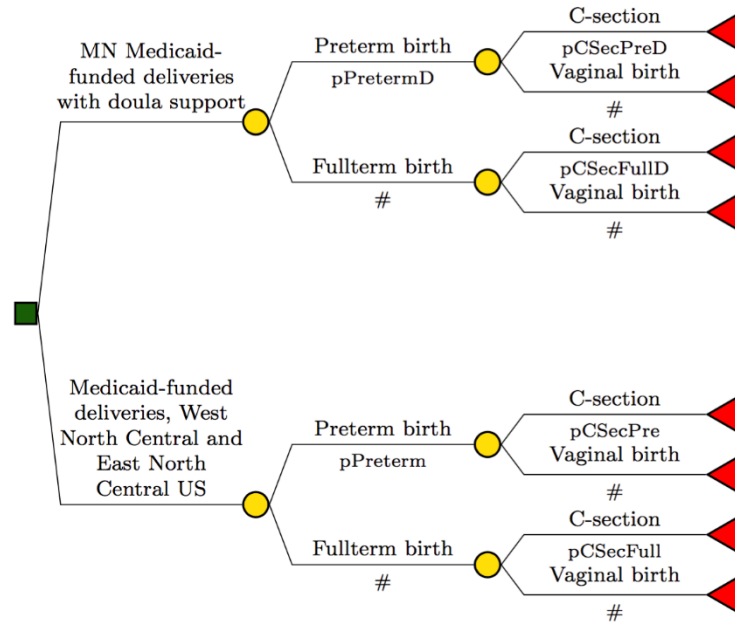


Supplemental Appendix 1: Diagram of Decision Tree



Legend: Outcomes are modeled as shown, based on women with doula support and a regional sample of U.S. Medicaid-funded deliveries.

$$pPretermD = rrPretermD \cdot pPreterm$$

$$pCSecFullD = rrCSecFullD \cdot pCSecFull$$

$$pCSecPreD = rrCSecPreD \cdot pCSecPre$$

Where pPreterm: Risk of preterm birth in regional Medicaid-funded deliveries; rrPretermD: Relative risk of preterm birth in Medicaid-funded deliveries with doula support vs. regional Medicaid-funded deliveries; pPretermD: Risk of preterm birth in Medicaid-funded deliveries with doula support; pCSecFull: Probability of C-section given a fullterm birth in regional Medicaid-funded deliveries; rrCSecFullD: Relative risk C-section given a fullterm birth in Medicaid-funded deliveries with doula support vs regional Medicaid-funded deliveries; pCSecFullD: Probability of C-section given a fullterm birth in doulas population; pCSecPre: Probability of C-section given a preterm birth in regional Medicaid-funded deliveries; rrCSecPreD: Relative risk of C-section given a preterm birth in Medicaid-funded deliveries with doula support vs. regional Medicaid-funded deliveries; pCSecPre: Probability of C-section given a preterm birth in regional Medicaid-funded deliveries. “#” represents a remainder expression to a probability, i.e., 1-p.

Supplemental Appendix 2: Parameter Values and Distributions for Cost Model

Parameter	Mean [95% CI]	Distribution	Source
Risk of preterm birth in regional Medicaid-funded deliveries (pPreterm)	0.063 [0.061-0.065]	Beta	Own estimation, Table 2
Relative risk (RR) of preterm birth in Medicaid-funded deliveries with doula support vs. regional Medicaid-funded deliveries (rrPretermD)	0.781 [0.625-0.962]	LogNormal	Derived ¹ , Table 2
Probability of C-section given a full term birth in regional Medicaid-funded deliveries (pCSecFull)	0.342 [0.338-0.346]	Beta	Own estimation, Table 3
RR of C-section given a full term birth in Medicaid-funded deliveries with doula support vs. regional Medicaid-funded deliveries (rrCSecFullD)	0.544 [0.493-0.594]	LogNormal	Derived ¹ , Table 3
Probability of C-section given a preterm birth in regional Medicaid-funded deliveries (pCSecPre)	0.339 [0.324-0.353]	Beta	Own estimation, Table 3
RR of C-section given a preterm birth in Medicaid-funded deliveries with doula support vs. regional Medicaid-funded deliveries (rrCSecPreD)	1.343 [1.000-1.697]	LogNormal	Derived ¹ , Table 3
Reimbursement for doulas	-	Uniform(200,1200)	Assumption ²
Cost of preterm birth	\$24,880	-	Assumption ³
Cost of full term birth	\$2,195	-	Assumption ³
Cost of vaginal delivery	\$9,131	-	Assumption ⁴
Cost of cesarean delivery	\$13,590	-	Assumption ⁴

1. Relative risk (RR) is derived following $RR=OR/(1-p+(p*OR))$ where p is the risk of the comparator (e.g., 6.3% of preterm births among regional Medicaid births from Table 1), and OR is the odds ratio from Tables 2 and 3. Authors' own calculations and conversions to RR are based on prior research. (24)

2. Assumed range to determine the optimal reimbursement value.

3. Costs of preterm and full-term births were derived from published estimates; Medicaid payment rates are assumed as half the rates paid by private insurers. (22)

4. Costs of vaginal and cesarean delivery were derived from published estimates of total Medicaid costs for maternity and newborn care.(23)

Supplemental Appendix 3:

This should be the state cost-savings figures for the following states (as available):

Minnesota, North Dakota, Iowa, Missouri, Nebraska and Kansas (West North Central) and Wisconsin, Michigan, Illinois, and Indiana, (East North Central). Ohio and South Dakota are not included, as the necessary data are not reported on HCUPNet.

