

# Multiple birth pregnancies can cost nearly 20 times more than singleton pregnancies

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Multiple pregnancies are a major public health concern in the United States and the rest of the world due to the significantly higher health risks for both mothers and infants, as well as the impact on healthcare costs. Investigators analyzed and compared the cost of multiple versus single-birth pregnancies and found that pregnancies with delivery of twins cost about five times more than singletons, and pregnancies with delivery of triplets or more cost nearly 20 times as much. They call for strategies to reduce this burden. Their findings are published in the *American Journal of Obstetrics & Gynecology*.

Multiple pregnancies are increasing worldwide in parallel with increased use of reproductive technologies such as ovulation induction and in vitro fertilization (IVF). According to the Centers for Disease Control and Prevention (CDC), 3% of all infants born in the United States in 2010 were multiple deliveries. The twin birth rate was 33 per 1,000 total births, and the rate of triplets and more was 1.4 per 1,000 births. Experts generally agree that while less than half (about 40%) of twin births result from assisted reproductive technologies, this increases to around 80% of births of triplets or more.

The current study documents and compares costs associated with multiple pregnancies versus singletons in the United States, using the Truven Health MarketScan Commercial Claims and Encounters Database. The study population included all women aged 19-45 years who delivered at least one live born infant between January 2005 and September 2010. Investigators identified 437,924 eligible delivery

events during the study period. Of these, about 97% (424,880) were singletons, 2.85% (12,482) were [twins](#), and 0.13% (562) were triplets or more.

For [mothers](#), the cost included [medical expenses](#) during the 27 weeks before and up to 30 days after the delivery date. For infants, costs contained all medical expenses up to their first birthday. This is the first study taking into account a comprehensive assessment of the incremental cost associated with multiple pregnancies by estimating all-cause medical expenses over this timeframe.

"By taking a broad approach, we have shown that medical expenses attributable to mothers and infants varied according to birth multiplicity," comments lead investigator Dongmu Zhang, PhD, Global Health Outcomes, Merck & Co. "For singleton pregnancy, maternal expenses accounted for about 60% of overall cost. whereas for twins or higher-order [multiple births](#), expenses for infant care accounted for about 70% and 85% of total expenses, respectively."

The adjusted total all-cause healthcare cost was around \$21,000 per delivery with singletons, \$105,000 with twins, and over \$400,000 with triplets or more.

The investigators took into account co-existing conditions, which they categorized into systemic conditions such as hypertension, cardiovascular disease, diabetes, edema/renal disease, genitourinary infection, thyroid disease, and anemia, and conditions in the reproductive tract. Women with twins or more had significantly higher co-existing conditions in each category than women who delivered singletons. Mothers with twins or [triplets](#) or more also had longer hospital stays for delivery and higher mortality.

"On average, combined all-cause healthcare expenses for mothers with

twins or higher-order multiple births were about five and 20 times more expensive, respectively, than singleton delivery. The greater expenses were likely to have been due to increased maternal morbidities, significantly increased use of cesarean section and longer hospital stay for the deliveries in women with multiple pregnancies, and increased admission and longer stay in NICU for neonates of multiple gestations. We also demonstrated increased mortality for both mothers and [infants](#) associated with multiple pregnancies, although the absolute rates were small," Dr. Zhang adds.

To the researchers' knowledge, this is the first study that reports increased medical expenses for both maternal and infant care associated with IVF-assisted pregnancy. The researchers comment that for women undergoing IVF, the risk of multiple pregnancies is due nearly entirely to multiple embryo transfer, and recommend that strategies aiming at minimizing multiple embryo transfer should be considered to reduce the burden associated with [multiple pregnancies](#).

**More information:** "Healthcare Expenses Associated with Multiple Pregnancies versus Singletons in the United States," by Elkin V. Lemos, MD, PhD, Dongmu Zhang, PhD, Bradley J. Van Voorhis, MD, X. Henry Hu, MD, MPH, PhD (DOI: [dx.doi.org/10.1016/j.ajog.2013.10.005](https://doi.org/10.1016/j.ajog.2013.10.005)), *American Journal of Obstetrics & Gynecology*, Volume 209, Issue 6 (December 2013)

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