Washington State Department of HEALTH

COST BENEFIT ANALYSIS FOR BCKDK DEFICIENCY

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The criterion

5. Cost-benefit/Cost-effectiveness: The outcomes outweigh the costs of screening. All outcomes, both positive and negative, need to be considered in the analysis. Important considerations to be included in economic analyses include:

- The prevalence of the condition among newborns.
- The positive and negative predictive values of the screening and diagnostic tests.
- Variability of clinical presentation by those who have the condition.
- The impact of ambiguous results. For example the emotional and economic impact on the family and medical system.
- Adverse effects or unintended consequences of screening.

The cost- benefit model

- Decision Tree
  - Compares status quo v. screening model
- Data from:
  - Primary literature
  - States currently screening or pilot studies
  - Expert opinion
- Sensitivity analysis – vary assumptions
  - High and low estimates for parameters

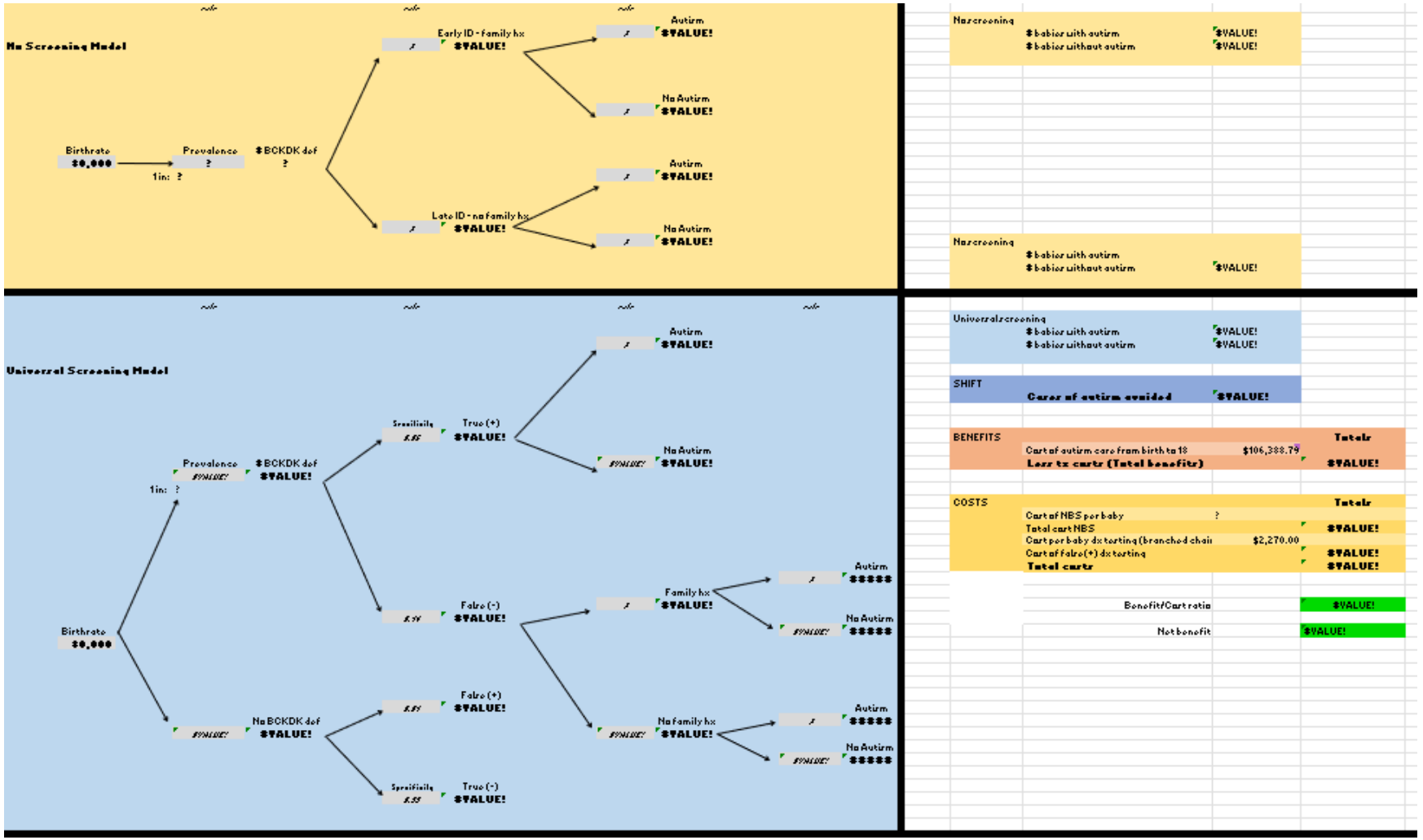
The cost- benefit model

- Decision Tree
  - Compares status quo v. screening model
- Data from:
  - Primary literature → extremely limited
  - States currently screening or pilot studies → none
  - Expert opinion → mostly not accessible
- Sensitivity analysis – vary assumptions
  - High and low estimates for parameters

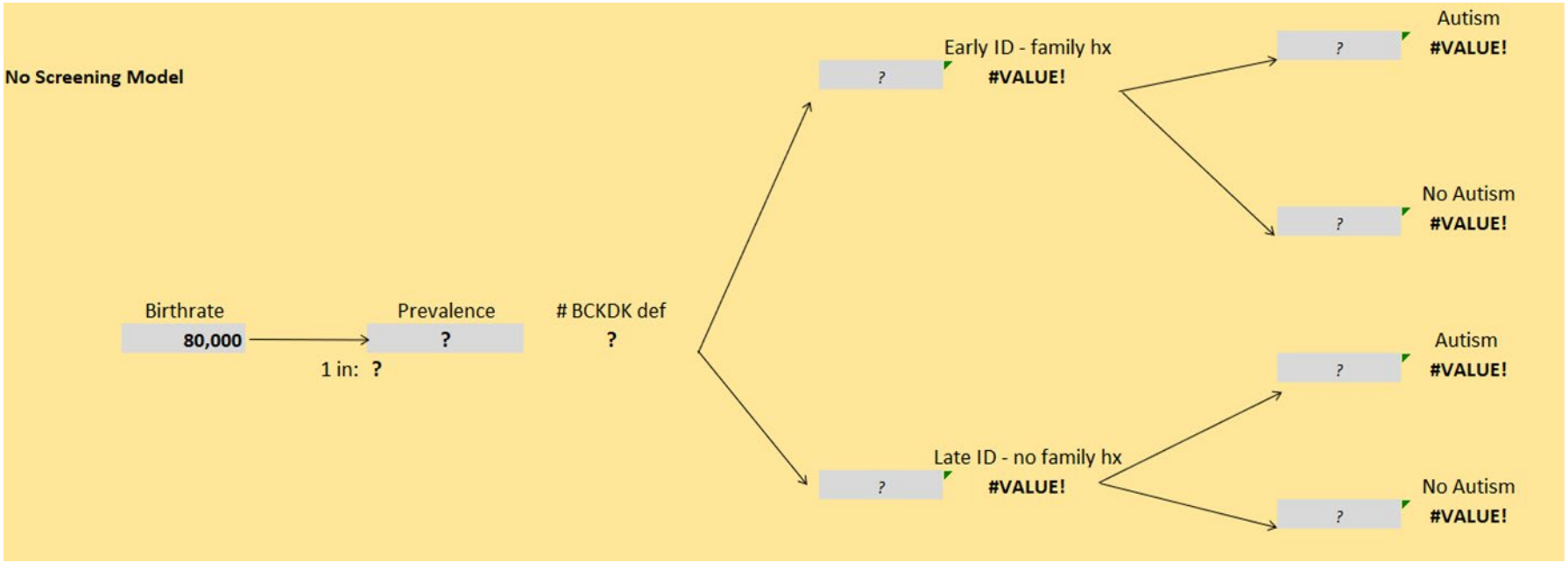
The cost- benefit model

- Consult:
  - Anna Hidle, Public Health Economist, Washington Department of Health

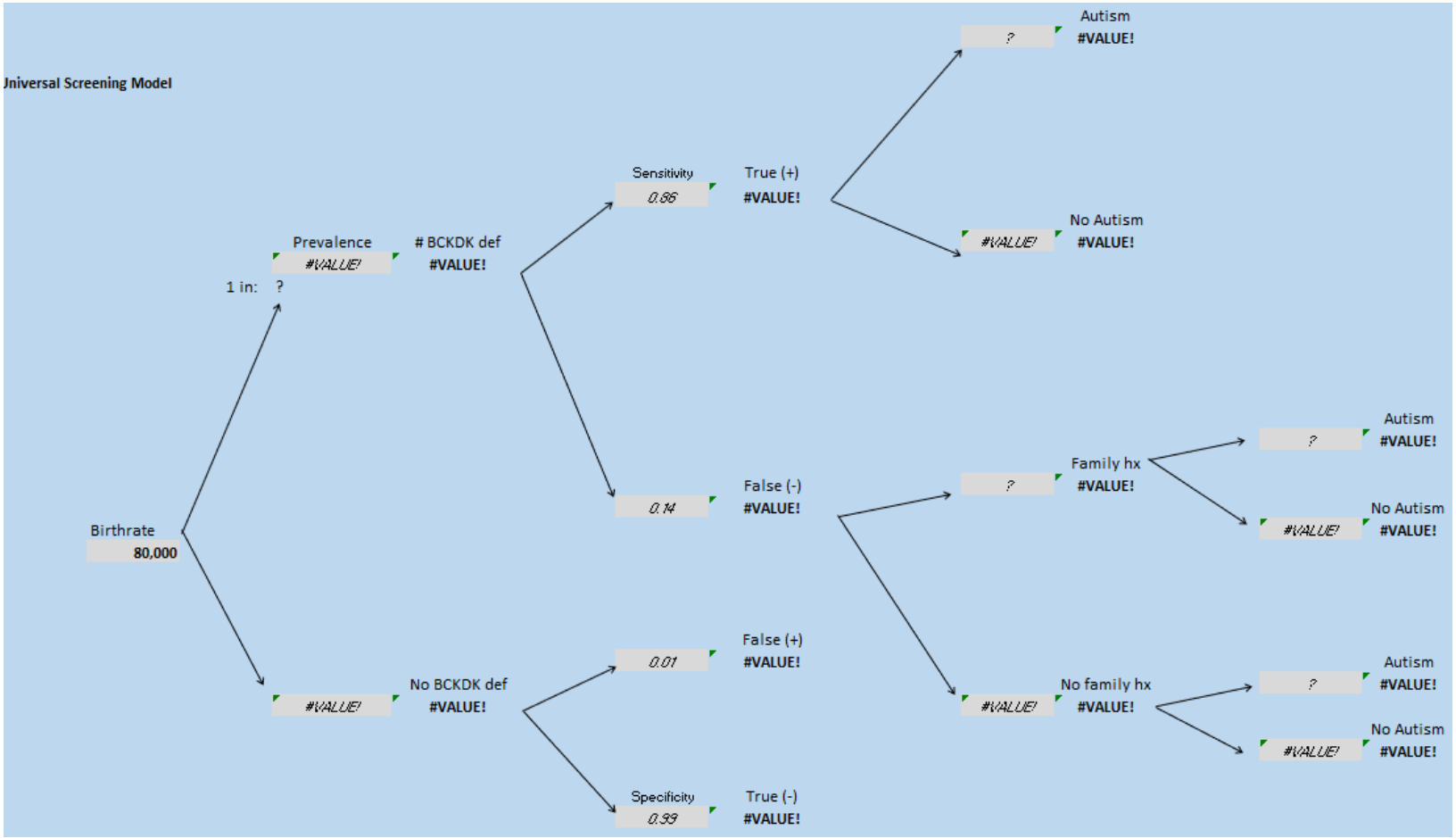
The cost- benefit model



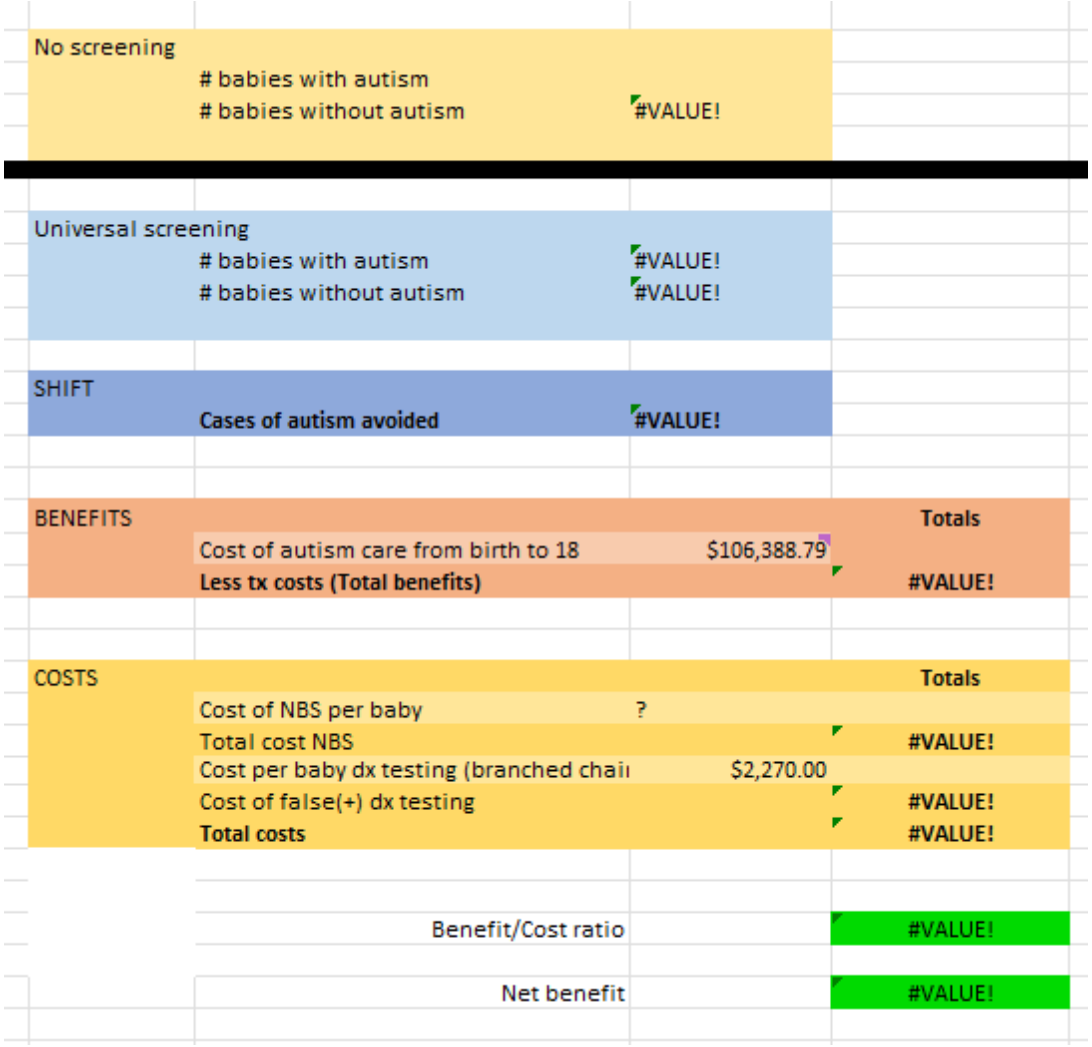
Status quo: No screening model



Newborn screening model



Benefits and Costs



No screening			
	# babies with autism		
	# babies without autism	#VALUE!	
Universal screening			
	# babies with autism	#VALUE!	
	# babies without autism	#VALUE!	
SHIFT			
	Cases of autism avoided	**#VALUE!**	
BENEFITS			**Totals**
	Cost of autism care from birth to 18	$106,388.79	
	Less tx costs (Total benefits)		**#VALUE!**
COSTS			**Totals**
	Cost of NBS per baby	?	
	Total cost NBS		**#VALUE!**
	Cost per baby dx testing (branched chai	$2,270.00	
	Cost of false(+) dx testing		**#VALUE!**
	Total costs		**#VALUE!**
	Benefit/Cost ratio		#VALUE!
	Net benefit		#VALUE!

Summary

- The quality of the results are only as good as the data in the model
- We did not provide a cost-benefit ratio to the NBS Technical Advisory Committee
- The model is built
  - Parameters for missing assumptions could be entered in the future when data is available

Questions?