
William L. Hering, Deirdre M. Mladsi, LaStella Miles, Naoko Ronquest
RTI Health Solutions, Research Triangle Park, NC, United States

OBJECTIVE

The objective of this work was to develop a new approach for ranking parameter uncertainty in one-way sensitivity analysis (SA) of economic evaluations.

METHODS

- A novel approach was developed that categorizes and ranks the parameters based on the potential to change the CE conclusion.
- This approach provides a more appropriate assessment of the impact of uncertainty in individual parameter values on the CE conclusion.

RESULTS

- When applied to the hypothetical data in Table 1, our conclusion-based approach identifies variables 5 and 6 as having the potential to change the CE conclusion (due to a change in the sign of the ICER or a move from CE to not CE), and, importantly, characterizes the potential changes as negative or positive changes from the base case.
- This approach can be used by researchers conducting one-way SA in scenarios where the associated cost and health outcomes result in ICERs that fall in multiple quadrants in the CE plane.

CONCLUSIONS

- Our conclusion-based algorithm, which categorizes and ranks parameters based on the potential to change the CE conclusion, is an alternative method to tornado diagrams that provides a more appropriate assessment of the impact of uncertainty in individual parameter values on the CE conclusion.

ACKNOWLEDGEMENTS

- This work was supported by RTI International and the Medical Decision Making Study Group, a partnership of faculty and fellows of the University of Pennsylvania and RTI International. The views expressed here are those of the authors and not necessarily those of RTI International or the Medical Decision Making Study Group.