

# CARROT

How fertility benefits  
improve health outcomes



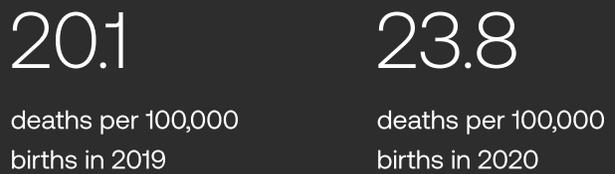
# Poor outcomes, high costs

Healthcare in the U.S. is notoriously complex and expensive. When looking at the current state of maternal and birth outcomes, it's clear that our system is failing parents and children at several points throughout their lives. Employers are responsible for providing healthcare to a majority of Americans. This creates an opportunity to improve access, care quality, and outcomes — but traditional insurance plans don't typically include the preventive, comprehensive care options that make a difference.

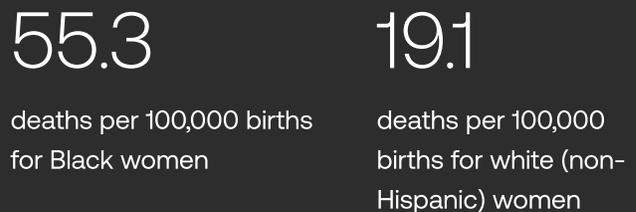
Improving pregnancy and birth outcomes begins by understanding the problem at hand. The current landscape of maternal health and birth outcomes in the United States is at an unprecedented grim point. In 2019, the **overall U.S. maternal mortality rate** was 20.1 deaths per 100,000 births. In 2020, that rate rose to 23.8 per 100,000 births. And while maternal mortality rates rose across age and racial groups, the spike was largely due to a surge in Black and Hispanic maternal deaths. The 2020 mortality rate for Black women was 55.3 deaths per 100,000 births — 2.9 times the rate of white (non-Hispanic) women, which was 19.1 deaths per 100,000 births.

This troubling phenomenon has been dubbed the **Black Maternal Health Crisis** by organizations such as the American Medical Association (AMA). **According to the CDC**, a variety of factors contribute to this disparity, including variations in the quality of healthcare offered in Black communities, underlying chronic conditions, structural racism, and implicit bias. **Research shows** that access to culturally competent care impacts outcomes, but accessing the right care isn't straightforward.

## U.S. maternal mortality rate

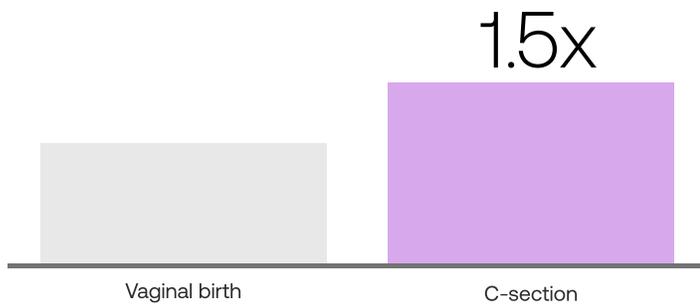


## U.S. maternal mortality rate in 2019 by race



Gaps in prenatal care have proven to have deleterious effects on overall health. **According to a report from the Centers for Medicare & Medicaid Services (CMS)**, a lack of access to high-quality maternal health services in rural communities specifically — home to one in five Americans including 18 million women of reproductive age — can result in a number of negative maternal health outcomes. The negative consequences include everything from premature birth, low-birth weight, and maternal mortality to severe maternal morbidity and increased risk of postpartum depression. These health disparities disproportionately affect American Indian and Alaska Native women and other women of color.

Another cost driver disconnected from improved outcomes is the increase in **Cesarean sections (C-sections)**. While these procedures can be lifesaving, the rates of C-sections in the U.S. are significantly higher than necessary, according to public health experts.



The average reimbursement for performing C-sections is **approximately 50% higher** than it is for vaginal births, with longer hospital stays and recovery times also contributing to higher costs for both patients and employers. When performed unnecessarily, C-sections can increase the risk of complications for both the person carrying the pregnancy, as well as the baby and in turn, raise healthcare costs.

Yet another important consideration in the realm of maternal health is the potential for high-risk pregnancies with multiples. Multiple gestation increases maternal and neonatal morbidity and mortality. The most important maternal complications associated with multiple gestation are preeclampsia, gestational diabetes, and preterm labor and delivery. The risks for fetal demise, preterm birth, and low birth weight increase with the number of fetuses.

**According to the American Society for Reproductive Medicine**, “the goal of infertility treatment is for each patient to have one healthy child at a time.” Experts recommend that intentional strategies be used in all fertility treatments to reduce multiple gestations as they are associated with major maternal and fetal risks.

While twin and triplets births can happen spontaneously with and without fertility treatment, some patients begin the in vitro fertilization (IVF) process intending to transfer multiple embryos in the hopes of improving success rates and even having a twin pregnancy in order to reduce the number of rounds needed to meet their family-forming goals. Proper education around the value of single embryo transfer (SET) **has been found to** reduce the likelihood of multiple births, but not all patients receive this education.

# How fertility benefits can help improve health and birth outcomes

Traditional insurance plans often don't include resources for preventive care and care navigation that can help improve health and birth outcomes and reduce medical costs. For employers, investing in fertility benefits can help close these gaps and improve outcomes by addressing issues before, during, and after pregnancy.

## Before pregnancy

In the months — and even years — before pregnancy, there are a number of key ways employers can help support workers to improve future health and wellness outcomes. According to a paper published in [BMJ Clinical Research](#), about 30% of different-sex couples seeking out services from a fertility clinic have **“subfertility” as opposed to “chronic infertility.”** This means a significant number of individuals are actively pursuing medical interventions even if they're not technically “infertile” but they just haven't gotten pregnant as quickly as they'd expected. While IVF and treatments may be the answer for some individuals, diagnosing and addressing the symptoms of underlying health conditions like **hormonal imbalances** (like polycystic ovary syndrome or PCOS), **hypothyroidism**, **diabetes**, and more may be the solution to fertility struggles.

Self-tracking can also be an essential tool for many individuals pursuing pregnancy. By reducing the amount of time it may take an individual to get pregnant,

ovulation tracking and testing may eliminate the need to move on to costly or invasive fertility options, saving employers in healthcare costs, and preventing employees from going down a potentially challenging, time-consuming road of various interventions.

Even in instances where IVF is key to a successful pregnancy, the lifestyle modifications and comprehensive health care central to a robust fertility benefits plan may be indispensable. A study published in the journal [Human Reproduction](#) found that in certain individuals, weight reduction prior to IVF greatly improved the outcomes of treatment. Furthermore, for those individuals that do pursue IVF, education that leads to increased use of **SET** can result in healthier pregnancies and ultimately lower healthcare costs. While IVF alone is an important benefit to offer employees, it's impossible to ignore the profound impact education, nutrition, fitness, mental health, and more can play in the pregnancy journey — and all of these bases can be covered with the right benefits package.

## During pregnancy

The myriad positive outcomes associated with fertility benefits aren't solely associated with pre-pregnancy access to care. In fact, a multitude of physical, psychological, and emotional interventions can and do improve well-being during the pregnancy journey, ultimately resulting in healthier employees and reduced healthcare costs for employers.

Nutrition — one of the most critical services covered by a comprehensive fertility benefits package — can be an indispensable part of a healthy pregnancy journey.

**Research has shown** that nutritional status before and during pregnancy is important for a healthy outcome and that maternal malnutrition can contribute to everything from poor fetal growth and low birth weight to short- and long-term infant morbidity and mortality. The Academy of Nutrition and Dietetics **recommends a specific list of key components** for a healthy pregnancy, including appropriate weight gain, a balanced diet, regular exercise, and appropriate supplementation. Without the expert guidance of a registered dietitian or nutrition counselor, many individuals may not have the education or resources necessary to achieve all these goals. With adequate fertility benefits that include on-demand telehealth resources, employees can access the support they need to ensure the healthiest pregnancy possible.

Mental health care during pregnancy is another essential service that many employees may only be able to afford and access with comprehensive fertility benefits. Research has shown that **psychological problems — depression, in particular** — are common during pregnancy. Studies have shown that depression and anxiety **affect one in seven women** during the perinatal period (the time before birth). According to researchers, this prevalence indicates a strong need for heightened assessment and treatment of

maternal mental health — services that are provided and covered in the context of a complete fertility benefits package. **Recent research from the American Psychological Association** also indicates that people who experience anxiety about their pregnancies give birth earlier on average than those who don't and that general anxiety in the first trimester also contributes to risk for early birth. **Additional research** has shown that “children whose mothers had more positive mental health during pregnancy were less likely to develop mental and behavioral disorders” and these protective effects were also seen also “among children of mothers facing mental health adversities before or during pregnancy.”

Perhaps one of the most impactful but overlooked contributors to positive pregnancy outcomes is the support of a skilled **doula** — a trained professional who provides continuous physical, emotional, and educational support before, during, and after childbirth. According to **research**, trained doulas have been shown to reduce the odds of certain medical interventions during labor for low-risk women delivering at term. In a meta-analysis of 27 clinical trials, researchers concluded that “continuous support during labor may improve outcomes for women and infants, including increased spontaneous vaginal birth, shorter duration of labor, and decreased cesarean birth,” among other benefits. With extensive fertility benefits, employees may have access to doula services that would otherwise be inaccessible — and these uniquely impactful resources could positively influence the health of a pregnancy and the cost of healthcare services. Care providers like midwives and doulas, as well as education on birthing options, voluntary SET, and IVF can all help reduce the rates of unnecessary C-sections.

## After birth

The importance of fertility benefits in the weeks and months after birth can't be overstated: **research has shown** that postpartum medical care has been linked to better future health outcomes and for certain groups, preventive care in the year after birth may be associated with fewer complications during a subsequent pregnancy — particularly lower rates of hypertension. In addition, access to specific services like lactation support and postpartum emotional support can help improve ongoing health for the parent and child.

While **many experts endorse breast milk as the optimal form of nutrition for newborns**, breast/chestfeeding can pose challenges and frustration for a variety of reasons. **From low milk supply** to plugged milk ducts, many parents may have difficulty feeding their child. Lactation support can be an indispensable tool for improved outcomes. According to **research**, support from lactation consultants — who provide care, education, and management for breast/chestfeeding parents — may help increase the duration of breast/chestfeeding and **increase the number** of parents initiating breast/chestfeeding in the first place. With fertility benefits that include lactation consultation services, new parents are afforded the opportunity to reduce the stress of nourishing their newborn and may be more likely to continue the practice longer, which may offer health benefits to both parent and child.

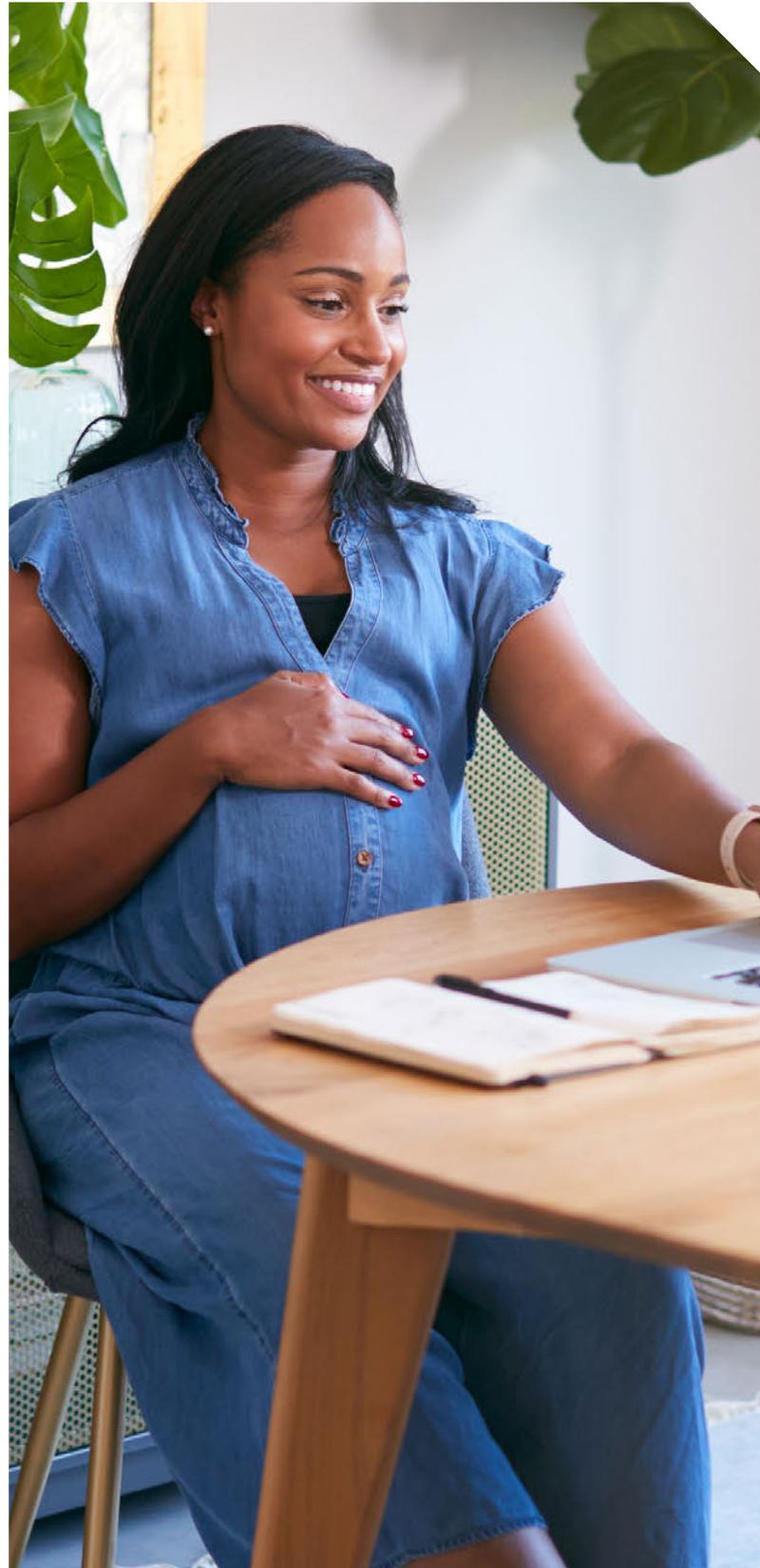
Emotional support is another essential piece of postpartum care that is all too often left out of the equation for new parents. **Perinatal or postpartum mood and anxiety disorder (PMAD)** describes “distressing feelings that occur during pregnancy (perinatal) and throughout the first year after pregnancy (postpartum).” There are various types of PMAD, but without treatment, symptoms can last anywhere from a few weeks to several months or even years, depending on the severity. While one in seven women can **develop postpartum depression** (PPD), a far greater number may develop the “**baby blues**,” characterized by feelings of disappointment, irritability, anxiety, trouble sleeping, and more. Those who develop PPD may experience everything from confusion and poor concentration to fatigue, hopelessness, feelings of isolation, and much more. PPD is serious and requires medical and psychiatric evaluation, but even in the absence of a clinical diagnosis of PPD, emotional support is critical for anyone traversing the first months after birth. Support groups, therapy, counseling, and other resources may be pivotal in the postpartum period, and having access to these tools can make a significant impact on the mental and emotional well-being of employees and their families.

## Comprehensive fertility benefits help close these gaps

Many of the interventions outlined in this report are not part of standard healthcare plans. Employers looking to close these gaps with comprehensive fertility coverage should look for options with resources that support healthy outcomes before, during, and after pregnancy, including:

- Access to nutritionists for guidance on improving fertility and having a healthy pregnancy
- Emotional support throughout fertility care, pregnancy, and postpartum
- Coverage for pregnancy professionals such as doulas
- Resources and care navigation for ovulation tracking and other first-line fertility interventions
- Education around the benefits of single embryo transfer (SET) and avoiding C-sections, when possible
- Access to postpartum resources such as lactation consultants
- Support connecting with culturally competent care throughout a pregnancy journey

Poor maternal health and birth outcomes in the U.S. won't be solved overnight, but employers have a significant role to play and opportunity to meet. Employers who provide access to proactive and preventive care as well as care navigation and educational resources throughout fertility care, pregnancy, and postpartum journeys will see better outcomes, lower costs, and healthier employees.



## About Carrot

Carrot Fertility is the leading global fertility care platform for women, who are often at the center of fertility care decisions and consequences. Plus, Carrot serves people of every age, race, income, sex, sexual orientation, gender, marital status, and geography. Trusted by hundreds of multinational employers, health plans, and health systems, Carrot's comprehensive clinical program delivers industry-leading cost savings for employers and award-winning experiences for millions of people worldwide. Whether there is a need for care through fertility preservation, male-factor infertility, pre-pregnancy, IVF, pregnancy and postpartum, adoption, gestational surrogacy, or menopause, Carrot supports members and their families through many of the most memorable and meaningful moments of their lives.

Carrot has received national and international recognition for its pioneering work, including Best Diversity, Equity, & Inclusion Product from the Anthem Awards, Fast Company's Most Innovative Companies, CNBC's 100 Barrier Breaking Startups, and more. Carrot is regularly featured in media reporting on issues related to the future of work, women in leadership, healthcare innovation and diversity, equity, and inclusion, including MSNBC, The Economist, Bloomberg, The Wall Street Journal, CNBC, National Public Radio, Harvard Business Review, and more.

Carrot is fully distributed, with teams in more than 40 states across the United States and dozens of countries around the world. It has received numerous workplace awards, including Fortune's Best Workplaces in Healthcare, Quartz's Best Companies for Remote Workers, and Great Place to Work and Age-Friendly Employer certifications. Learn more at [carrotfertility.com](https://www.carrotfertility.com).