treatment, fertility assessment, male factor infertility, single gene pre implantation, genetic diagnostics, screening, elective egg freezing, oncofertility, comprehensive chromosome and previous IVF failure
	Frisco Institute For Reproductive Medicine	2	partnership	1-May-18	New center in Dallas-Fort Worth
	Fertility House Callsin	3	investment	1-Jan-20	new launch of Denver metro area to offer fertility treatment at a patient's home

Source: PitchBook Data, Inc.

**OTHER TRANSACTIONS INCLUDING: MULTISPECIALTY
CLINICS, PRACTICE MANAGEMENT, AND STAFFING**



OTHER TRANSACTIONS

#	Company Name	Add-ons	PE Firm	Deal Date	Description
1	Onsite Mammography		Revelstoke Capital Partners	14-Dec-17	Developer and operator of in-office 3D mammography services within the OB/GYN profession
2	Women's Care Enterprises	2	Lindsay Goldberg	29-Sep-17	Operates a multi-specialty women's health physician group offering patient care services in obstetrics and gynecology, gynecologic oncology, gynecologic pathology, breast surgery, maternal fetal medicine, and numerous other lines of care in Tampa Bay and Central Florida
	addon: London Women's Care	1	add-on	8-Jan-2019	A leading KY multispecialty women's health platform with 29 providers and 113 employees. Services include obstetrics, gynecological care, primary care, pediatrics and behavioral health.
	addon: Women's Health & Wellness	2	add-on	1-Dec- 2018	The company's obstetrics and gynecology practice is focused around minimally invasive surgeries and outpatient hysterectomies and also includes sterilization procedures and cervical cytology management
3	Women's Health USA	2	Sverica Capital Management	9-Aug-17	Operator of a national physician practice management organization for OB/GYN practices.
	investment: Dorsata	1	investment Series A	8-April-2020	Developer of a prenatal record application intended to help manage EHR
	addon: Institute For Women's Health	2	add-on	3-April-2019	The company offers OB/GYN services, fertility treatment, treatment for mesh complications, treatment for pelvic floor disorders, hormone therapy, bone density scans and menopause management treatments for women. San Antonio TX
4	OB Hospitalist		Gryphon Investors	1-Aug-17	Provider of in-house obstetrics and gynecology programs intended to elevate the standard of women's healthcare. Acquired from Ares
5	Axia Women's Health	5	Audax Group	22-Mar-17	Provider of women's healthcare services and centers across NJ, PA, and IN.
	addon: Seven Hills Women's Health Centers	1	add-on	12-Mar-2020	Provider of women's healthcare services in the Cincinnati
	addon: Obstetrics & Gynecology of Indiana	2	add-on	4-Nov-2019	Provider of women's health services OBGYN
	addon: Abington Reproductive Medicine	3	add-on	29-June2018	Operator of fertility clinic which services include in vitro fertilization, surrogacy, egg donation, preimplantation genetic diagnosis, intrauterine insemination, hysteroscopy and laparoscopy
	addon: Regional Women's Health Group	4	add-on	23-Mar-2017	The company's healthcare services include fertility care, imaging and laboratory service enabling obstetrical, gynecological and infertility patients
	addon: Womens Health Care Group Of PA	5	add-on	23-Mar-2017	Provider of laboratory testing services.

OTHER TRANSACTIONS – CONT.

#	Company Name	Add-ons	PE Firm	Deal Date	Description
6	Advantia Health, LLC	9	BlueMountain Capital Management	8-Jan-2020	Operator of an integrated healthcare delivery network intended to help women to manage their health and the health of their families.
	addon: Pacify Health	1	add-on	15-Feb-2019	application that offers on-demand access to a concierge network of nurses, nutritionists and lactation consultants to answer all health-related queries and membership includes unlimited telehealth consultations
	addon: Heartland Women's Healthcare	2	add-on	1-Feb-2019	Provider of OB-GYN care and women healthcare services across Missouri and southern Illinois
	addon: Physicians & Midwives	3	add-on	21-Aug-2018	The company provides midwifery, in-office sonogram, free pregnancy classes, pregnancy passport, birth control and well-woman exam
	addon: Fairfax OBGYN Associates	4	add-on	27-Jun-2018	Fairfax VA based operator of health-care practice centers intended to meet the needs of women patients.
	addon: Women's Health and Surgery Center	5	add-on	1-Apr-18	Provider of obstetric and gynecological care based in Stafford, Virginia
	addon: Comprehensive Women's Health	6	add-on	19-Jan-2018	Provider of women healthcare services intended to provide internal medicine designed for women based in Silver Spring MD
	addon: Simmonds Martin, & Helmbrecht	7	add-on	26-July-2016	OB-GYN practice, practicing in obstetrics and gynecology, pain management and anesthesiology based in Maryland
	addon: Ob-Gyn Associates	8	add-on	1-Sep-2014	Silver Spring MD based provider of healthcare services for women
addon: Advantia OB-GYN Germantown	9	add-on	1-Jan-2014	A Rockville MD company that helps women manage their health and the health of their families.	
7	Women's Integrated Network		NexPhase Capital	11-Nov-2010	Provider of comprehensive fertility management and specialty pharmacy management
8	Progyny (NASD: PGNV)		Kleiner Perkins, M Ventures, TPG Biotech	IPO: 10/25/2019	Progyny Inc is engaged in specializing in fertility and family building benefits solutions
9	US Fertility		Amulet Capital Partners	21-May-20	Amulet Capital Partners and Shady Grove Fertility form a business support services platform to fertility focused physician practices with a range of non-clinical services including clinical and business information systems, facilities and operations management, finance and accounting, and fertility treatment financing programs.

Source: PitchBook Data, Inc.

ONCOLOGY & CONTRACEPTION



CHANGES IN THE ONCOLOGY SPACE

Breast Cancer

Overview

Outside of skin cancer, the most common form of cancer among women is breast cancer. The risk for an American woman developing breast cancer in her lifetime is roughly 1 in 8 (as opposed to 1 in 1,000 for men). In total, breast cancer in women represents roughly 15% of new cancer diagnoses in the United States. As a result, the scientific community, along with the general population at large, has gone through great lengths to both raise awareness of this issue and attempt to find a solution. As seen in figure 1, we have seen a concurrent drop in the death rate for female breast cancer by about 10% in the past 25-30 years.

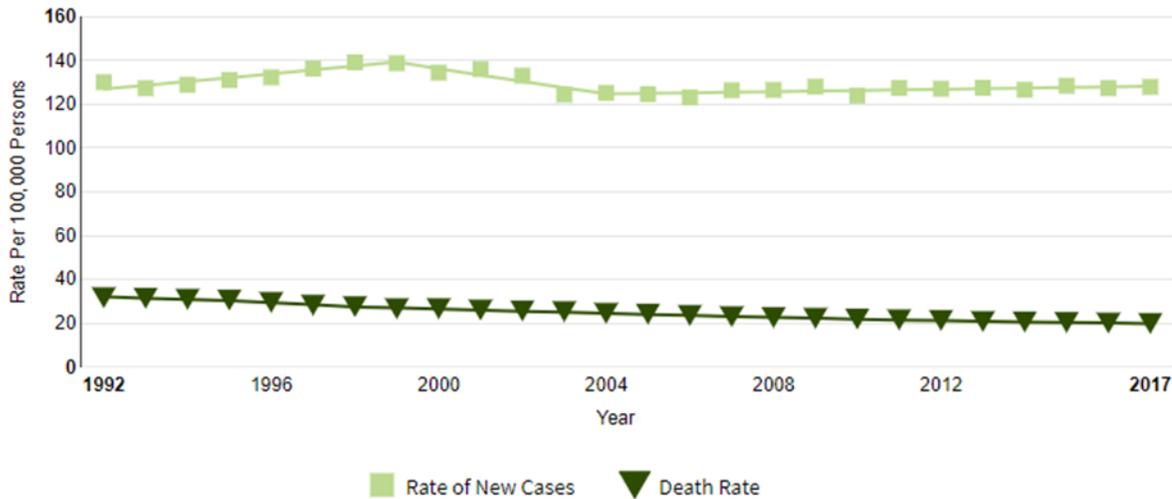


Figure 1: Breast cancer cases and mortality rates among women in the U.S. Source: <https://seer.cancer.gov/>

Early Detection

One of the key drivers of decreased mortality rate in breast cancer patients is early detection. If the cancer is detected while still in the localized stage, the five-year relative survival rate is approximately 99% as opposed to the average of 90%. Early detection methods are done via a variety of methods such as self-examinations, clinical breast exams, mammograms, or MRIs. On the FDA's website, women are able to use their Mammography Facility Database to locate a nearby facility that offers testing. The database houses the roughly 8500 mammography locations in the United States. Additionally, the database designates roughly 100 of these locations as "mobile" locations. These "locations" (typically vans or busses) will travel throughout cities and offer breast cancer screening services to female employees in an effort to increase both convenience and testing frequency. Notably, the American Cancer Society recommends a mammogram for women ages 45-54 every year, and then once every two years starting at age 55. According to the CDC, 65% of women over 40 have had a mammogram in the past 2 years.

Treatment and the Search for a Cure

Once diagnosed, there are a variety of treatment options available, and most women utilize multiple treatments. The five most common treatments for breast cancer, according to the CDC, are chemotherapy, hormonal therapy, radiation therapy, biological therapy, and surgery. While the most common method, surgery, is an operation where the doctor removes the cancer tissue, the other four therapy methods involve treatment plans that work to either kill the cancer cells or prevent them from continuing to grow. Chemotherapy aims to shrink and kill the cancer cells through either pills or medicine injected through the veins. Hormonal therapy works by blocking the estrogen that the cancer cells feed off of. Radiation therapy uses X-rays to kill off cancer cells that are more vulnerable to the impact of radiation than normal cells. Biological therapy is often used in conjunction with these treatment options to help the bodies immune system fend off the side effects of treatment.

The National Cancer Institute's yearly data from 2012-2017 (see Figure 2) shows that it has consistently allotted more money toward breast cancer than any other individual form of cancer. In addition to governmental agencies such as the NCI, we also see massive donations go toward breast cancer research through charities such as The Susan G. Komen Breast Cancer Foundation, which raised just short of 200 million for FY ending in March of 2019. The Susan G. Komen Foundation allots their donations in roughly 3 categories: 47% toward education, 29% toward research, and 24% toward screening and treatment according to charitynavigator.org.

Funding by Research Areas

(Dollars in Millions)

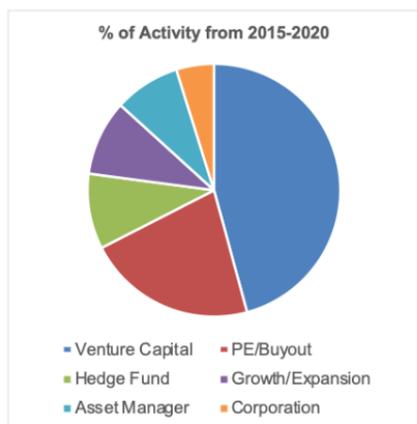
Disease Area	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Total NCI Budget	\$5,067.3	\$4,789.0	\$4,932.4	\$4,952.6	\$5,206.2	\$5,636.4
AIDS	271.7	261.6	269.2	269.7	266.4	249.0
Brain & CNS	177.5	176.8	180.4	204.8	196.3	219.8
Breast Cancer	602.9	559.2	528.5	543.6	519.9	545.1
Cervical Cancer	72.6	63.5	71.1	57.1	65.6	68.0

Figure 2: Snapshot of NCI's Breast Cancer Funding Source: <https://www.cancer.gov/>

With money coming in from a variety of sources, there is much opportunity for healthcare focused companies of all walks to get involved. As shown in the table below, there has been a decent amount of action involving Venture Capital firms funding both early detection systems as well as innovative new treatments for breast cancer. It goes without saying that developing a cure or an improved detection method would reap large profits for the company behind it given the 270,000+ breast cancer diagnoses in the U.S. each year. Pitchbook lists 139 companies that underwent M&A or received Private Equity or Venture Capital backing in the past 5 years in the U.S. alone. Without controlling for country, that number jumps to 230 companies participating in deals.

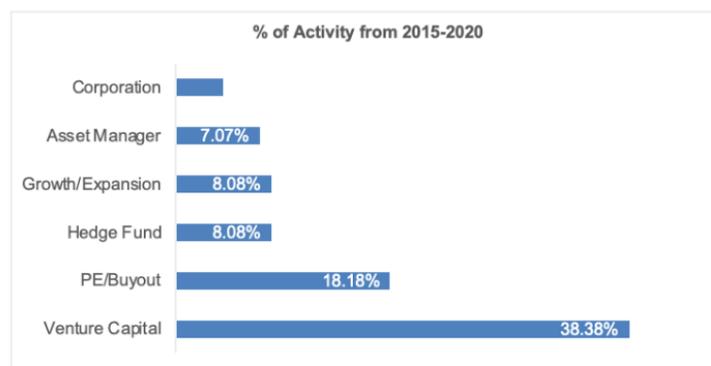
BREAST CANCER ACTIVITY

#	Image	Company Name	Deal Date	Deal Type	Description
1		Qlarity Imaging	01-Jan-2020	Early Stage VC	Developer of a computer-aided breast cancer diagnosis system designed to improve patient care, by enhancing the diagnostic insights available to radiologists.
2		PreludeDx	09-Jan-2020	Later Stage VC	Developer of decision-making actionable tools intended to manage early stage breast cancer.
3		Insight Genetics	31-Jan-2020	Merger/Acquisition	Provider of diagnostic services dedicated to improving the lives of cancer patients through advanced molecular diagnostics.
4		CANbridge Pharma	18-Feb-2020	Later Stage VC	Developer of specialty healthcare products designed to treat critical medical conditions.
5		Celsion	03-Mar-2020	PIPE	Celsion Corp is active in the biotechnology market.
6		MAX BioPharma	03-Mar-2020	Angel (individual)	Developer of novel small molecule lipids intended to provide treatments for fatal and debilitating disorders.
7		Eikonoklastes Therapeutics	04-Mar-2020	Seed Round	Developer of immunotherapy intended for treatment of severe cancerous disease.
8		Concure Oncology	19-Mar-2020	Later Stage VC	Provider of radiation -based oncology treatment services intended to cure breast cancers for women.
9		Olema Pharmaceuticals	26-Mar-2020	Later Stage VC	Owner and operator of a biotechnology company intended to develop new drugs for the treatment and prevention of estrogen receptor (ER) positive breast cancer.



Fund Type	% of Activity
Venture Capital	38.38%
PE/Buyout	18.18%
Hedge Fund	8.08%
Growth/Expansion	8.08%
Asset Manager	7.07%
Corporation	4.04%

Source: PitchBook Data, Inc.



FEMALE REPRODUCTIVE TRACT CANCERS, TREATMENT, AND CURE SEARCH

Certain types of cancer are unique to women as they originate within the feminine reproductive system. These cancers include: Uterine cancer, Ovarian cancer, Cervical cancer, Vaginal cancer, and Vulvar cancer. Diagnostic tests for these cancers are generally done via X-ray or other professional examination such as a Pap smear. Self-screening is not an option for these cancers as it is in breast cancers, so it is important for women to contact their healthcare professional early on if there is abnormal bleeding or pain as early detection is an important factor in the success of treatment.

Similar to breast cancer, surgical removal of the cancer is the most common method of treatment. Other treatments such as radiation therapy or chemotherapy, as we see with breast cancer, are also common treatment options. These treatments may be used in conjunction with each other or subsequently depending on the case. For example, it is not uncommon to have the cancer removed and then follow up with radiation or chemotherapy afterward.

Cancer site	Cancer incidence			Cancer mortality		
	Annual estimated number worldwide	Standardized incidence rate per 100,000 (world standard)	Cumulative risk per 100 (age 0-74 years old)	Annual total number worldwide	Standardized mortality rate per 100,000 (world standard)	Cumulative risk per 100 (age 0-74 years old)
All cancers	6,044,710	164.4	16.48	3,345,176	87.2	9.06
Breast	1,384,155	38.9	4.13	458,503	12.4	1.33
Cervix uteri	530,232	15.2	1.56	275,008	7.8	0.87
Corpus uteri	288,387	8.2	0.96	73,854	1.9	0.23
Ovary and ovarian adnexae	224,747	6.3	0.68	140,163	3.8	0.43

Figure 3: Cancer incidence and mortality comparisons for women world-wide. Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3443692/>

Given the prevalence of breast cancer, reproductive tract cancers have taken a back seat. Pitchbook shows a mere 17 cervical cancer companies undergoing transactions in the U.S. within the same 5-year timeframe as used in the prior breast cancer analysis. As seen in figure 3, it is possible that cervical cancers are being under researched currently. The 10% deal rate does not line up with the 60% mortality rate shown between cervical and breast cancers. This could be due to the publicity that breast cancer receives from popular charities, leaving open an under explored space in researching other forms of gynecologic cancers. Although, given the overlap in treatment, many of these companies between the two groups could be working toward nearly identical goals.

NEW CONTRACEPTIVE TECHNOLOGIES

Overview

According to the CDC, roughly 65% of the 72.2 million women aged 15-49 in the U.S. were currently using contraceptives between 2015 and 2017. The most common (see figure 4) was female sterilization at 18.6%, followed by oral contraceptive pills at 12.6%, and then long-acting reversible contraceptives (LARCs) at 10.3%. The CDC also reports that contraceptive use increases dramatically with age. Women aged 15-19 were using contraceptives at a 37% rate, while women aged 40-49 were using contraceptives at a 74% rate.

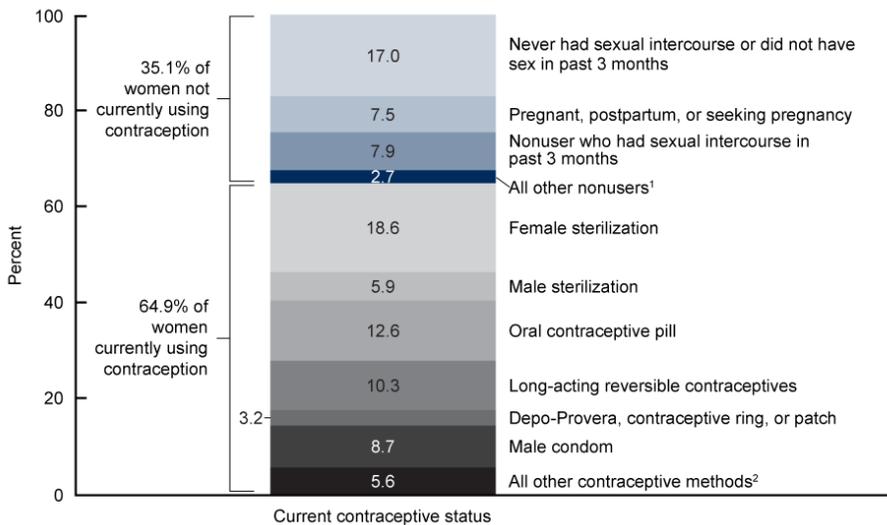
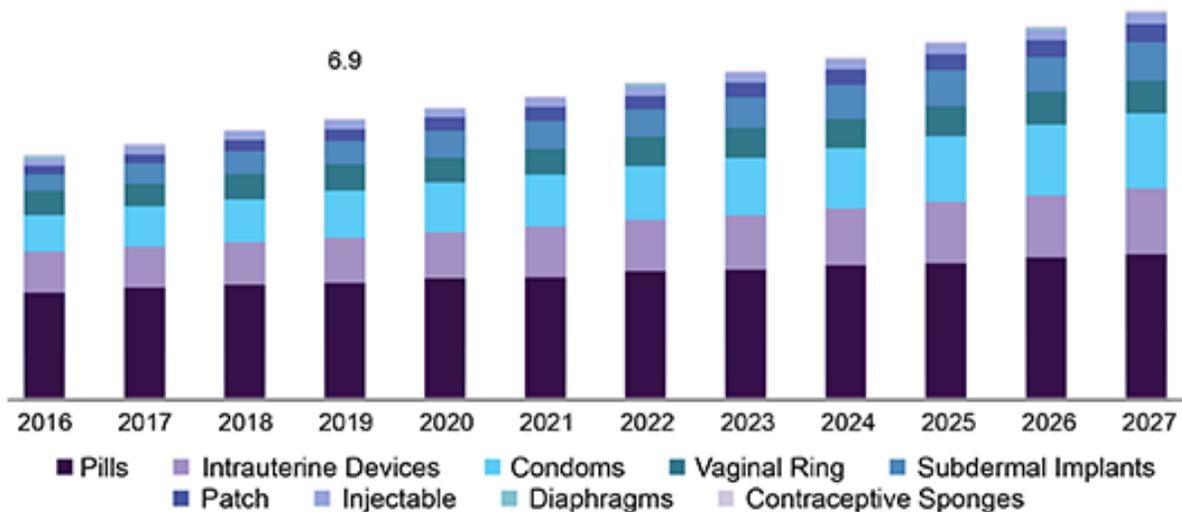


Figure 4: Contraceptive use by women 2015-2017 Source: <https://www.cdc.gov/>

As seen in figure 5, not only is the number of customers in the market large as shown by the CDC data, but there is also a substantial amount of money involved as well. The U.S. market for contraceptives, largely driven by contraceptives for women, is positioned at roughly 7 billion dollars. With the market seeing consistent growth over the past few years, there is no reason to believe that we will see a slow down as information becomes more easily dispersed and women are making more informed decisions about their reproductive health.

U.S. contraceptive market size, by product, 2016 - 2027 (USD Billion)



Source: www.grandviewresearch.com

Figure 5: Market size for contraceptives Source: <https://www.grandviewresearch.com/>

The downside to this market is that institutional players are large companies that can invest heavily into R&D. Some notable players include: Johnson & Johnson, Pfizer Inc., Bayer AG, and Merck & Co., Inc. While it may be difficult to impossible for a small firm to participate in the market, there is certainly a long list of potential buyers if someone were to stumble on an innovative new product.

CONTRACEPTION ACTIVITY

#	Image	Company Name	Deal Date	Deal Type	Description
1		Bioceptive	29-Jan-2016	Later Stage VC	Developer of intrauterine devices designed to simplify the insertion procedure while aiming to reduce the adverse events inherent with current insertion techniques.
2		Aquatrove BioSciences	17-Aug-2016	Merger/Acquisition	Provider of biotechnology services with its focus on human reproductive health and fertility aspects.
3		Afaxys	01-Jan-2017	Seed Round	Developer of oral contraceptive tablets intended to provide affordable healthcare products.
4		Femasys	13-Jan-2017	Later Stage VC	Developer of a permanent contraceptive technology designed to provide a safe family planning option for women.
5		Dare Bioscience	19-Jul-2017	Merger/Acquisition	Dare Bioscience Inc is a clinical-stage biopharmaceutical company focused on women's reproductive health.
6		ContraMed	01-Jun-2018	Buyout/LBO	Developer of intrauterine contraceptive devices designed to help women with birth control options.
7		Liberate the pill	01-Jan-2019	Early Stage VC	Operator of a campaign intended to improve the access and affordability of the contraceptive pill.
8		This is L.	05-Feb-2019	Merger/Acquisition	Provider of personal care products for women intended to impact women's lives.
9		Ohana Biosciences	01-Mar-2019	Early Stage VC	Developer of molecular techniques designed to create a novel category of fertility treatment.
10		Yaso Therapeutics	13-Mar-2019	Grant	Owner and operator of a pharmaceutical company intended to provide medical products for improving sexual health.
11		YourChoice Therapeutics	14-Mar-2019	Accelerator/Incubator	Developer of non-homonal contraceptives designed to eliminate the risk of negative side-effects associated with traditional hormonal contraceptives.
12		Sustain Natural	08-Aug-2019	Merger/Acquisition	Provider of natural sexual wellness products intended to advocate for women's reproductive and sexual health.
13		Hera Health Solutions	12-Nov-2019	Seed Round	Developer of a biodegradable contraceptive arm implant intended to eliminate painful removal surgery for women.

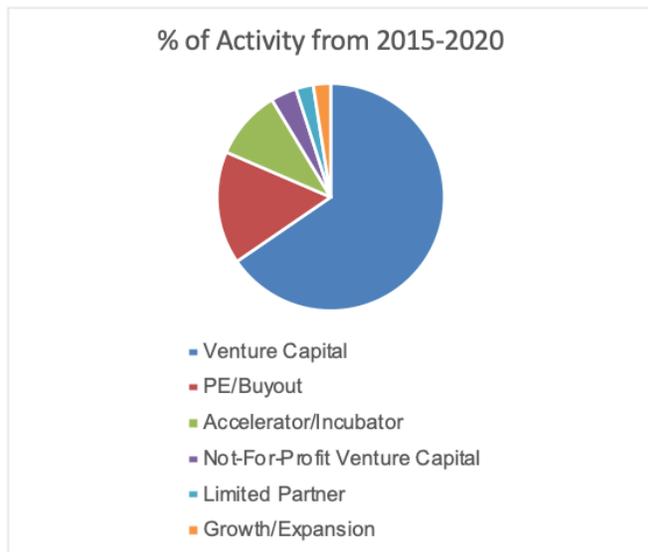
Source: PitchBook Data, Inc.

CONTRACEPTION ACTIVITY - CONT.

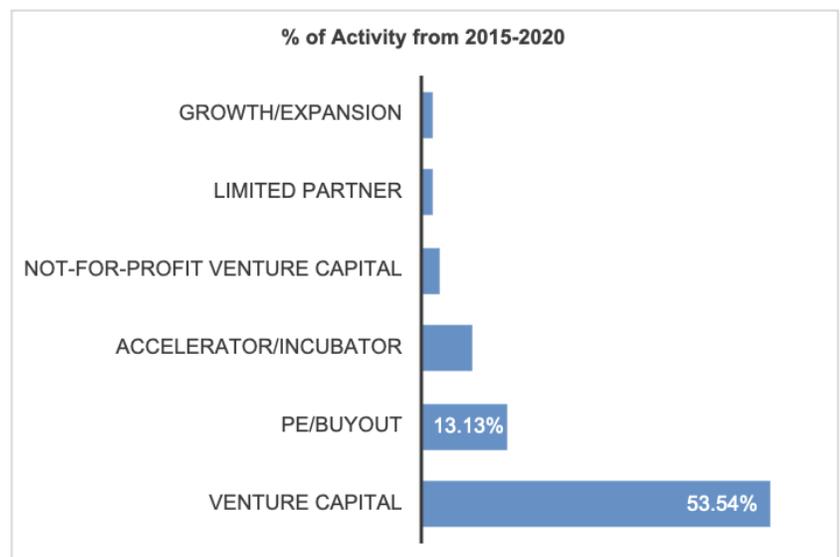
While there is a strong market for female-focused contraceptives, there are still many downsides to the current products and options available. The most common contraceptive among women, sterilization, is an irreversible procedure and can cost *up to six times* as much as a vasectomy. While there is a complex procedure to attempt to reverse the sterilization, its success rate is questionable and there is no guarantee of a reversal being completed.

Oral contraceptives come with their own laundry list of problems due to it being a hormone-centric solution. Side effects of the pill include: weight gain, nausea, headaches, migraines, changes to eyesight, blood clots, and more. While the pill may be effective (99.7%) in preventing pregnancy, the excess side effects leave a lot to be desired in a practical birth control solution.

Intrauterine devices (IUDs), the common name for LARCs, have shown in recent years to be some of the most reliable and side-effect light of birth control options available to women. In the U.S., IUDs are fairly unpopular, with only around 10% of women utilizing them. However, in other areas of the world such as Europe and Asia, we see near equivalent or higher rates of use for IUDs (17.1% and 27% respectively according to sciencedirect.com) than we do for any form on contraceptive in the U.S. While advances stall out on the female side of contraceptives (some non-hormonal contraceptive pills for men have been in the works since the 90s), perhaps revisiting the LARC method of contraception could open new avenues for growth and market capture when compared to its competitors.



Fund Type	% of activity
Venture Capital	53.54%
PE/Buyout	13.13%
Accelerator/Incubator	8.08%
Not-For-Profit Venture Capital	3.03%
Limited Partner	2.02%
Growth/Expansion	2.02%



Source: PitchBook Data, Inc.

Lawrence, Evans & Co., LLC is a boutique healthcare financial advisory and investment banking firm comprised of senior level professionals who provide lead advisory services to private companies, lenders, and other parties-in-interest that are executing financial and strategic transactions. Founded in 2003, the firm provides a wide array of services such as finance and capital raising, mergers and acquisitions, management consultancy services, turnaround management and restructuring, and real estate finance and development. The firm caters to the healthcare providers and service companies (senior housing, hospital, physician services, dental, dermatology, ophthalmology, physical therapy, behavioral health, RCM, HCIT, Population Health, obstetrics, gynecology, IVF, etc.), transportation and logistics, and business services sectors. Transactions are typically under \$250 million or \$10 million EBITDA.

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- Interim CEO/CFO
- Strategic Planning
- Organizational Reviews
- Expert Testimony & Opinions
- Turnaround Management
- Debt Restructuring/Refinancing
- Orderly Liquidations
- Chief Restructuring Officer (CRO)
- Bankruptcy Planning / 363 Sales
- Receivership / Trustee

Represented Healthcare Transactions:

<p>MULTI-SPECIALY WOMEN'S CLINIC</p> <p>CAPITAL RAISE</p> <p>MIDWEST</p> <p> ACTED AS ADVISOR</p>	 <p>MOBILE HEALTH SERVICES</p> <p>STRATEGIC OPTIONS ANALYSIS</p> <p> ACTED AS ADVISOR</p>	 <p>REFINANCE GROWTH FINANCING</p> <p> ACTED AS ADVISOR</p>	<p>HOME INFUSION & SPECIALTY PHARMACY</p> <p>MIDWEST</p> <p>ACQUIRED BY A STRATEGIC BUYER</p> <p> ACTED AS ADVISOR</p>
<p>HOME HEALTH AGENCY</p> <p>UPPER MIDWEST \$10,000,000</p> <p>ACQUIRED BY A STRATEGIC BUYER</p> <p> ACTED AS ADVISOR</p>	 <p>DENTAL SERVICE ORGANIZATION</p> <p> ACTED AS ADVISOR</p>	<p>DENTAL PRACTICE MANAGEMENT COMPANY</p> <p>BUY-SIDE MULTI-SITE DENTAL ACQUISITION</p> <p> ACTED AS ADVISOR</p>	 <p>HEALTHCARE MOBILE SERVICES BUSINESS</p> <p>ACQUIRED BY A STRATEGIC BUYER</p> <p> ACTED AS ADVISOR</p>

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