

Healthy Pregnancy and Healthy Children: Opportunities and Challenges for Employers

The Business Case for Promoting Healthy Pregnancy

This issue brief provides an overview of the costs and complications of pregnancy. It also presents opportunities employers have to improve the health of their beneficiaries and reduce healthcare costs through the implementation of pregnancy-tailored benefits, programs, and policies.

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Introduction

Approximately, 6 million women become pregnant each year¹ and most are beneficiaries of employer-sponsored health plans. In 2005, 63% of all women in the United States were covered by job-based health coverage, either through their own employer or their spouse's employer.² In the past 20 years, the percentage of new mothers in the workforce has increased by more than 80%. Currently, 56.4% of women who have an infant younger than 1 year of age are employed outside the home³ and new mothers are the fastest growing segment of the U.S. workforce.⁴ One-third of working mothers return to work within 3 months of the birth of their child and two-thirds return to work within 6 months.⁵

Employers incur the high costs of pregnancy-related healthcare. Pregnancy and **neonatal** claims are often employers' highest ticket items.⁶ Increased utilization of high-cost diagnostics, increases in preterm births, multifetal pregnancies, and high rates of cesarean sections are making employers aware of the need to focus on **pregnancy-related costs**.⁷ Beyond the direct medical costs of pregnancy, employers contend with issues of absenteeism, short- and long-term disability, and the loss of institutional knowledge due to retention problems following pregnancy.

Savvy benefit managers are educating themselves on the special medical needs of pregnant women and are improving the health of women before, during, and after pregnancy through comprehensive preconception, prenatal, and postpartum benefits; healthy pregnancy programs; and health promoting policies. Smart programs tailored to the needs of pregnant women are hitting the mark.

The following sections provide the evidence and rationale for promoting health at each stage of pregnancy, and present opportunities employers have to improve the health of their beneficiaries and reduce healthcare costs.

Key Definitions⁸:

Preconception: Occurring prior to conception.

Prenatal: Occurring, existing, performed, or used before birth.

Antenatal: A synonym for prenatal.

Perinatal: Occurring in, concerned with, or being in the period around the time of birth.

Postnatal: Occurring or being after birth.

The Value of a Healthy Pregnancy

Preconception Period

The **preconception period** is the 1-year period before a woman becomes pregnant. Preconception health is important because the health of a woman's body *before* pregnancy affects the viability of the pregnancy and the health of the future infant. Preconception health care is preventive care; it includes appropriate vaccinations, adequate exercise, disease management, and enriched

Health care during the preconception period focuses on nutrition, immunizations, and the effective management of existing chronic diseases.

nutrition.⁹ Good preconception health reduces pregnancy complications, birth defects, long-term developmental issues, and speeds postpartum recovery.⁹ Preconception care is also **cost-saving**. A recent prospective analysis of comprehensive preconception care found that every for every \$1 spent on preconception care, \$1.60 is saved in maternal and fetal care costs.¹⁰ Other studies have shown that preconception care can save as much as \$5.19 for every \$1 invested. Cost-savings mainly result from

the reduced rate of **neonatal intensive care unit (NICU)** hospitalizations among infants born to mothers who received preconception care.¹⁰

The physical health of both the woman and the man *before* pregnancy affect the health of their future baby. There are specific things women can do to improve their chances of a healthy pregnancy.

What women can do¹²:

- Take a multivitamin with 400 micrograms (mcg) of folic acid every day before pregnancy.
- Get a pre-pregnancy checkup, including a dental checkup.
- Eat healthy food, maintain a healthy weight, and stay fit.
- Stop smoking and avoid secondhand smoke.
- Stop drinking alcohol.
- Not use illegal drugs.
- Avoid infections.
- Avoid hazardous substances and chemicals.
- Talk to a healthcare provider about their family history (including history of birth defects).
- Avoid stress.

The challenge in providing health care for the preconception woman lies in accurately identifying the preconception period. Only 51% of pregnancies are intended; thus, half of women do not have the opportunity to get recommended preconception care before they conceive.⁹ Approximately 40% of unintended pregnancies—pregnancies either mistimed or unwanted—are carried to term.¹¹ Since intention does not always precede pregnancy, all women of **childbearing-age** (women aged 15 to 44 years) are considered to be in the preconception period.

Pregnancy

Broken into three trimesters, a normal pregnancy lasts between 38 and 42 weeks from the woman's last menstrual period. Pregnant women are advised to seek prenatal care; eat a healthy diet, get regular exercise and maintain a healthy weight; avoid tobacco, alcohol, and environmental toxins; and reduce stress.^{9, 12, 13} Although some pregnancy complications are genetic, many common problems are preventable. Pregnant women can lower their risk of complications if they adhere to healthy pregnancy guidelines.

Prenatal Care

Prenatal care includes preventive screening and counseling; diagnostic testing and procedures; and growth and weight monitoring. Evidence shows that comprehensive prenatal care is associated with reduced incidence of low birthweight and infant mortality. Death rates from pregnancy complications are three to four times higher among women who receive no prenatal care compared to women who receive basic prenatal care.¹⁴ For women at high risk of pregnancy complications, prenatal care is both live-saving and cost-saving. For every dollar spent on prenatal care, employers can expect savings of \$3.33 for postnatal care and \$4.63 in long-term morbidity costs.¹⁵

Healthy Pregnancy Essentials

Eliminate

- Alcohol and drug use
- Tobacco use

Prevent

- Infectious diseases
- Accidents
- Domestic violence

Manage/ Address

- Weight gain
- Stress
- Mental health problems

Improve

- Nutrition
- Physical activity

Pregnancy Complications

There is a wide variety of pregnancy complications. Some complications are acute and limited (e.g., influenza, infection with listeria): they affect the health of the woman and the viability of her pregnancy, but long-term effects are mild or rare. Other complications, such as gestational diabetes, have both immediate and long-term risks. These risks can affect the pregnant woman and her future health, or the short- and long-term health of her baby. From both the health perspective and the cost perspective, complications that result in short- *and* long-term problems for *both* woman and child are the most concerning.

*Pregnancy Complications*¹⁶

- Alcohol use
- Bleeding disorders
- Drug use
- Ectopic pregnancy
- Gestational diabetes
- Group B streptococcus
- HIV/AIDS
- Listeria
- Maternal depression
- Obesity
- Placental abruption
- Preeclampsia (pregnancy-related hypertension)
- Sexually transmitted infections (STI's)
- Tobacco use
- Toxin exposure
- Toxoplasmosis
- Urinary tract infections
- Yeast infections

Common Pregnancy Complications^{17, 18}

Anemia is a blood disorder caused by insufficient red-blood cells for carrying oxygen to organ tissues. Anemia can result in iron deficiency, which is associated with preterm birth and low birthweight.

Gestational diabetes is a type of diabetes that occurs only during pregnancy. Gestational diabetes can lead to excess growth, low blood sugar, respiratory distress syndrome, and jaundice in newborns, and increases a child's risk of developing type II diabetes later in life. Gestational diabetes puts pregnant women at risk of preeclampsia. It also puts women at risk of developing type II diabetes. Approximately 20% to 50% of women with gestational diabetes develop type II diabetes later in life.

Maternal Obesity increases a woman's risk for birth defects (especially neural tube defects), labor and delivery complications, fetal and neonatal death, maternal complications (e.g., hypertension, gestational diabetes, and preeclampsia), and delivery of large-for-gestational-age (LGA) infants. Obese women are also at increased risk for infertility.

Pregnancy induced hypertension (PIH) /preeclampsia is a condition characterized by high blood-pressure and excess protein in the urine after 20 weeks gestation. Complications of preeclampsia may include lack of blood flow through the placenta, destruction of red blood cells, elevated liver enzymes, and low platelet count. Preeclampsia can lead to eclampsia, a disorder that results in severe seizures, which cause organ damage for the mother and brain damage or death for the infant.

Prenatal depression is a serious mental illness interfering with a pregnant woman's ability to work, sleep, eat, and care for herself.

Labor and Delivery

The onset of regular and frequent contractions commences the labor phase of pregnancy. In an ideal circumstance, a baby is carried beyond 38-weeks—to full-term—and the infant is delivered vaginally. A healthy pregnancy increases the chance that a pregnancy will be carried to term.

There are approximately 4 million live births in the United States each year.

An unhealthy pregnancy (a pregnancy affected by complications or risk behaviors) may lead to **preterm birth** and/or **low birthweight**. By definition, birth before 37 weeks is “preterm”: birth between 34 and 36 weeks is considered “late preterm” and “very preterm” births occur before 32-weeks gestation.¹⁹ A low birthweight diagnosis requires a baby to be born weighing 5 lbs. 8 oz or less (2500 g).²⁰

Top 3 Neonatal Complications^{18, 21}

Jaundice: A common condition in which the newborn's liver is not developed enough to process billirubin, causing the baby to appear yellowish. Newborns with jaundice require monitoring because high billirubin levels can cause brain damage.

Anemia: A blood disorder caused by insufficient red-blood cells for carrying oxygen to the organ tissues. Anemia can lead to stunted growth in neonates.

Sepsis: A rare but serious infection usually caused by bacteria originating in the lungs, intestines, urinary tract, or gallbladder. If left untreated, the infection progresses rapidly leading to organ damage and death.

Infertility and the Impact of Infertility Treatment on Healthy Pregnancies

One in ten couples in the United States has difficulty conceiving a child.²² Clinical guidelines suggest that couples should seek assistance for infertility if they have trouble getting pregnant after 12 months of trying if the woman is 35 years of age or younger. If the woman is over age 35, a couple should seek assistance after 6 to 10 months of trying without successful conception.²³

Causes of Infertility²³:

Infertility can be caused by a wide variety of underlying problems, and couples often experience more than one reason for infertility:

- Aging (fertility declines as men and women age).
- Cancer treatment.
- Certain chronic illnesses, such as diabetes or Hodgkin's disease.
- Damage to the reproductive organs.
- Exposure to radiation and certain chemicals, such as pesticides.
- Genetic conditions.
- Problems with ovulation (a woman's ability to produce an egg).
- Problems with sperm (amount, quality, or both).
- Sexually transmitted infections (STIs) and other reproductive infections.
- Tobacco, alcohol, or drug use.

Treatment options²³:

After a thorough evaluation and diagnosis of infertility, treatment options include:

- Medications to assist with releasing an egg (ovulation).
- Surgery to repair part of the reproductive system. For example, scars in a fallopian tube can block eggs from traveling from the ovaries to the uterus.
- Insertion of sperm from the man or a donor into the woman's uterus (called artificial insemination or intrauterine insemination [IUI]).
- Assisted reproductive technologies (ART), which involve surgically removing a woman's eggs, fertilizing them with sperm in the laboratory, and then reinserting the fertilized egg into her uterus. In vitro fertilization (IVF) is an ART procedure.

Recommendations to Employers Regarding Infertility Benefits

Employers are increasingly providing coverage for infertility treatments. These treatments are expensive, and they can also put women at-risk for pregnancy complications and other reproductive health problems. Employers who provide infertility coverage should follow these guidelines to reduce cost, manage risk, and protect the health of beneficiaries:

- Mandate that network fertility centers inject the minimum number of eggs necessary to achieve a viable single birth. Multifetal pregnancies, common in women undergoing infertility treatment, are at high risk for complications and 61.9% result in preterm births.¹ ART-induced pregnancies account for less than 1% of births in the United States; however, they account for 17% of twins and 38% of triplets or higher-order multiples.²⁴ By selecting "fertility centers of excellence," large employers may be able to reduce the complications and unintended consequences of multifetal pregnancies.
- Set an age limit for infertility treatment.
- Set an annual or lifetime maximum for infertility treatment or set a maximum number of attempts per lifetime. Depending on their resources and philosophies, large employers have selected lifetime maximum amounts between \$15,000 and \$100,000; many clinical guidelines suggest a maximum of three attempts per lifetime.²⁵
- Work with your health plan(s) to establish clinical indications for ART and other infertility treatments.
- Provide education and support services (e.g., health coaching, education materials, expert consultations) to women and their partners considering infertility treatment. Health coaches can help women and their families make informed decisions and better communicate with care providers.²⁶

The Epidemiology of Birth in the United States

In the United States, population birth statistics show a move away from full-term vaginal births, toward preterm and low-birthweight births and cesarean delivery. Between 1996 and 2004, preterm births rose 14% in the United States. Over the past 10 years, the cesarean section rate increased a dramatic 50% (http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57_12.pdf).²⁷ In 2005, the U.S. cesarean section rate hit 31.8% (http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57_12.pdf); slightly more than double the rate experts believe is medically necessary.²⁷ Although these shifts are not entirely understood, trend drivers for poor birth outcomes include changes in the practice of obstetrics and population demographics.^{28, 29}

Preterm Birth: An Overview of the Problem

The United States has a high rate of both preterm births and low birthweight births. Of the 81,562 babies born each week in the United States, 10,440 are born preterm and 6,769 are born with a low birthweight diagnosis.¹ Preterm birth occurs in approximately 12.8% of live births, and over 10% of newborns covered by employer-sponsored health plans are born prematurely.¹

Ten percent (10%) of total dollars spent on hospital stays for children and adolescents fall within the neonatal period, accounting for approximately \$4.6 billion in annual charges.¹⁵

Preterm birth is a complication of pregnancy that is particularly dangerous for newborns. Infants who are born prematurely suffer from a host of medical problems, including respiratory and cardiac distress, jaundice, feeding difficulties, hypoglycemia, temperature instability, and sepsis. These health problems can be caused by a lack of physical development; for example, respiratory problems can occur when an infant is born before its lungs are fully developed. Problems can also result from injury to the infant's immature central nervous system (e.g., intrauterine growth retardation, cerebral hemorrhage and infarction, hypoglycemia, septicemia, asphyxia) during gestation, labor, or delivery.³⁰

Premature babies are at considerable risk for long-term impairment, including physical disability, cerebral palsy, mental retardation, and attention-deficit and hyperactivity disorder (ADHD).^{31, 32} Medical experts estimate that a quarter of infants leaving neonatal intensive care units (NICUs) have chronic health problems.^{31, 32} These chronic problems, including developmental delays and disabilities, put premature babies at risk for a variety of poor social outcomes as they age including the inability to hold employment, extended residence in a parent's household, lowered socio-economic status,³⁰ lower cognitive test scores, and behavioral problems.³³

Demographic Issues

Preterm labor and low birthweight are affected by demographic factors such as smoking status, maternal age, maternal nutritional status, and racial and ethnic disparities:

- Approximately 20% of childbearing-age women smoke in the United States.³⁵ Women who smoke during pregnancy are at an increased risk for preterm labor and low birthweight babies.

Medical and Environmental Risk Factors for Preterm Birth³⁴

- African-American racial designation
- Multifetal pregnancy
- Periodontal disease
- Polygenetic illnesses
- Polymicrobial bacterial infections
- Poverty
- Previous preterm delivery
- Uterine or cervical abnormalities

- Maternal age is steadily increasing in the United States due to a host of factors including delayed marriage, additional schooling, economic pressures, and career choices. Age is an important factor in pregnancy health. There is a high risk of birth defects and infertility associated with advancing maternal age. Infertility treatment increases the likelihood of a multifetal pregnancy, which in turn increases the likelihood of cesarean delivery, preterm labor, and low birthweight.²⁸
- Studies have found that a high carbohydrate/low protein diet is associated with reduced fetal and placental growth.³⁶ Maternal nutrition during pregnancy affects child, adolescent, and even adult health by impacting both intrauterine growth and chronic disease risk.³⁷
- African-American women are twice as likely to have a premature baby as are women in any other racial or ethnic group.³⁸

Cesarean Deliveries: An Overview of the Problem

A **cesarean section (c-section)** is a surgical procedure used to deliver a baby. A surgeon makes an incision through a pregnant woman's abdomen and uterus and removes the fetus. Although many c-sections are literally life-saving, the procedure is increasingly being performed on low-risk women without medical indication. This trend is alarming because an unnecessary c-section introduces risks without associated benefits. Maternal risks include infection, hemorrhage, and blood clots. C-sections also require a longer recovery time than vaginal births do, and increase the risk for difficulty establishing breastfeeding, breathing problems in the newborn, severe and longer-lasting postpartum pain, and many other adverse effects. In addition, it is an expensive procedure contributing to the high cost of pregnancy-related medical care.²⁸

The dramatic increase in the c-section rate is thought to be a confluence of the following factors:

- Changes in the practice of obstetrics, for example an increase in the use of epidurals and labor inductions.
- Health system pressures, such as the increasing cost of malpractice insurance for obstetrician-gynecologists (OB-GYNs).
- Demographic changes that lead to more high-risk pregnancies.

Practice Issues

In recent years, changes in the practice of obstetrics have led to increasing rates of primary and secondary c-sections. Practice changes include a greater reliance on epidurals for pain management, reliance on electronic fetal monitoring, high rates of labor induction, and a decrease in the number of vaginal birth after cesarean (VBAC) procedures. Many of these changes are a result of health system pressures such as malpractice lawsuits and the increasing cost of malpractice insurance for OB-GYNs, reimbursement issues, and hospital policies that favor intensive interventions (including c-section, continuous fetal monitoring, and pharmacologic pain management) over natural childbirth.

- Epidurals slow the second phase of labor, the period when the baby descends into the birth canal. Delays in phase II present the risk of asphyxiation, brain damage, or death to the infant. To avoid dire consequences, OB-GYNs frequently chose to deliver infants by c-section rather than continuing with vaginal labor.
- Electronic fetal monitoring (EFM) has been shown to increase the c-section rate by 40% without associated benefits.
- When labor is induced before a baby is ready to be born, induction is associated with

an increased risk for c-section and NICU admission. Between 1989 and 2002 the rate of labor induction increased by more than 200% (in 1989 only 9% of labors were induced, by 2006, 22.5% of pregnant women underwent an induction procedure <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5844a2.htm>).^{29, 32}

- When a woman has a child by c-section and then experiences a subsequent pregnancy, there is a choice to deliver the second child vaginally or by c-section. When the child is delivered vaginally, the birth is called a **VBAC (a vaginal birth after cesarean)**. In the early 1990's, the popularity of VBAC procedures rose and, consequently, the c-section rate declined. However, in subsequent years, the trend has reversed.²⁸ The small risk of uterine rupture underpins the argument over the safety of VBACs. Not wishing to face law suits, pay high malpractice costs, or risk harm to patients, hospitals and physicians shy away from the practice. In fact, some hospitals have policies against VBACs, despite strong evidence to show that in most cases they are safe and successful (women with a history of cesarean and no history of VBAC are able to deliver a subsequent child vaginally 67% of the time; women with a history of cesarean and a prior successful VBAC are able to deliver vaginally 87% of the time).³⁹ Instead, hospitals and physicians elect to schedule pregnant women with a prior history of cesarean for another c-section.
- Elective c-sections (c-sections performed for the convenience or preference of a patient or provider) also contribute to the rising number of c-sections,²⁹ although the number of patient-preferred elective c-sections is lower than once thought.⁴⁰

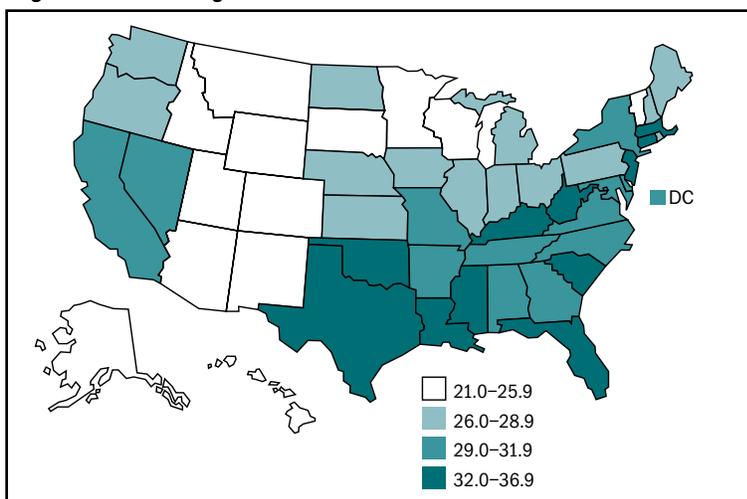
Demographic Issues

Demographic changes also impact the patterns, risks, and costs of pregnancy. Demographic drivers of the upward c-section rate include age and maternal weight:

In certain parts of the country, practice changes and demographic shifts have led to cesarean section rates that are more than double the estimated medical need of 15%.

- Women over the age of 40 have a 77% higher rate of cesarean delivery than women under 30.⁴¹
- Obese women and women who gain excessive weight during pregnancy are at higher risk for a cesarean delivery.⁴¹

Figure 4A: Picturing Cesarean Births Across the United States



Source: Centers for Disease Control and Prevention. QuickStats: Percentage of All Live Births by Cesarean Delivery — National Vital Statistics System (United States, 2005). Atlanta, GA: Centers for Disease Control and Prevention; 2006. Accessed on June 11, 2007.

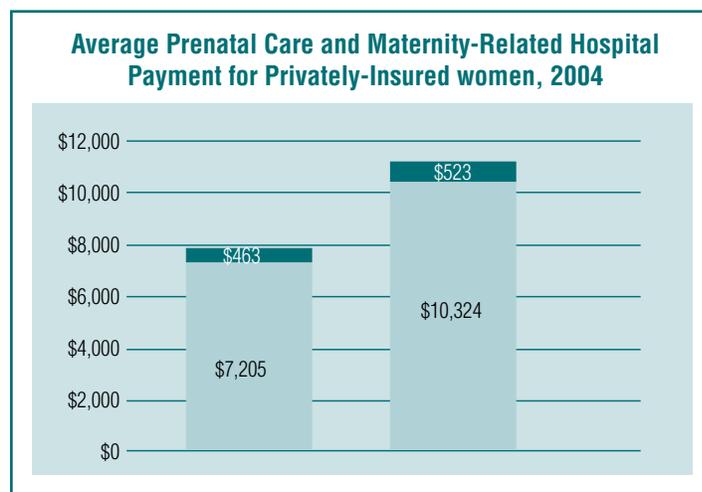
Geographic Variation

Figure 4A shows the geographic variation in c-sections across the United States. Rates are highest in the South and along the East Coast. In these areas, changes in the practice of obstetrics and demographic shifts have had the most profound impact on pregnancy and delivery.

Creating the Value Proposition for Investing in Healthy Pregnancies

Pregnancy-Related Healthcare Costs

Pregnancy and childbirth account for nearly 25% of all hospitalizations in the United States.⁴² Among women with employer-sponsored health coverage who delivered a baby in 2004, prenatal care and maternity-related hospital payments *combined* averaged \$7,737 for a vaginal delivery and \$10,958 for a cesarean delivery (these figures include patient out-of-pocket costs).⁴² Payments are a true measure of cost for employers; however, it should be noted that payments are substantially lower than charges due to negotiated provider and facility discounts. The higher cost of a cesarean delivery includes \$2,090 in additional hospital expenditures and \$723 in additional payments for professional fees resulting from the longer length of hospital stay.⁴² These estimates do not include the highest cost and most complicated deliveries (outliers) and are thus conservative estimates.



Source: Thomson Healthcare. *The Healthcare Costs of Having a Baby*. Santa Barbara, CA: Thomson Healthcare; June 2007.

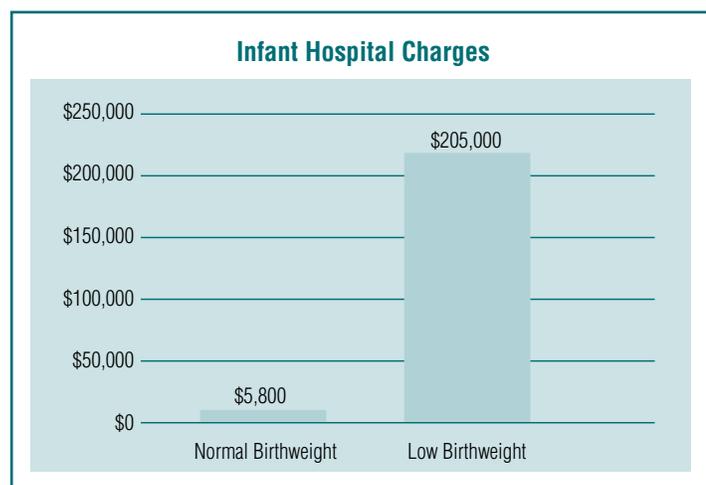
preterm birth/low birthweight, including absenteeism, productivity declines, and long-term disability.

- Absenteeism may result for both parents if the mother and/or baby have an increased length of stay in the hospital, or if the infant requires extra doctors' appointments or suffers from a chronic condition. A complicated birth may also cause additional stress for parents. Stress can reduce a person's ability to be productive at work. Lost household and labor market

Complications of Pregnancy

Annually, over \$1 billion is spent on hospitalizations related to pregnancy complications.⁴³ Preterm birth is one of the most expensive complications of pregnancy. In 2005, preterm birth cost the United States at least \$26.2 billion, or \$51,600 for every infant born prematurely.⁴⁴ Nearly half of all charges related to prematurity fall in the laps of employers and other private insurers.⁴⁵

In addition to excess medical costs, employers face indirect costs related to



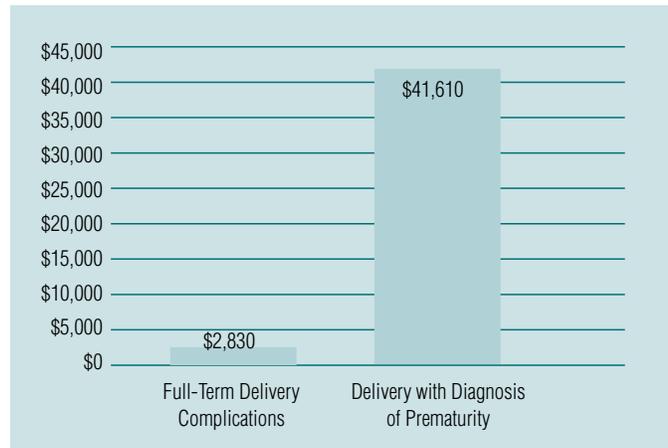
Source: Cuevas ZKD, Silver DR, Brooten D, Youngblut JM, Bobo CM. The cost of prematurity: hospital charges at birth and frequency of rehospitalizations and acute care visits over the first year of life: a comparison by gestational age and birthweight. *Am J Nurs*; 105(7):56-64.

Preterm birth costs the U.S. economy \$26.2 billion annually in medical, educational, and lost productivity costs.¹

productivity associated with preterm births totaled \$5.7 billion in 2005.⁴⁵

- Complications of pregnancy account for 4,039 cases of short-term disability per million covered lives. In 2004, the average length of a pregnancy-related short-term disability is 7 days.⁴⁶
- Complications of pregnancy account for 203 cases of long-term disability per million covered lives. The major causes of long-term disability are: twin pregnancy, premature labor, antepartum hemorrhage, postpartum hemorrhage, and other complications. Most cases resolve within 1 year.⁴⁶

Healthcare Costs Paid by Employees for Care in the First Year of Life, 2001



Source: March of Dimes. *Costs of Maternity and Infant Care*. White Plains, NY: March of Dimes; June 2007

Costing Out an Unhealthy Pregnancy

Analyzing your company's medical claims will help you better understand the cost of pregnancy complications in your population. Standard metrics related to pregnancy outcomes may be able to help you identify beneficiary risk profiles, healthcare access problems, or other issues. Claims data, paired with the following information, can help you develop a value proposition for investing in healthy pregnancies²⁸:

- Number/rate of preterm births.
- Rate of cesarean delivery.
- Rate of NICU admissions and re-admissions.
- Rate of labor induction.

To learn more about pregnancy-related costs, tract the following diagnosis and procedure codes:

Diagnosis Codes²⁸

- 640-648: Complications mainly related to pregnancy.
- 650-659: Normal delivery and other indications for care in pregnancy, labor and delivery.
- 660-669: Complications occurring mainly in the course of labor and delivery.
- 670-677: Complications of the puerperum (after childbirth).

Procedure Codes²⁸

- 73.0: Labor induction by artificial rupture of the membranes.
- 73.1: Other induction of labor.
- 73.4: Medical induction of labor.
- 74.0-74.9: Cesarean section.

Improving Health While Reducing Costs

A pregnancy beset by complications is more costly to employers than a healthy pregnancy; and sick mothers and newborns are more costly to employers than healthy ones. Facilitating healthy pregnancies is in the best interest of both employers and employees.

For more information on evidence-informed pregnancy benefits, refer to the Plan Benefit Model in Part 2.

There are several ways employers can improve beneficiaries' odds of having a healthy pregnancy and a healthy birth:

- Provide comprehensive, evidence-informed benefits.
- Remove financial barriers to essential care by providing **first-dollar coverage** (zero cost-sharing) for preventive services, including preconception, prenatal, and postpartum care.
- Offer pregnancy-related health promotion programs.
- Select and incentivize high-quality healthcare providers in plan provider and facility networks.
- Include racially and ethnically diverse providers, as well as providers with language competencies, in plan provider and facility networks.

Because the prevention and early detection of pregnancy-related health problems avoid serious illness for mother and child, large employers are likely to benefit from worksite education and health promotion initiatives that provide employees with information about healthy pregnancies and essential healthcare services.

The following recommendations can assist employers in developing, implementing, and evaluating pregnancy-tailored benefits, programs, and policies.

Practical Solutions for Employers: Innovative Strategies

Employer Checklist

Healthcare Benefits

- ✓ Ensure that your health plans provide comprehensive preconception, prenatal, and postpartum care services. Ask your plans if they provide innovative services such as doulas/birth assistants, breast pumps, lactation consultation support, or other services.
- ✓ Reduce or eliminate copays/coinsurance for preventive care.
- ✓ Make sure that your plans cover comprehensive contraception options (e.g., hormonal pills, sterilization, IUDs, etc). Reduce or eliminate copays/coinsurance on these interventions, which help prevent unintended pregnancies.
- ✓ Ask your health plans to develop and maintain a referral list of pregnancy care centers and fertility clinics with good outcomes (e.g., low cesarean section rates for hospitals, responsible implantation practices for fertility centers). Improved outcomes and lower costs are realized

Employers should take action in order to ensure beneficiaries are as healthy as possible before, during, and after pregnancy. Health improvement will increase the likelihood of employees returning to full productivity following birth, and reduce the excess medical costs associated with pregnancy, postpartum, and neonatal care.

when beneficiaries seek care with high-quality providers. For pregnant women, key measures of provider quality are: a low primary c-section birth rate, a low labor induction rate, high prenatal care satisfaction, a high VBAC rate, and a low maternal/child morbidity and mortality rate.⁴⁷

Communication and Education

- ✓ Develop special information packets about healthy pregnancy. Disseminate this information (in more than one language, if appropriate) to beneficiaries of childbearing-age during open enrollment.
- ✓ Link employees to outside clinical and education resources, especially if there is employee concern over privacy issues.
- ✓ Help beneficiaries establish a relationship with a prenatal care provider in a medical home. Encourage women to choose a birth setting with low rates of intervention, and discuss her goals and preferences with her care provider.

Health Promotion Programs

- ✓ Employer-based pregnancy education programs can facilitate healthy behaviors. Pregnancy education programs should:
 - Encourage good preconception health and the management of preexisting chronic conditions. Women should receive preconception counseling and support regarding exercise, healthy eating, weight control; health maintenance; STI prevention; abstinence from tobacco, alcohol, and illicit drugs; and information on appropriate birth spacing.²⁸
 - Educate employees and their partners on the signs of preterm labor and risk factors for prematurity and low birthweight. Prenatal classes and distributed literature are an ideal venue for these messages. Health coaches, EAP staff, case managers, and online resources can increase the bandwidth of the message.
- ✓ Include pregnancy-related health issues in existing wellness programs or develop new programs specific to pregnancy concerns. Examples could include:
 - Tobacco cessation during pregnancy: Smoking during pregnancy is associated with a wide variety of complications and risks.
 - Stress reduction: Studies indicate that stress levels during pregnancy have a major impact on the health of the child, and impact preterm birth and low birthweight.⁴⁸
 - Nutrition counseling: Support and guidance in food selection during pregnancy improves maternal and child health.³⁷
- ✓ Offer on-site well-baby/pregnancy education counselors or provide phone access to similar services. If this isn't possible, work with your EAP to include pregnancy support information in existing resources.
- ✓ If your company has on-site medical faculties, consider including basic preconception and prenatal care services.

Policies

- ✓ If your company hasn't already moved to a tobacco-free worksite, implement a smoking ban to protect women from secondhand smoke.
- ✓ Educate beneficiaries on maternity leave, FMLA, parental leave, and other support policies your company may offer.
- ✓ Support women who choose to breastfeed their infants by providing a worksite lactation program.
- ✓ Provide incentives for healthy pregnancy behaviors. For example, provide rebates or reimbursements for breast pumps, child car seats, parenting classes, or birthing classes.

Overcoming Challenges to Health Promotion

Remove Barriers to Participation

- Make classes and services convenient and accessible to as many beneficiaries as possible.
- In addition to offering programs at as many company locations as possible, employers should consider offering staggered hours. After-hours availability will increase the likelihood of women being able to attend program activities without compromising productivity. It will also allow women employed at other campuses to participate.
- Consider offering pregnant employees the opportunity to meet with counselors or educators one-on-one at home as well as at the worksite or in local healthcare facilities.

Offer Multiple Modes of Contact

- Since employees may be located on- or off-site and few non-employee beneficiaries have contact with the worksite, it is important to communicate healthy pregnancy information through a wide variety of formats: emails, phone calls, flyers, posters, webinars, podcasts, intranet postings, etc.
- Distribute information whenever and wherever beneficiaries look for health information.
- Like many other types of health promotion programs, successful healthy pregnancy programs use multiple formats to effectively communicate health information. A bilingual format is the most important format for reaching the broadest audience in the modern workplace.

Understand the Beneficiary Population

- To gauge the needs of your preconception and pregnant beneficiaries and understand how best to serve them, assess their basic characteristics. An awareness of key demographic factors impacting pregnancy health—age, stress level, dietary choices, race, language competencies, literacy level, and socio-economic status—can help employers develop relevant and tailored programs.
- Other important factors to consider are beneficiaries' preventive care-seeking behaviors, and level of concern regarding privacy and confidentiality. Many women are wary to let their supervisors know they are pregnant or intend to become pregnant. Offering health promotion programs through a third-party vendor may alleviate some of these concerns.

Understand the Corporate Culture

- Every company is different and each woman will experience her pregnancy within the context of her individual work environment. Understanding the corporate culture will allow an employer to gauge what features of a healthy pregnancy program will work most effectively in their particular population.

Pregnancy-Related Care Around the World

Large U.S.-based companies are increasingly becoming globalized. As such, corporations are considering the unique health risks employees face in different parts of the world. Women of childbearing-age work in most developed and developing countries, and in most industry sectors. As a result, companies are looking for the best ways to provide high-quality pregnancy care beyond the U.S. border. The following section highlights issues facing pregnant women on a global level, and presents strategies companies can use to promote health.

Global Pregnancy Risks

Pregnancy risks vary greatly around the world. Depending on the region, a pregnancy could be at risk due to³⁶:

- Baseline nutritional problems, such as anemia or protein deficiency.
- Cultural norms that permit women to use tobacco, alcohol, or drugs during pregnancy.
- Environmental exposure to toxins.
- Infectious diseases, including HIV, STIs, and hepatitis B.
- Lack of access to clean drinking water and nutritious food.
- Lack of access to prenatal care.
- Malaria.
- Parasites and complications from diarrhea.

These risks can contribute to pregnancy complications such as preterm birth, low birthweight, and maternal or infant mortality. Since pregnancy-related risks and complications vary from region to region, it is important for employers to understand pregnancy health risks in the local environment.

Other Issues

Prenatal care: Access to pregnancy care providers is limited in some parts of the world. Inability to access medical care hinders women from receiving essential prenatal care,³⁷ and can put women at risk for a host of pregnancy complications and poor birth outcomes. Even when women have access to care, its value is not always well understood. For example, in some cultures, the matriarch is responsible for making pregnancy-related decisions, many of which are not medically informed. Culturally competent employee education about the value of perinatal care can be helpful.

Cesarean deliveries: C-section rates are on the rise, not only in the United States but also in other parts of the world. Drivers for this trend include rising maternal weight and local physician practice style. There is also a positive and significant correlation between the gross national product per capita and the rate of c-section. Rates are also higher in private versus public hospitals.⁴⁹

Nutrition: A woman's nutritional status, both before and during pregnancy, significantly impacts her health and the health of her future infant.³⁶ Emphasizing proper nutrition may motivate preconception and pregnant beneficiaries to eat the most nutritious foods possible. Many of the nutrients women need during pregnancy such as iron (from meats), folate (from fortified grains or fresh vegetables), and calcium (from dairy products) may be difficult to acquire in some parts of the world due to supply chain problems, cost barriers, or other issues, including intra-familial food distribution. Providing employees with a list of locally available nutritious foods could help women integrate healthy food into their diets. Providing pregnant beneficiaries with prenatal vitamins can also help improve their nutrition.

Infections: All women are at risk for infection during pregnancy. Treating infections early has been shown to reduce preterm labor, morbidity, and mortality.³⁶ Yet women in certain parts of the world may lack access to even the most basic medications used to treat infections.³⁶ Further, contaminated or counterfeit medications are a concern in the global market. Providing beneficiaries with a list of trusted pharmacies or suppliers may help them purchase safe medications.

Summary Points

- Employers should take action in order to ensure beneficiaries are as healthy as possible before, during, and after pregnancy. Health improvement will increase the likelihood of employees returning to full productivity following birth, and reduce the excess medical costs associated with pregnancy, postpartum, and neonatal care.
- Comprehensive health benefits, incentives, and clear communication can increase beneficiary utilization of preventive preconception, prenatal, and postpartum care.
- Employers can leverage existing wellness/health promotion programs and healthcare benefits to improve the health of pregnant beneficiaries. Making simple changes to existing programs (e.g., exercise, weight management, and tobacco cessation) can broaden their reach and effectively support women in pregnancy health promotion.

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