



FERTILITY MARKET OVERVIEW

May 2015

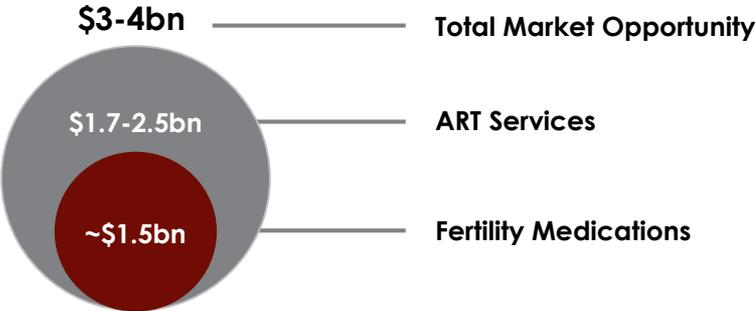


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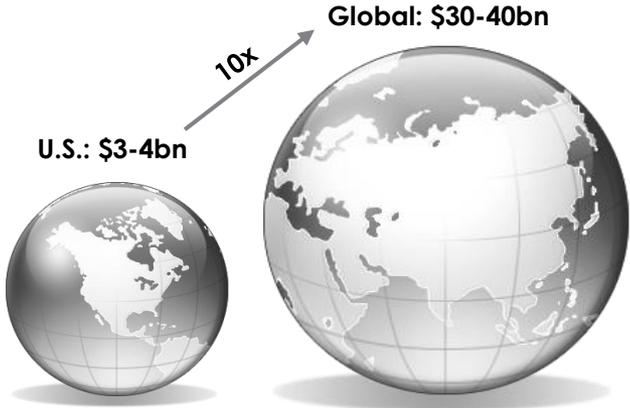
The U.S. fertility market is estimated to be between \$3 to 4 billion, comprising of fertility medications and assisted reproductive technology (“ART”) services.¹

- The fertility pharmaceutical sector, estimated to be \$1.5bn in the U.S., primarily consists of drugs that induce ovulation.
- ART services include fertility treatments involving the handling eggs and sperm.
 - This segment is estimated to be ~\$1.7 to 2.5bn.
 - ART services include fertility medication, intrauterine insemination (“IUI”), reproductive surgery (e.g. fallopian tube obstruction, varicocele repair), and surrogacy, with in-vitro fertilization (“IVF”) being the most popular.
- The demand for fertility services and drugs is forecasted to grow approximately 4% for the next several years primarily driven by the following key growth drivers:
 - 1 Aging and Infertility
 - 2 Increasing Prevalence of Obesity
 - 3 Cultural Shifts

U.S. FERTILITY SERVICES MARKET¹



GLOBAL FERTILITY SERVICES MARKET¹



Key Commentary:

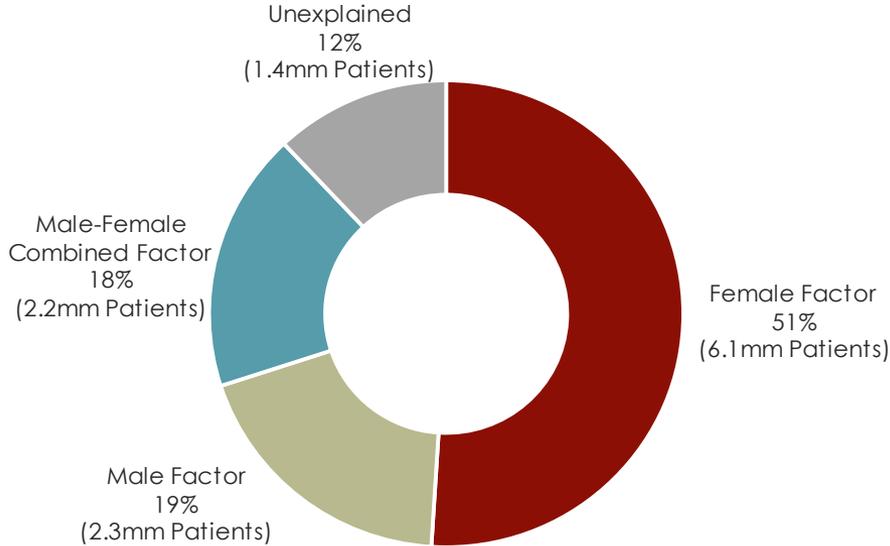
- 1.5M ART cycles performed each year worldwide
- ~540K cycles performed in Europe
- Largest global markets for fertility services include Europe, Japan, Australia, and Brazil

CAUSES OF INFERTILITY

Approximately 15% of couples in the United States are involuntarily infertile.¹

- Infertility is clinically defined as the failure to achieve pregnancy after 12 consecutive months of regular unprotected intercourse.
 - Both the man and woman must be evaluated to determine the cause of infertility.
- In 18% of instances, infertility is attributable to the couple rather than one of the partners; in 12% of the instances, no physical or physiological reasons can be detected.¹
- Female infertility can result from physiological problems, hormone problems, and lifestyle or environmental factors.
 - Factors contributing to female infertility include age, weight factors, ovulation disorders, endometriosis, and tubal factors.
- Male infertility causes include genetics, hormonal imbalances, sperm DNA damage, weight factors, use of tobacco, or sexually transmitted disease, among other unspecified reasons.

PATIENT DIAGNOSIS¹



MAJOR CAUSES OF INFERTILITY²

CAUSE	DEFINITION
Endometriosis	Endometrial tissue (the uterine lining that sheds with each monthly period) grows outside the uterus, causing tubal blockages and ovulation problems
Ovarian Problems	Condition (usually hormonal) that prevents the release of a mature egg from an ovary
Polycystic Ovary Syndrome ("PCOS")	Hormonal imbalance that disrupts ovulation
Female Tube Blockages	Blocked or damaged fallopian tubes prevent eggs from getting to the uterus and sperm from getting to the egg
Male Tube Blockages	Obstructions in the vas deferens or epididymis caused by infections such as chlamydia or gonorrhea, injury, or birth defects
Sperm Problems	Low or no sperm counts, poor sperm motility, and abnormally-shaped sperm

■ Denotes female condition ■ Denotes male condition

1. Centers for Disease Control and Prevention ("CDC")
2. Society for Assisted Reproductive Technologies ("SART")

INFERTILITY TREATMENTS

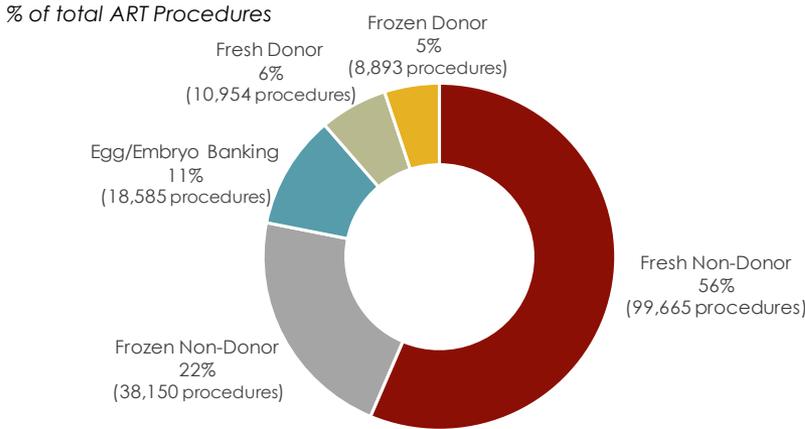
Infertility treatments can be divided into two groups: those that are egg-related, and those that are non-egg-related.

- Fertility drugs and IUI are common first steps in addressing a woman's infertility, particularly among younger women. These services do not manipulate a woman's eggs.
 - Fertility drugs (e.g. clomiphene) remain the primary treatment for women with ovulation disorders; these medications work by causing the release of hormones that either trigger or regulate ovulation, and are often used in combination with ART procedures or artificial insemination ("IUI").
 - If clomiphene on its own is not successful, doctors may recommend injectable hormones to stimulate ovulation (e.g. Follicle Stimulating Hormone("FSH"), Human Menopausal Gonadotropin ("hMG"), Gonadotropin Releasing Hormone ("GnRH")).
- If these treatments are unsuccessful, more advanced ART techniques that manipulate both eggs and sperm are the next step.
 - ART is often categorized according to whether the procedure uses the woman's own eggs or donor eggs and whether the embryos used are newly fertilized ("fresh") or previously fertilized ("frozen").
- Surgery is another form of infertility treatment that has become less common as ART has become more prevalent.
 - Fallopian tube blockages typically prevent the passage of the egg to the sperm, or the fertilized egg to the uterus, but surgery can be used to correct this. In instances of severely blocked fallopian tubes, doctors may advise patients to skip surgery and opt for ART procedures, like IVF.1
 - Surgical procedures are also used to treat male infertility, such as varicocele repair, where varicose veins occur in the scrotum.1
- Currently, only 15 states have laws requiring insurance coverage for infertility treatment.

TYPICAL COSTS FOR SPECIFIC TREATMENTS¹

Treatment	Typical One-Time Cost
Surrogacy	\$50,000 - \$100,000
Donor Eggs	\$15,000 - \$20,000
In-Vitro Fertilization	\$12,000
Medications per IVF cycle	\$3,000 - \$5,000
Intrauterine Insemination	\$1,000 - \$2,000
Donor Sperm	\$300 - \$400

CATEGORIES OF ART PROCEDURES²



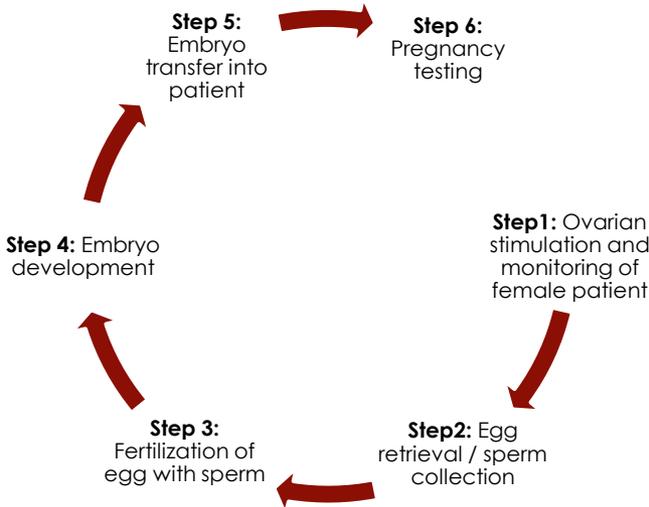
1. American Society for Reproductive Medicine ("ASRM")
 2. CDC
 3. UCLA OB/GYN

IN-VITRO FERTILIZATION

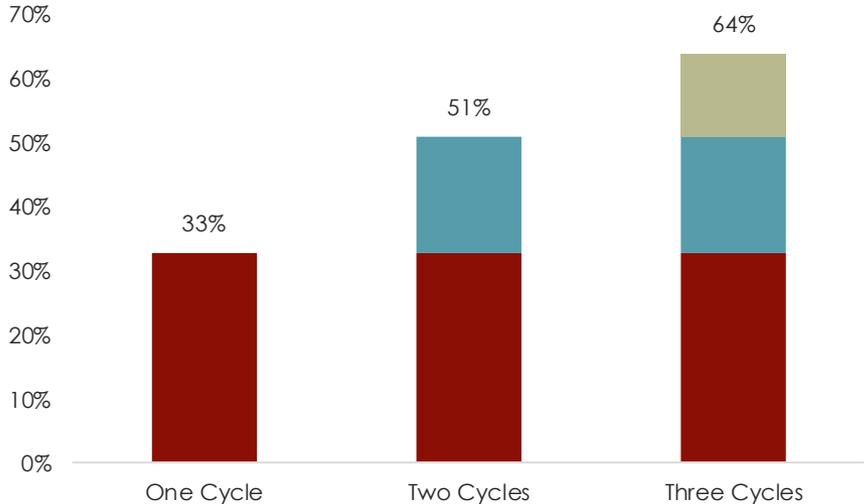
In-vitro fertilization accounts for ~99% of all ART procedures.¹

- An IVF procedure involves several steps over a multi-week period, defined as a “cycle.”
 - The process begins by stimulating egg production with fertility drugs followed by surgical egg retrieval, fertilizing the eggs with sperm, embryo development, embryo transfer, and pregnancy testing.
 - In 2012, there were over 176,000 ART cycles started in the U.S., nearly all of which were IVF treatments.¹
- IVF procedures take place at fertility centers and are performed by physicians with board certifications in Obstetrics and Gynecology and Reproductive Endocrinology and Infertility.
 - In 2012, there were over 480 ART specific fertility clinics in the U.S.¹
- Current IVF treatments remain expensive with relatively low success rates.
 - The cost of an IVF cycle is typically \$12,000 with multiple cycles often required to achieve a successful pregnancy.²
 - On average, the chance of having one or more children through an IVF attempt is around 30%; however, there is growing evidence that the chances of pregnancy increases with each attempt.¹

IVF OVERVIEW³



CUMULATIVE SUCCESS RATES OF IVF⁴



1. CDC
 2. ASRM
 3. SART
 4. Jones Institute for Reproductive Medicine of the Eastern Virginia Medical School

KEY INDUSTRY GROWTH DRIVERS: AGING AND INFERTILITY

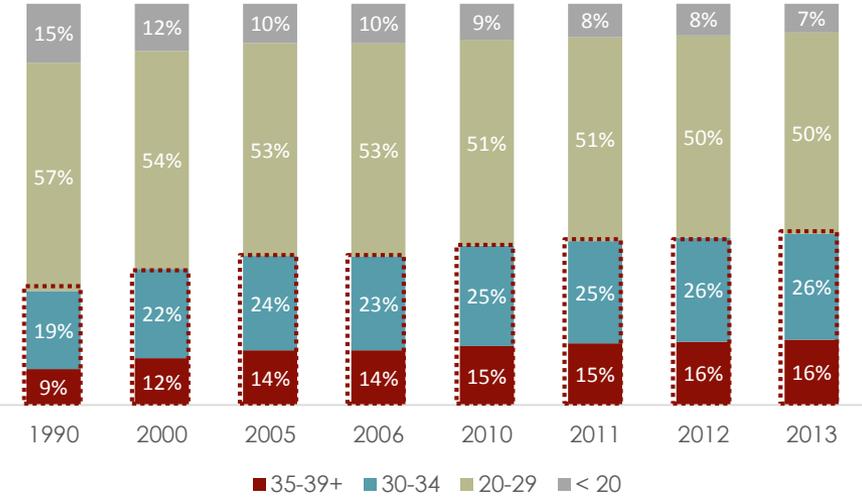
Fertility challenges, which typically become more pronounced in women over the age of 35, are more common as the average age of first births among women has increased.

AS WOMEN WAIT LONGER TO HAVE CHILDREN...

- Factors contributing to the delay in child bearing include financial feasibility, greater emphasis on careers, and delays in marriage.
- The percentage of first births among women aged 30 years or older increased from 5% in 1975 to 26% in 2010.¹
- Since 1970, the average age of first motherhood in the U.S. has increased from 21 to 25, driven primarily by an increase in first children born to women 35 and older.²

% U.S. BIRTH RATES BY WOMEN 30-39+ STEADILY INCREASING¹

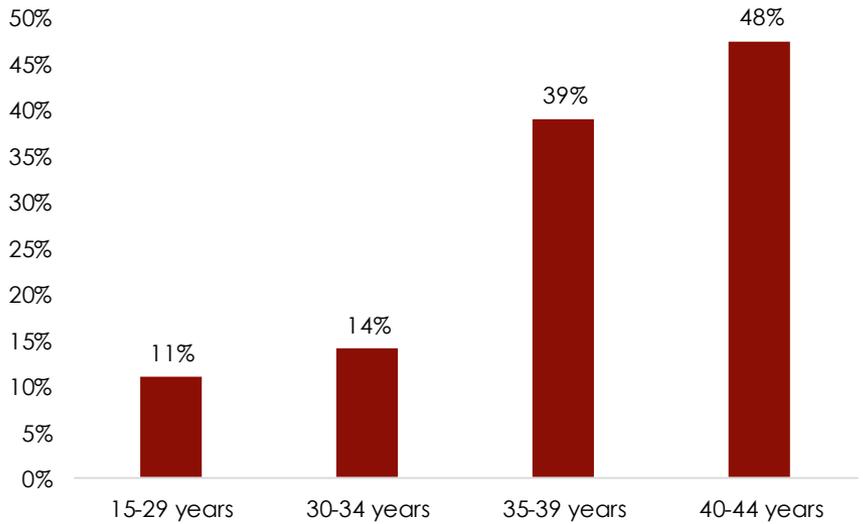
Birth rates by age of mother in the U.S. (% of total births)



...THEY INCREASE THEIR RISK OF INFERTILITY

- Infertility remains closely associated with age as women over the age 35 have infertility rates of over 35%.
- The percentage of women seeking such services increased with age and was approximately 20% among women aged 35–44 years.²

INFERTILITY RATES BY AGE³



1. CDC
2. CDC – National Public Health Action Plan for the Detection, Prevention, and Management of Infertility
3. National Survey for Family Growth / CDC

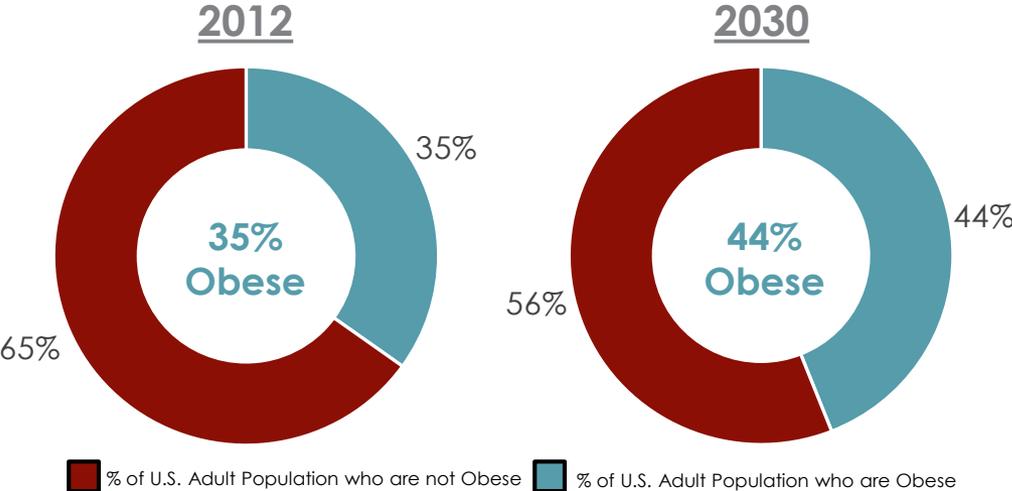
KEY INDUSTRY GROWTH DRIVERS: INCREASING PREVALENCE OF OBESITY

The increasing prevalence of obesity is driving demand for the industry as obesity has an adverse impact on fertility.

- Obesity rates among U.S. adults have more than doubled over past 35 years, recently reaching 35% of the adult population, in 2012.¹
 - The obesity rate is expected to continue to rise, reaching at least 44% by 2030 or 50 million U.S. adults.
- Obesity is a known risk factor in women for ovulation infertility, as obese women are three times more likely to suffer from infertility than woman with a normal body mass index (“BMI”).²
 - Even a slightly elevated BMI at the age of 18 is a risk factor for ovulatory infertility.³
 - Studies have shown that losing as little as 5% of body weight can dramatically improve chances of pregnancy.⁴
- Obesity also alters fertility in men due to imbalances in hormone regulation tied to lower sperm production and various factors resulting in decreased sexual function / desire.⁵
 - A 20-pound increase in a man's weight may increase the chance of infertility by ~10%.⁶

GROWING PREVALENCE OF OBESITY AMONG U.S. ADULTS^{10,11}

Obesity Rates Among the U.S. Adult Population



OBESITY-RELATED FERTILITY ISSUES⁷

ISSUE	COMMENTARY
Irregular Menstrual Cycles	Obesity is associated with having an irregular menstrual cycle due to hormonal factors which can have adverse affects on fertility
Problems with Ovulation	45% of women that suffer from problems with ovulation are overweight or obese ⁸
Polycystic Ovary Syndrome (“PCOS”)	Obesity is associated with PCOS, as approximately 50% of PCOS are overweight or obese
Sperm Problems	Obese men are 42% more likely to have low sperm count and 81% more likely to produce no sperm ⁹
Decreased Libido / Erectile Dysfunction	Obesity in men is linked to reduced levels of gonadotropins and testosterone, altered androgen-to-estrogen ratios, insulin resistance, and sleep apnea, which can lead to decreased libido and / or erectile dysfunction

■ Denotes female condition ■ Denotes male condition

1. CDC
 2. Journal of Human Reproduction
 3. U.S Women’s Health
 4. Department of Obstetrics and Gynecology ASRM
 5.
 6. U.S National Institute of Environmental Health Sciences
 7. Obesity Action Coalition
 8. University of Adelaide, Research Centre for Reproductive Health
 9. Harvard School of Public Health
 10. Stateofobesity.org
 11. USA Today News

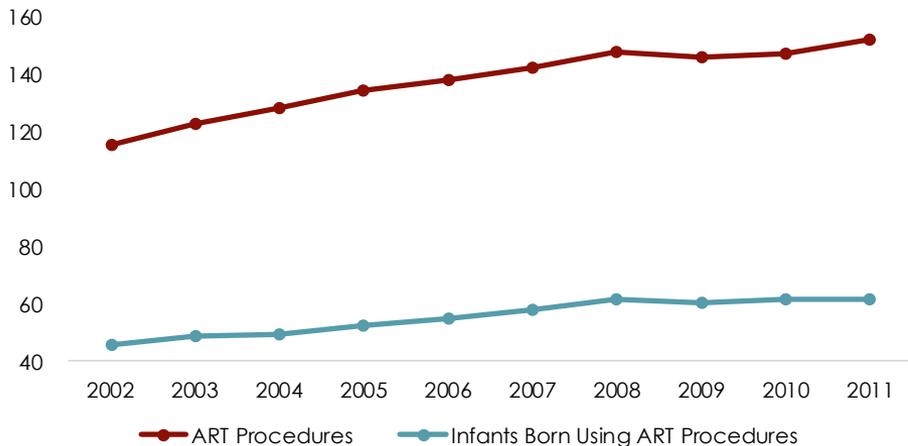
KEY INDUSTRY GROWTH DRIVERS: CULTURAL SHIFTS

Increasing acceptance of ART and same-sex marriage have led to a rapidly growing fertility services market.

- The increasing acceptance and awareness of ART procedures has increased over time, reducing the reluctance of women and couples seeking ART, as evidenced by the increase of art cycles and infant births in the U.S.
 - The number of ART cycles in the U.S. has increased 32% from 115,392 cycles in 2002 to 151,923 cycles in 2011, while infants born using ART increased by 34% from 45,751 in 2002 to 61,610 in 2011.¹
 - The CDC estimates that ART accounts for more than 1% of total U.S. births.
- At the same time, an increasing number of same-sex parents driven by greater social acceptance and improved legal rights is expanding the population for donor sperm and other fertility services.
 - It is estimated that up to 6 million children in the U.S. are parented by same-sex parents.⁴
 - More same-sex couples have been seeking fertility services since same-sex marriage was legalized.
 - The defeat of the Defense of Marriage Act ("DOMA") in 2013 has further increased the demand for fertility services.³
 - Women in same-sex relationships using donor sperm rose from 15% before same-sex marriage was legalized to 20% after the change.³

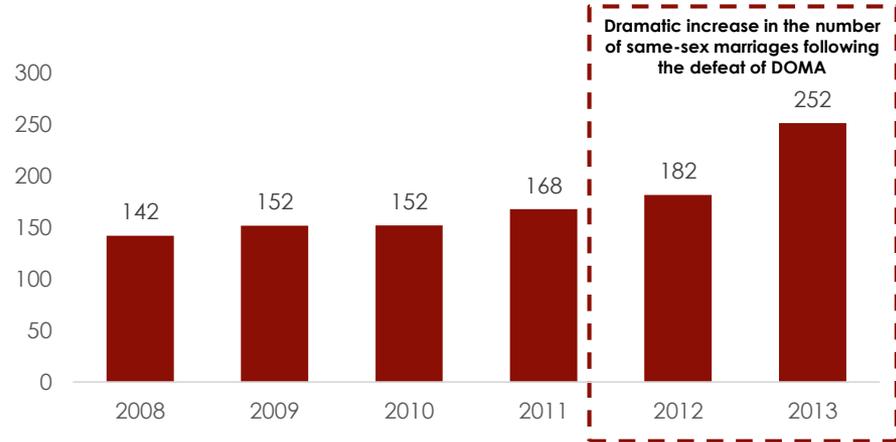
ART PROCEDURES IN THE U.S.¹

ART Procedures and Infant Births in 000s



SAME-SEX MARRIED COUPLES IN THE U.S.²

Estimates of same-sex married couples in the U.S. (# of couples in 000s)



1. CDC
2. U.S. Census Bureau, 2008 through 2013 American Community Survey 1-year data files
3. Christian Science Monitor
4. The Williams Institute

REGULATORY ENVIRONMENT

The U.S. fertility services industry lacks strict regulatory oversight.

- Regulation on fertility services in the U.S. varies widely across states and treatment types.
 - Human embryo research is highly restricted at the federal level.
 - Clinical services are largely subject to professional self-regulation.
 - Anti-regulatory sentiments are strong among fertility service providers as they view themselves performing a service rather than medical research.
- States are weary of regulating the fertility industry due to the public disagreement among the right to use ART services and the political nature of abortion, which touches on conception and embryos.
- As such, many aspects of fertility services are simply unaddressed, including:
 - Number of children that may be conceived from one donor
 - Types of medical information or updates that must be supplied by donors
 - Genetic tests that may be performed on embryos
 - Number of fertilized eggs that may be placed in a woman
 - Donor age restrictions
- Loose regulation at both the federal and state level makes the U.S. an outlier compared to the rest of the developed world.
 - Other Western nations including Canada, the UK, Sweden, Germany, and Australia, heavily regulate many aspects of fertility services.

U.S. REGULATORY OVERSIGHT



INDUSTRY LANDSCAPE AND M&A

There has been steady M&A activity in the fertility services sector in the last three years.

- The U.S. market for fertility services is highly fragmented.
- Continued broad-based middle-market interest in the fertility services sector.
 - Small industry players want to broaden their network and expand access to patients and referral networks.
 - Platform providers with scale seek add-on acquisitions to spur growth, realize synergies, and increase geographic presence.

NOTABLE M&A ACTIVITY

Date	Target Company	Acquirer
Mar-15	IVF New Jersey Fertility and Gynecology Center	Reproductive Medicine Associates of New Jersey, LLC
Feb-15	EUVITRO S.L.U.	NMC Health Plc
Feb-15	Gynecologic and Obstetric Consultants of Greater Cincinnati	Trihealth, Inc.
Jan-15	Human Assisted Reproduction	The Sims Clinic Ltd.
Nov-14	IVF Sunshine Coast Pty Ltd	Virtus Health Limited
Aug-14	California Cryobank, Inc.	NovaQuest Capital Management; Longitude Capital Management
Aug-14	Bayside Ob-Gyn & Infertility, Inc.	OB/GYN Associates
Jul-14	South East Fertility Clinic Ltd	CARE Fertility Group Limited
Jul-14	Minnesota Gynecology and Surgery-Fairview	Fairview Health Services, Inc.
May-14	The Sims Clinic Ltd.	Virtus Health Limited

Date	Target Company	Acquirer
Apr-14	Obstetric & Gynecological Service, Inc.	The Fort Hamilton Hospital
Apr-14	Kinder IVF	Ankur Healthcare Pvt Ltd
Dec-13	Conceive Gynecology & Fertility Centre	Alchemist Healthcare LLC
Nov-13	Women's Care, P.A.	Mid America Physician Services
Nov-13	Women's Clinic of Johnson County PA	Mid America Physician Services
Sep-13	Heartland Fertility and Gynecology Clinic	Opmedic Group Inc.
May-13	Milann - The Fertility Center	HealthCare Global Enterprises Limited
Apr-13	OB/GYN Specialists of Northern Kentucky, Inc.	Seven Hills Ob-Gyn Associates, Inc.
Apr-13	HertART ApS	Vitrolife AB (publ)
Sep-12	Integred America Inc.	Sagard Capital Partners, L.P.

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