

Background

- Value elements are aspects of a medical intervention that may generate value but are not typically captured in value assessment.
- The 2018 ISPOR value flower defined novel and social elements of value¹ that can be used, along with other sources, for application to cost-effectiveness research.

Objective

- Evaluate how frequently novel and social elements of value are used in cost-effectiveness analyses (CEAs) and how they influence results.

Methods

- Completed a Tufts-CEVR CEA Registry² search for all \$/QALY CEAs published from 2016-2020.
- Used a keyword search to identify CEAs that may evaluate value elements in the ISPOR report, plus family spillover and genericization (**Table 1**).
- Reviewed each CEA to determine if the value element was quantified, i.e., used to calculate an incremental cost effectiveness ratio (ICER).
- If yes, determined if the isolated influence of a single value element was reported.
- If yes, evaluated the changes in the ICER, its inputs, and whether the cost-effectiveness decision changes.

Table 1: Value Elements Included and Corresponding Search Term(s)

Value Element	Search Term(s)
Productivity	'productivity effect' 'time cost'
Severity of disease	'severity of disease'
Value of reducing uncertainty	'value of reducing uncertainty' 'value of knowing'
Adherence improving factors	'adherence improving' 'improvement in adherence'
Equity	'equity weight' 'extended cost effectiveness' 'distributional cost effectiveness'
Insurance value	'insurance value' 'risk protection'
Genericization	'genericization' 'future drug price' 'life cycle pricing' 'future cohorts'
Family spillover	'family spillover' 'caregiver spillover'
Real option value	'option value'
Fear of contagion	'fear of contagion' 'risk of spread' 'preventing contagion'
Scientific spillover	'scientific spillover' 'future innovation'
Value of hope	'value of hope'

Results

- We evaluated 2,976 CEAs. Of those, 121 included a search term that indicates discussion of a value element, and 30 of those quantified the value element (**Figure 1**).
- The most common value element used was productivity, and there were no cases of scientific spillover or value of hope.
- Of the 30 CEAs, 15 reported the isolated effect of one value element in at least one calculated ICER. Some contained multiple instances of reporting the isolated effect (**Table 2**).
- When calculating the average change to outcomes, we find that directional change matches the theory from ISPOR and other sources.

Key Takeaways

(1) Infrequent use of these value elements
Out of ~3,000 CEAs, only 1% included at least one novel or social value element in the ICER estimation.

(2) Consistent use is important
Real-world use of these value elements needs to be consistent across studies and reflect theory.

(3) There is room for more research
We need more use cases to inform the effects of the value elements in cost-effectiveness determination

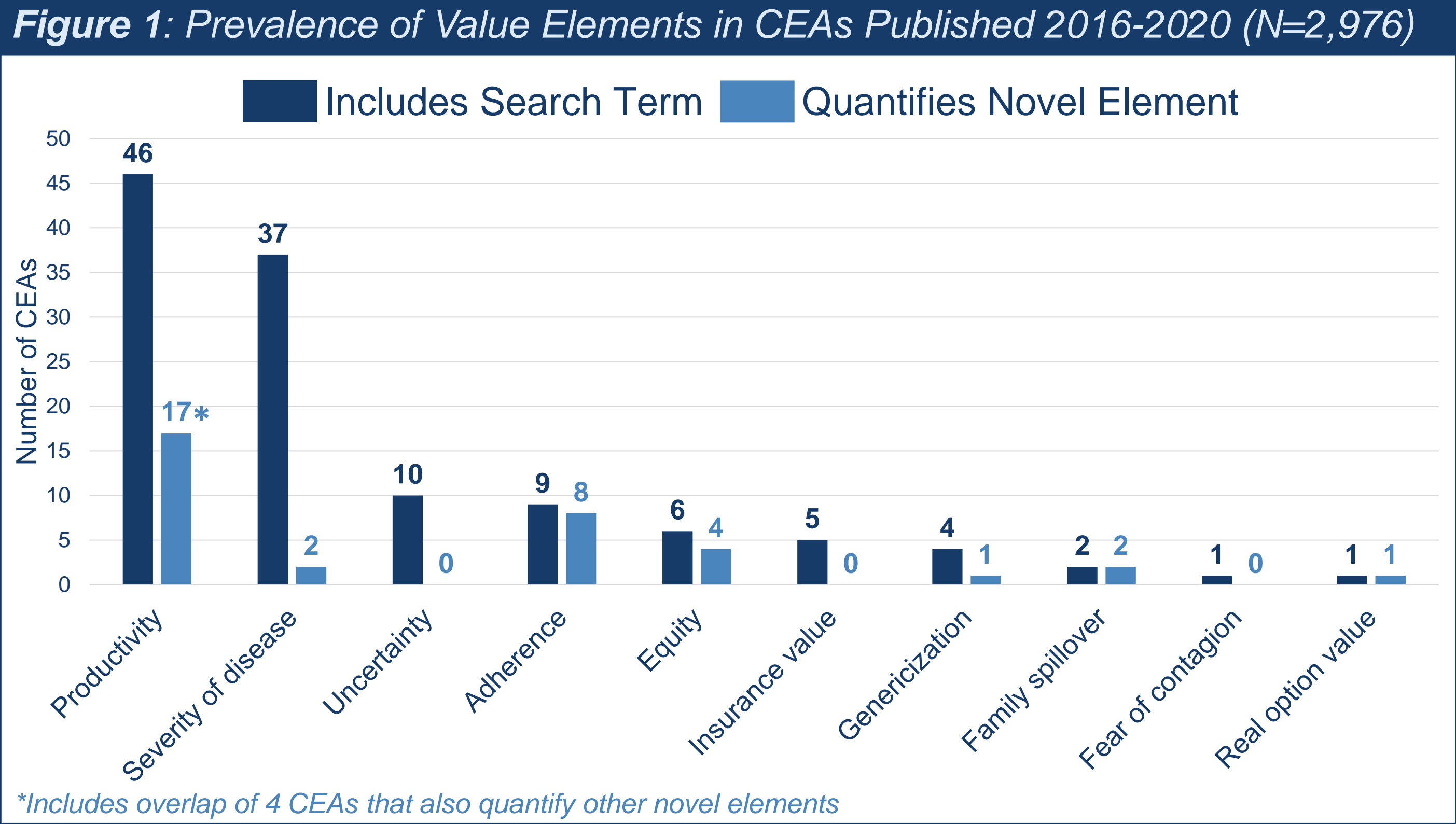


Table 2: Influence of Value Elements on Incremental Costs, QALYS, and Cost-Effectiveness Ratio (ICER)

Where <i>n</i> is the number of instances where the influence of the value element is isolated Average change in:	Productivity: human capital (n=12)	Productivity: time cost (n=6)	Adherence improving factors (n=17)	Equity (n=6)	Family spillover (n=8)	Severity of disease (n=4)	Real option value (n=1)
Incremental cost	-66%	Not reported	129.8%	-7.1%	0%	0%	3.7%
Incremental QALYs	0%	0%	235.3%	12.8%	20.1%	Not reported	6.6%
ICER	-75%	57%	-22.8%	-13.6%	-14.8%	-56.5%	-2.3%
Changes CE decision at 100k/QALY?	No	Yes, in 1 out of 6 cases	Yes, in 4 out of 17 cases	No	No	No	No

References

1: Lakdawalla et al. Value Health. 2018 Feb;21(2):131-139 PMID: 29477390
2: Tufts-CEVR CEA Registry. cear.tuftsmedicalcenter.org. Accessed 31 Mar 2022.

Contact: Elliott.Crummer@tuftsmedicine.org
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