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# Economic Modeling of Sealing Primary Molars Using a “Value of Information” Approach

## APPENDIX

**Appendix Table.** Deterministic Tooth-level Markov Model Parameters and Assumptions for Primary Molar Pit-and-Fissure Sealants: Iowa Medicaid Data, 2008 to 2011

Model Assumption	Baseline Parameter <sup>a</sup>	Distribution (SD) for Probabilistic		Reference
		Sensitivity Analysis <sup>b</sup>		
Monthly transition probabilities				
Natural to sealed tooth	0.004590	beta (0.004590)		Iowa Medicaid claims data
Natural to restored tooth	0.003570	beta (0.000357)		Dye <i>et al.</i> , 2007
Natural to extracted tooth	0.000318	beta (0.000318)		Dye <i>et al.</i> 2007; Iowa Medicaid data
Sealed to natural tooth	0.002940	beta (0.000353) <sup>c</sup>		Kühnisch <i>et al.</i> , 2012
Restored to extracted tooth	0.000318	beta (0.000318)		Dye <i>et al.</i> , 2007; Iowa Medicaid data
Costs, 2012 US\$ <sup>d</sup>				
Natural tooth	\$0.00	...		Authors' assumption
Sealant (CDT D1351)	\$20.27	gamma (\$20.27)		Iowa Medicaid dental fee schedule
Restoration (average cost of 7 most common CDT codes <sup>e</sup> )	\$64.93	gamma (\$64.93)		Iowa Medicaid dental fee schedule
Extraction (CDT D7140)	\$50.67	gamma (\$50.67)		Iowa Medicaid dental fee schedule
Adult tooth	\$0.00	...		Authors' assumption
Discount rate	2%	...		Krahn and Gafni, 1993

CDT = Current Dental Terminology.

<sup>a</sup>Monthly probability of transitioning from one state to another or one-time cost associated with state.

<sup>b</sup>The beta distribution assumed for transition probabilities (on the basis of 10% SD except where noted) and gamma distribution assumed for cost parameter estimates.

<sup>c</sup>On the basis of 12% SD from empirical estimates. Variations in one-way sensitivity analysis not evenly spaced on both sides of the mean value to account for skewed data in Kühnisch *et al.*, 2012.

<sup>d</sup>Costs were estimated by the October 2012 Iowa Medicaid dental fee schedule.

<sup>e</sup>CDT codes D2140, D2150, D2330, D2930, D2931, D2932, D3220.

## APPENDIX REFERENCES

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