

The price of IVF: Study examines financial savings vs. medical complication costs

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Heralded a miracle by many infertile couples, in vitro fertilization (IVF) can pack a painful financial punch for those without insurance coverage for the treatment. This prohibitive cost leads many would-be parents who pursue in vitro fertilization to transfer multiple embryos at once to increase their chances of getting a baby - and reduce the need to pay for subsequent attempts.

A new study by University of Vermont (UVM) researchers now suggests that the financial savings from fewer IVF attempts is surpassed by the costs of medical complications from multiple-embryo pregnancies. The rates of cesarean-section deliveries, premature births and [low birth weight](#) of babies are greater with two or more embryos transferred into the mother at one time than with a single-embryo pregnancy.

Those are the findings of the team led by Christopher Jones, Ph.D., UVM assistant professor of surgery and director of the Global Health Economics Unit of the Vermont Center for Clinical and Translational Science, and first author Olivia Carpinello, M.D., a UVM College of Medicine 2013 alumna. Co-investigators on the study also included reproductive medicine specialist Peter Casson, M.D., a former UVM professor, and Renju Raj, M.D., UVM instructor in obstetrics, gynecology and reproductive sciences and Women's Reproductive Health Research Scholar.

Published recently in the journal *Applied Health Economics and Health Policy*, their study may be the first nationwide to calculate the

differences in infant hospital costs based on the number of embryos transferred at one time. Jones and his team had access to UVM Medical Center records of 116 patients who conceived through IVF and delivered at least 20 weeks into their pregnancies between 2007 and 2011.

The study compared the incidence and costs of adverse perinatal outcomes - preterm delivery (at less than 37 weeks gestation), low birth weight (less than 2,500 grams) and C-sections - resulting from single-embryo transfers, double-embryo transfers and transfers of three or more embryos. They determined that the costs to care for babies born from double-embryo transfers were more than twice as much as costs for babies from single-embryo transfers, and costs for babies from three or more embryos were 1.7 times as high.

It wasn't only the greater chance of twins or more multiple births with multiple embryo transfers that caused those complications and higher healthcare spending, the authors found. Even when only one baby resulted from a larger number of embryos, the risk of problems increased.

The study provides data to inform public policy as it relates to the development of "personalized medicine" - treatment targeted to the unique characteristics and needs of each patient, Jones says.

"This is personalized medicine at its heart, at its core," he says, "because nothing is more personal than fertility choices."

Jones performed similar research for his dissertation at the University of Oxford in England, where he received his doctorate in [health economics](#) in 2006. His work there helped lead to current U.K. guidelines that direct the transfer of a single embryo during IVF treatment whenever possible, he says.

The new UVM study encourages similar policy in the United States.

"This work supports the position that IVF cycles involving appropriate embryo transfer policies should be covered by insurance companies," state the authors.

Among the 11 states that require insurance coverage for infertility treatment, five explicitly cover IVF. Without financial assistance, most patients who choose IVF pay for it out of pocket, increasing the incentive for them to reduce their costs by limiting the number of embryo-transfer attempts.

If states require coverage for IVF, they can also mandate that insurers pay for only single-embryo transfers. Jones' study concluded that additional IVF attempts wouldn't cost more than the incremental costs per baby that result from a multiple-embryo transfer.

Provided by University of Vermont

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