Closely managing infertility yields better outcomes, lower costs
For health plans managing large populations, it is sometimes easy to underestimate how quickly the complexities and cost of treating infertility can add up. Unmanaged infertility treatments may lead to longer waits to get pregnant and higher risk of multiple births. In some instances, ineffective treatment may impede or even prevent conception.

In addition to paying the direct cost of treatment and pharmaceuticals, health plans not closely managing infertility procedures may also shoulder the costs of expensive prenatal care, preterm births and neonatal intensive care unit (NICU) utilization.

The goal for health plans addressing infertility is clear: to assist the member in achieving pregnancy in a quick, safe and cost-efficient manner. The key to getting there is by following evidence-based medicine, including full diagnostic testing and treatment by infertility specialists — such as reproductive endocrinologists — as needed.

Leveraging a highly experienced network of infertility clinicians, adhering to evidence-based clinical guidelines and educating members about optimum treatment options, Optum® has enabled health plans to reduce infertility treatment and NICU costs by as much as 20 to 30 percent while achieving healthy pregnancies.

This paper examines the challenges of addressing infertility and how health plans can better manage them.

**Impact of delayed motherhood**

For years, women have been delaying motherhood for a variety of reasons, including the widespread availability of birth control, desire to finish school and start a career, and the high cost of child care. The median age at which women become mothers in the U.S. in 2018 is 26 years old, compared with 23 in 1994.

And, of particular relevance to health plans, older women are increasingly becoming first-time moms. From 2000 to 2014, the proportion of women aged 30 to 34 having their first babies rose 28 percent (from 16.5 percent to 21.1 percent), and first births to women aged 35 and over rose 23 percent (from 7.4 percent to 9.1 percent).

Compared to younger mothers, women delaying pregnancy well into their 30s face a variety of risks, including the increased likelihood of:

- multiple pregnancies
- gestational diabetes
- high blood pressure
- babies with chromosome abnormalities
- premature babies
- miscarriage

Both a woman’s chronological age and her ovarian reserve (which decreases with age) impact her ability to get pregnant. As women delay motherhood, the likelihood of developing fertility issues increases. That means more women will seek infertility treatment — approximately 17 percent of U.S. women currently use some type of infertility treatment — with a diminishing prognosis for success.
**Cost drivers**

**Ineffective care**

Infertility — the inability to conceive a baby after one year of unprotected intercourse for women under 35 year old and six months for women over 35 years old — affects about 12 percent of women age 15 to 44 in the U.S. As mentioned, fertility generally declines steadily with age. Infertility can be treated with medicine, surgery, intrauterine insemination or assisted reproductive technology.

Navigating infertility is difficult without expert clinical guidance and support. Time to pregnancy can be longer and the occurrence of multiple births higher. And while couples may understand that some infertility treatments are likely to be more successful than others, they may lack the insurance or financial means to cover it.

Trying to balance the intense desire to have a baby with the medical, emotional and financial challenges of infertility can lead couples to make poor decisions, such as seeking treatment with providers who are not specially trained in fertility issues. They may pursue a course of treatment, such as multiple cycles of artificial insemination combined with expensive drugs, that, in the end, may be less effective and costlier than other kinds of treatment.

Heartbreakingly, in their desperation to have a baby, some women spend years shifting from one doctor to another and trying one inappropriate treatment after another, at which point they are too old to conceive. Along the way, health plans cover the cost of doctor visits and treatments which can amount to thousands of dollars.

**Multiple births**

Multiple births — such as twins and triplets — are a common and unintended consequence of infertility treatments because it can be difficult to predict or control how many eggs are fertilized. Most of these births result from medical intervention or unmanaged infertility treatments. Couples eager to have a baby may not fully understand the risks associated with multiple babies.

The birth rate for twins soared in recent years, increasing 76 percent from 1980 through 2009, from 18.9 to 33.3 per 1,000 births. The 2014 rate of 33.9 was the highest ever reported. The triplet and higher-order birth rate has flattened out after a steady decline over the past several years.

Because twins and triplets are often born pre-term, they typically require costly stays in a NICU. By guiding members to state-of-the-art, evidence-based treatment options, however, health plans can help increase the likelihood of a successful singleton pregnancy, thereby reducing complications for both mothers and babies.

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**Twins and triplets are frequently delivered pre-term and ultimately admitted to the NICU**

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SINGLETON  TWINS  TRIPLETS
NICU Admissions

A high-risk pregnancy, premature birth or other complications may necessitate admitting the baby to a NICU, a nursery in a hospital providing intensive around-the-clock care.

Roughly one out of every ten babies (380,000) are born preterm in the U.S. — less than 37 weeks of pregnancy; and most will spend time in a NICU due to complications. After a period of decline, the preterm birth rate is trending up, rising for the second straight year in 2016. Preterm birth drivers include advanced maternal age, an increase in multiple gestations and the rise in C-section rates.

Infants delivered preterm may face lengthy hospital stays until they are able to breathe effectively on their own, feed, maintain their body temperature and achieve other milestones. Infants born at 32 weeks, for example, may spend four to six weeks in the NICU.

Preterm births are costly. While a baby delivered at term costs approximately $5,000, a premature baby on average costs the healthcare system roughly $50,000, and many are far more costly than that. According to the March of Dimes, employers pay an average of 12 times more for premature/low birthweight babies than for babies born without complications.

Follow best practices

Infertility is a unique and highly specialized area of medicine that lays outside the core medical management competencies of most health plans. Many plans lack the resources to digest the latest research and clinical guidelines on effective, cost-efficient treatment approaches. And, without a reproductive endocrinologist on staff, health plans face a gap in their ability to fully assess members seeking infertility treatment.

Health plans should ensure that their infertility management program is designed around these best practices:

• Appropriate providers. While circumstances vary case to case, clinical guidelines suggest that women with infertility should seek treatment from a reproductive endocrinologist, a physician specializing in managing infertility. Unlike other providers, reproductive endocrinologists are highly trained in identifying the potential causative factors involved in infertility and recommending appropriate treatment.

• Treatment efficacy. Intrauterine insemination (IUI) — artificial insemination — involves the transfer of sperm into a woman’s uterus when she is ovulating. IUI, which is often performed in conjunction with ovulation-stimulating drugs, has been shown to have relatively low success rates — depending on a variety of factors — particularly with older women, and a high likelihood of multiple births. According to Dr. Alexander Dlugi, a reproductive endocrinologist and Optum® Fertility Solutions medical director, ovarian stimulation/IUI cycles should generally not exceed four before other treatment options are considered (it’s not unusual for women today to undergo a dozen or more such cycles).

• In-vitro fertilization (IVF). IVF involves removing mature eggs from a woman’s ovaries, combining the eggs with sperm in a lab, and returning the embryos to the woman’s body. While the risk of multiple gestations remains, IVF should be considered as a first-line therapy in dealing with most infertility diagnoses, particularly for women over 35 years old. While IVF is more expensive than IUI, costs for both procedures tend to even out when IVF is compared to multiple IUI cycles. And, importantly, while success rates vary from clinic to clinic and with different infertility diagnoses, they are generally higher with IVF than IUI.
The cumulative live birth rate — the chance of achieving a live birth after a fresh or frozen embryo transfer within a year of cycle initiated for egg retrieval — is:

- 48.2% for women under 35 years old
- 35.3% for women ages 35–37
- 22.4% for women ages 38–40
- 10.6% for women ages 41–42

**Single embryo transfer.** Elective single-embryo transfer (eSET) is a procedure whereby a woman undergoing IVF has a single embryo transferred to her uterus or fallopian tube when multiple embryos are available. In women who are considered good candidates (generally, under age 35 with sufficient numbers of high-quality embryos, and embryos available for freezing to use in later cycles if needed), eSET results in excellent pregnancy rates and a dramatic drop in multiple pregnancy rates — overall, twin rates after eSET are around one to two percent.15

**Optum approach**

By closely managing infertility, health plans can drive down costs through better clinical care. Optum deploys several strategies to drive value for health plans and their members:

- Reducing overall direct costs, as well as downstream costs through utilization management
- Partnering with providers with proven outcomes through Optum Fertility Centers of Excellence
- Supporting effective treatment decisions through case management

**Significant savings**

Optum approach enables members to get pregnant faster and have more singleton pregnancies carried to full-term. And it delivers cost savings to health plans: reducing infertility treatment and NICU costs by as much as 20 to 30 percent.19

Those savings are driven by:

- Utilization management
- Centers of Excellence case rate contracts
- Adherence to medical and pharmacy benefits
- Treatment shifts from ovulation induction to IVF, and from use of fresh to frozen embryos
- Reduced surgeries
- Fewer inpatient days in NICU

Infertility treatments generally cost health plans between $2–$5 per member per month, particularly in states that mandate infertility coverage. Of that amount, Optum approach can help save up to $1.50 per member per month which can yield millions of dollars saved annually for a mid- to large-sized health plan.
Utilization Management: reducing unnecessary spend

Optum® Utilization Management ensures that the most efficient and effective treatments are utilized to eliminate unnecessary treatment. Preauthorization of treatment plans and infertility medications that conform to benefits and evidence-based guidelines, along with review of submitted claims, can reduce spend.

Utilization Management: promoting evidence-based treatment:

- **Benefits verification:** confirms coverage based on eligibility and benefits, and authorizes only covered services.
- **Medical necessity:** reviews every case for medical necessity across both medical and pharmacy; recommended adverse determinations for services that do not meet evidence-based medicine guidelines.
- **Pharmacy dosage management:** monitors prescriptions to ensure preferred drugs are used in appropriate quantities.
- **Peer-to-peer review:** engages providers in a consultation following an adverse determination to find out if reconsideration is warranted.

Centers of Excellence: better outcomes and lower costs

- **Evidence-based care.** Center of Excellence providers and fertility specialists align with Optum evidence-based approach and observe Optum clinical guidelines. Leveraging Center of Excellence providers helps reduce unnecessary procedures and costly, ineffective or duplicative treatment which is a significant problem in fertility clinical care.
- **Rigorous credentialing.** Fertility clinics are carefully selected and continually evaluated based on several factors including outcome metrics and whether they adhere to best fertility medical practices.
- **Contracted network.** Case rate arrangements specific to infertility treatment with incentives relating to frozen embryo transfers and elective single-embryo transfer (eSET).

Case management: superior member experience

- **Experienced nurses.** Experienced, compassionate nurses, who specialize in infertility and understand evidence-based medicine, work directly with members.
- **Education.** Nurses answer members’ questions and help them understand benefits coverage and treatment options. Nurses also advise members of the benefits of receiving treatment at an Optum Center of Excellence and the risks associated with multiple births.

The Optum fertility program is staffed by a highly experienced clinical team. Optum nurse case managers have, on average, 14 years of specialized fertility experience, and are supported by two reproductive endocrinologists, including its medical director, considered a leading fertility expert with 30 years of experience in the field. Having deep clinical expertise can make a difference in diagnosing an infertility medical condition that can lead to more effective treatment.

After implementing pharmaceutical dosage management as part of the program’s utilization management approach, Optum drove a decrease of approximately 97% in scripts that clinically recommended dosing requirements.
Conclusion
Infertility is a complex and deeply emotional experience for members and their families. As a highly specialized area of care, it is also a significant cost driver for health plans. Leveraging a network of providers who are highly trained and experienced in the field, promoting the use of clinically appropriate treatments that are associated with achieving healthy pregnancies, educating members about their condition and guiding them on their fertility journey is a formula for quality outcomes and lower costs.

SOURCES