

Cost-effectiveness of esketamine nasal spray for patients with treatment-resistant depression in the United States

Supplementary appendix

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Supplementary Tables

Impact inventory

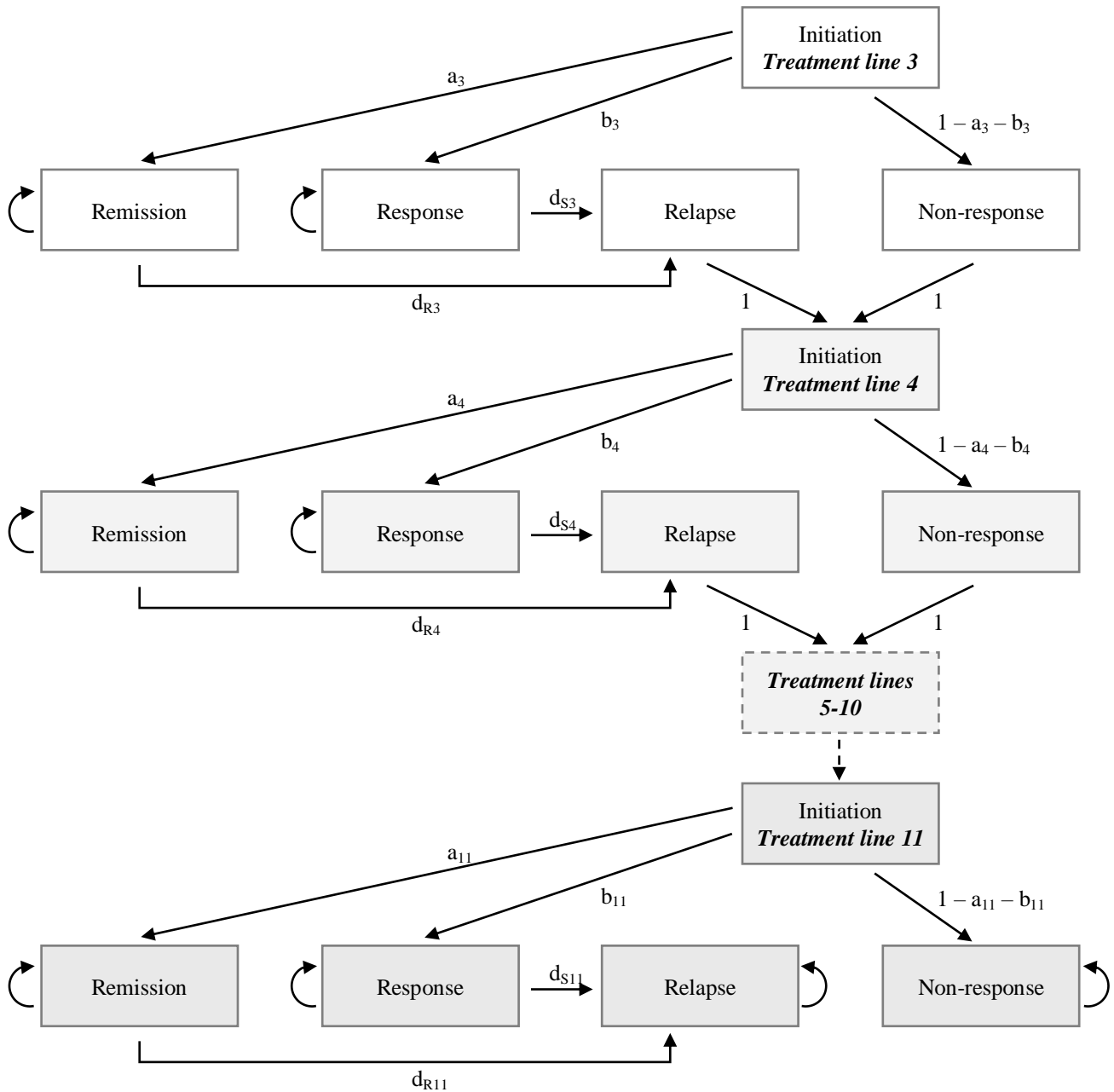
Sector	Type of impact	Included in this analysis from given perspective?	
		Healthcare sector	Societal
<i>Formal healthcare sector</i>			
Health	<u>Health outcomes</u>		
	Longevity effects	No	No
	Health-related quality of life effects	Yes	Yes
	Other health effects (e.g. adverse effects)	No	No
	<u>Medical costs</u>		
	Third-party payers	Yes	Yes
	Out-of-pocket	Yes	Yes
	Future related medical costs	Yes	Yes
	Future unrelated medical costs	Yes	Yes
<i>Informal healthcare sector</i>			
Health	Patient time costs	No	Yes
	Unpaid caregiver time costs	No	No
	Transportation costs	No	No
<i>Non-healthcare sector</i>			
Productivity	Lost productivity due to illness	No	Yes

Esketamine doses and dose frequency in phase III randomized trials

	Initiation (month 1)	Remission (months 2+)	Response (months 2+)	Non-response, relapse (months 2+)
Data source	TRANSFORM-2	SUSTAIN-1	SUSTAIN-1	<i>Average of remission and response</i>
Esketamine dose, percent of patients				
84 mg	66.7	55.6	67.7	61.7
56 mg	33.3	44.4	32.3	38.3
Treatment frequency, percent of patients				
<i>Twice weekly</i>	100.0	–	–	–
<i>Weekly</i>	–	23.3	54.8	39.1
<i>Every other week</i>	–	68.9	33.9	51.4
<i>Weekly or every other week</i>	–	7.8	11.3	9.5
Average number of 28 mg doses per month	23.2	7.1	9.3	8.2

Supplementary Figures

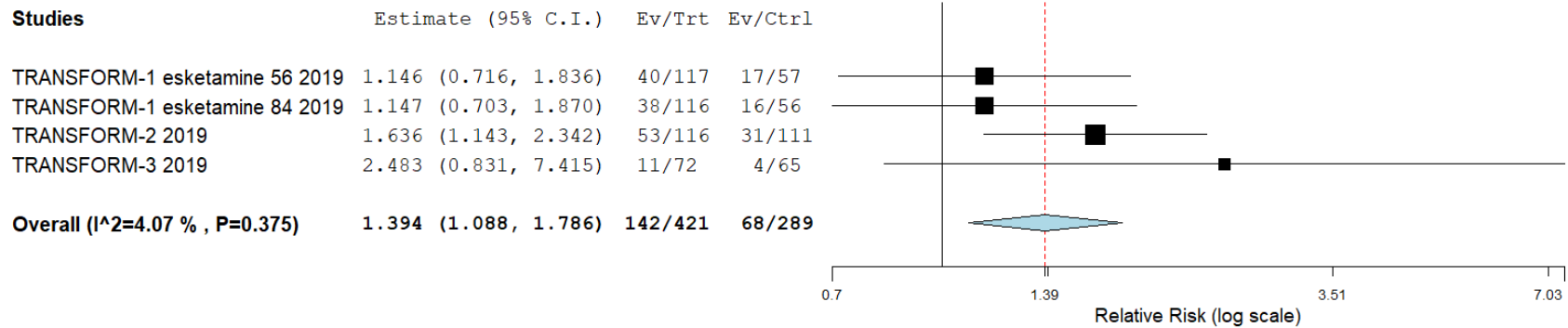
Decision-analytic model structure



Rectangles represent simulated depression health states; each group of five health states of the same color indicates one treatment line. Lines 5-10 have an identical structure to the preceding lines but are collapsed into a single rectangle in the Figure for the sake of simplicity. Arrows represent transition probabilities between health states. For clarity, monthly all-cause mortality

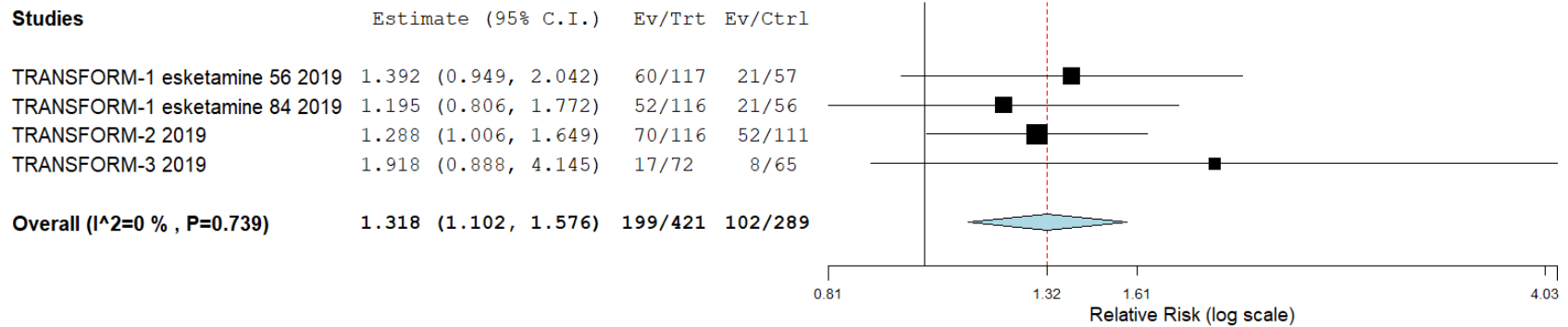
probabilities (which apply to all health states) are omitted from the Figure. Transition probabilities indicated by letters include: **a**, initial probability of remission; **b**, initial probability of response without meeting remission criteria; **d_R**, monthly probability of relapse after initial remission; **d_S**, monthly probability of relapse after initial response.

Relative risk of remission of treatment-resistant depression with esketamine vs. placebo



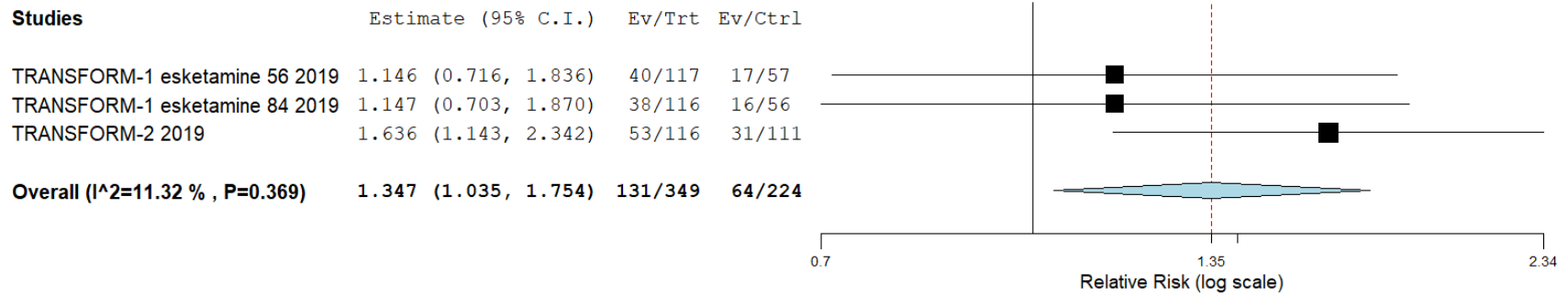
Forest plot showing the relative risk of remission of depressive symptoms among patients with treatment-resistant depression after 4 weeks of treatment with esketamine nasal spray vs. placebo. Data are drawn from 3 phase III clinical trials of esketamine; in the TRANSFORM-1 trial, patients were randomized to placebo, a 56 mg dose of esketamine, or an 84 mg dose of esketamine.

Relative risk of response of treatment-resistant depression with esketamine vs. placebo



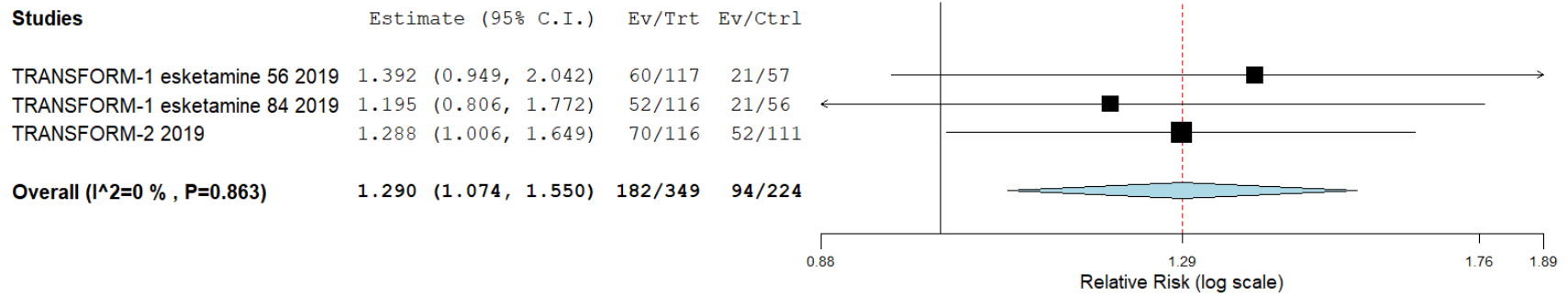
Forest plot showing the relative risk of response of depressive symptoms among patients with treatment-resistant depression after 4 weeks of treatment with esketamine nasal spray vs. placebo. Data are drawn from 3 phase III clinical trials of esketamine; in the TRANSFORM-1 trial, patients were randomized to placebo, a 56 mg dose of esketamine, or an 84 mg dose of esketamine.

Relative risk of remission of treatment-resistant depression with esketamine vs. placebo excluding the TRANSFORM-3 trial



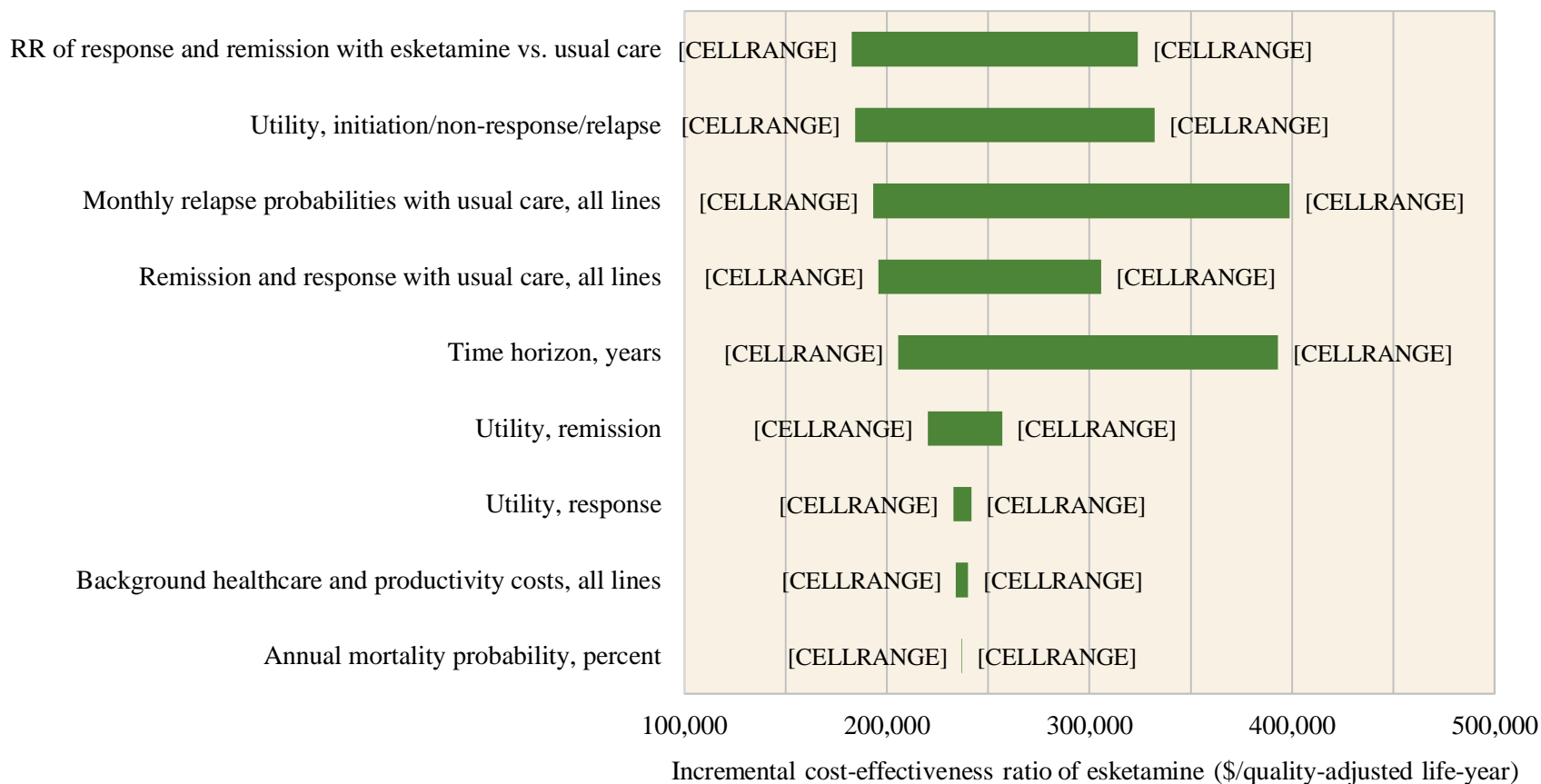
Forest plot showing the relative risk of remission of depressive symptoms among patients with treatment-resistant depression after 4 weeks of treatment with esketamine nasal spray vs. placebo. Data are drawn from 2 phase III clinical trials of esketamine; the TRANSFORM-3 trial, which enrolled only patients aged ≥ 65 , is excluded from this analysis.

Relative risk of response of treatment-resistant depression with esketamine vs. placebo excluding the TRANSFORM-3 trial



Forest plot showing the relative risk of response of depressive symptoms among patients with treatment-resistant depression after 4 weeks of treatment with esketamine nasal spray vs. placebo. Data are drawn from 2 phase III clinical trials of esketamine; the TRANSFORM-3 trial, which enrolled only patients aged ≥ 65 , is excluded from this analysis.

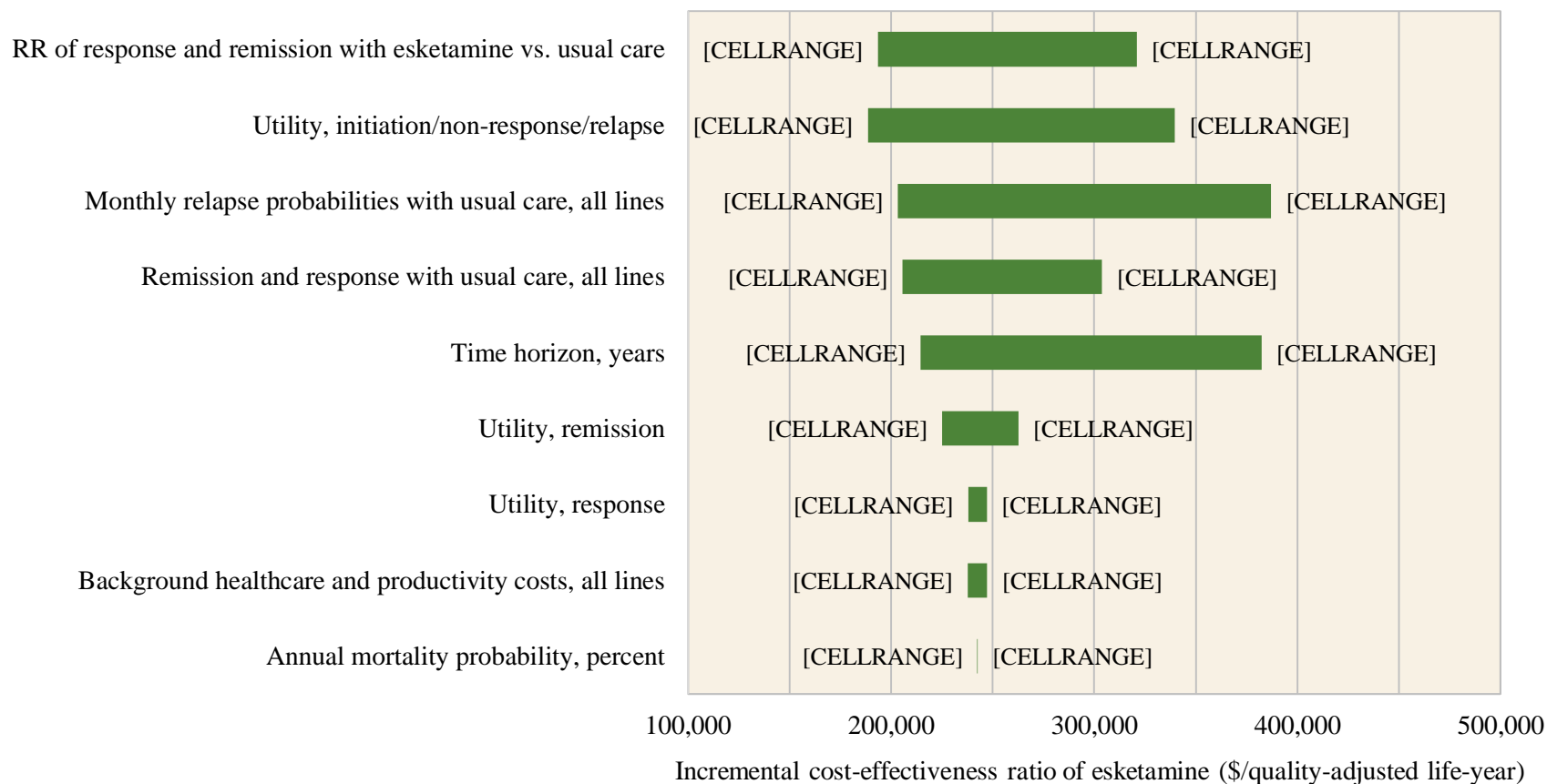
One-way sensitivity analyses, societal perspective



Horizontal bars indicate the range of societal incremental cost-effectiveness ratios (ICERs) for esketamine produced by varying each model parameter shown on the vertical axis. Parameter values producing the lower value and higher value of the ICER are shown on either side of each horizontal bar.

RR, relative risk; 95% CI UL, upper limit of the 95% confidence interval; 95% CI LL, lower limit of the 95% confidence interval

One-way sensitivity analyses, healthcare sector perspective



Horizontal bars indicate the range of healthcare sector incremental cost-effectiveness ratios (ICERs) for esketamine produced by varying each model parameter shown on the vertical axis. Parameter values producing the lower value and higher value of the ICER are shown on either side of each horizontal bar.

RR, relative risk; 95% CI UL, upper limit of the 95% confidence interval; 95% CI LL, lower limit of the 95% confidence interval