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Original Research

## **Cost-effectiveness of Private Umbilical Cord Blood Banking**

**Kaimal, Anjali J. MD, MAS; Smith, Catherine C. MD; Laros, Russell K. Jr MD; Caughey, Aaron B. MD, PhD; Cheng, Yvonne W. MD, MPH**

### **Abstract**

**OBJECTIVE:** To investigate the cost-effectiveness of private umbilical cord blood banking.

**METHODS:** A decision-analytic model was designed comparing private umbilical cord blood banking with no umbilical cord blood banking. Baseline assumptions included a cost of \$3,620 for umbilical cord blood banking and storage for 20 years, a 0.04% chance of requiring an autologous stem cell transplant, a 0.07% chance of a sibling requiring an allogenic stem cell transplant, and a 50% reduction in risk of graft-versus-host disease if a sibling uses banked umbilical cord blood.

**RESULTS:** Private cord blood banking is not cost-effective because it cost an additional \$1,374,246 per life-year gained. In sensitivity analysis, if the cost of umbilical cord blood banking is less than \$262 or the likelihood of a child needing a stem cell transplant is greater than 1 in 110, private umbilical cord blood banking becomes cost-effective.

**CONCLUSION:** Currently, private umbilical cord blood banking is cost-effective only for children with a very high likelihood of needing a stem cell transplant. Patients considering private blood banking should be informed of the remote likelihood that a unit will be used for a child or another family member.

**LEVEL OF EVIDENCE:** III